HIGHLIGHTS

Priorities set in the New Visions plan guided CDTC's actions in programming $100 M to new projects in the past three years.

CDTC's *New Visions* plan has already positively changed the Capital District. Since its adoption in March 1997, the actions of many parties to incorporate the plan's principles and strategies into programs and projects has produced commendable results. By early 2000, CDTC's review determined that 38 of the short-range recommendations in the New Visions plan had been implemented in part or in whole. CDTC's Transportation Improvement Program (TIP) efforts in 1997 and 1999 followed the budget guidance and priorities set in the New Visions plan, assigning nearly $100 M in funds to new projects that create a healthy project balance and implement the policies of the plan. Planning, programming and project development efforts in the past three years have continually refined and reaffirmed the concepts of the New Visions plan.

Today, it is widely accepted across the Capital District that transportation investments can add significantly to community quality of life; that transit, bike, pedestrian, goods movement and aesthetic features are equally as important as motor vehicle accommodation in highway design; that technology can be used to assist the traveler; and that ensuring economic and environmental health is an important objective of the transportation system. In 1997, these were bold assertions by the members of CDTC.

The growth in the base of support for the tenets of the New Visions plan provides a strong foundation upon which to pursue a *new* regional transportation plan. The updated plan, now extended to cover the period to 2021, reaffirms the original New Visions approach. In the past three years, not only has plan implementation proceeded at a healthy pace but federal and state funding commitments have grown at a rate consistent with the plan's recommendations. In 2000, the Capital District is able to adopt a plan that goes further than the 1997 plan in committing to, and budgeting for, desired improvements.

As with the 1997 plan, full implementation of the new plan means steady progress with **physical and technological improvements** to the region's transportation system, coupled with **significant land use and demand management** actions that **dampen the rate of travel growth** by one-third to one-half that anticipated as the trend growth in the mid-1990's. The plan focuses on managing and redesigning existing facilities, services and ways of doing business more than on physically expanding the system. When linked to national, state and industry actions that produce **safer, cleaner, more intelligent and more fuel-efficient vehicles**, the plan will fully achieve CDTC's broad goals. Specifically, the updated *New Visions 2021 Plan* will:

- Reduce the percent **deficient bridges** by over one-half from levels of the mid 1990's.
- Eliminate all poor pavements on the Interstate system, nearly all poor pavements on the National Highway System, and improve other **pavement conditions**.
- Continually refine **design practices** to routinely incorporate pedestrian, bicycle and goods movement features; driveway and signal spacing and signal control; economic vitality; context-sensitive design; and environmental enhancement; whenever roads are reconstructed and when sites are developed.
- Reconstruct over 500 lane-miles of **priority non-state streets and highways**, many within city borders, to appropriate design, in addition to continued improvement of State highway design.
- Complete **bike and pedestrian accommodations** on the highest priority 300 centerline miles of highways and on much of the rest of a 1,100 mile priority network as well as continued progress with stand-alone bike and pedestrian projects.
- Implement region-wide incident management, traveler information, intelligent traffic signal control and other technological improvements known as **Intelligent Transportation System** components.
- Test commuter rail, implement "Bus Rapid Transit" in the NY 5 corridor and complete the re-design the **transit** system to meet 21st Century needs.
- Maintain an environmentally-sensitive modern fleet of low-floor transit buses and expand the bus fleet modestly, mostly with smaller feeder buses.
- Integrate **special transportation services** into the regional system.
- Increase the percentage of trips that have an **attractive transit optio**n.

INTRODUCTION

WHAT IS THE CAPITAL DISTRICT TRANSPORTATION COMMITTEE?

CDTC is the region's forum for cooperative transportation decision-making.

The Capital District Transportation Committee (CDTC) is the designated MPO for the Albany-Schenectady-Troy metropolitan area. Every metropolitan area in the United States with a population of over 50,000 must have a designated "Metropolitan Planning Organization" (MPO) for transportation in order to qualify for any Federal transportation funding. The simple purpose of each MPO is to provide a forum for State and local officials to discuss transportation issues and reach a consensus on transportation plans and specific programs of transportation projects. The U.S. Department of Transportation (USDOT) relies on each MPO to make sure that the transportation projects that use Federal funds are the products of a continuing, comprehensive, and cooperative planning process and meet the priorities of the metropolitan area. To put "teeth" into the MPO process, the USDOT will not approve metropolitan transportation projects unless they are on the MPO's program. Federal law requires CDTC to maintain an up-to-date plan to guide decisions regarding the **nearly $100 Million in annual federal highway and transit funds** (including match) spent in the Capital District.

CDTC has its origins in the old Capital District Transportation Study (CDTS), set up in 1965 through agreements between New York State and the four Capital District counties (Albany, Rensselaer, Saratoga, and Schenectady) and the 78 municipalities in those counties. The CDTC is composed of elected and appointed officials from

- four counties;
- eight cities;
- the New York State Department of Transportation (NYSDOT);
- the Capital District Transportation Authority (CDTA);
- the Capital District Regional Planning Commission (CDRPC);
- the New York State Thruway Authority (NYSTA);
- the Albany Port District Commission*;
- the Albany County Airport Authority; and
- at-large members representing the area's towns and villages.

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) serve as advisory members. A full membership list appears in the inner front cover of this document.

Stewardship and vision characterize CDTC's approach.

The CDTC sets its own broad agenda for planning activities. With a small professional staff funded with FHWA, FTA and county funds and the assistance of other member agencies, it investigates issues critical to the future of the Capital District. CDTC's planning approach can be characterized by two words: Stewardship and Vision. Stewardship refers to the responsibility of CDTC (collectively) to care for that which has been entrusted to us. CDTC has responsibility for existing transportation facilities and services, public resources, personal resources that are impacted by transportation decisions (like safety, comfort, and convenience, in addition to dollars and cents), and natural resources. Vision refers to the responsibility of CDTC to look to the long-range future of the area and make sure that the transportation system works then as well as now. The goals of the Capital District's residents, businesses and communities must be incorporated into our plans and programs. An awareness of problems to be averted and the development of innovative ways to achieve the region's goals are important to achieving and maintaining economic health and quality of life here.

WHAT IS THE REGIONAL TRANSPORTATION PLAN?

The Regional Transportation Plan (RTP) is a comprehensive long-range (20-30 year) plan for the transportation system of the region, updated every three-to-five years by CDTC. The RTP includes goals, objectives, and policies. The RTP also recommends specific transportation improvements. The *New Visions* Plan adopted in March 1997 superseded the 1993 RTP. In air quality non-attainment areas, federal law requires development of a new or revised plan within three years. CDTC's focuses its planning efforts primarily on the *surface transportation system* -- highways, transit, accommodations for bicyclists and pedestrians, and intermodal connections to rail, air and water transportation. These are the areas over which CDTC's federal responsibilities

for coordinated planning and programming extend. Increasingly, surface transportation planning overlaps and is interwoven with planning for ports, airports, rail facilities and intermodal connections. The outcome of this effort is also reflected in the plan.

WHAT IS *NEW VISIONS 2021*?

*New Visions provided an opportunity to step back and look at where we **want** to go.*

The original *New Visions* process took more than three years, concluding in March 1997. The process was built around public involvement. With a goal of developing a regional consensus on transportation policy, *New Visions* provided an opportunity to step back from the ten-year focus of the 1993 RTP and look at longer-term issues and available financial resources. The result was a multi-modal plan that reflected a consensus of CDTC members regarding the direction and focus that will meet the region's mobility and other needs for transportation in the Capital District through the year 2015. The policies contained in the plan were backed up by realistic financial strategies.

New Visions was driven by public involvement.

New Visions gave a voice to stakeholder groups not previously represented at the CDTC table. The articulation of widely diverging positions helped identify common ground later. This visioning effort has left a legacy of openness and sensitivity to a wide range of transportation objectives. It proved its positive affect on regional transportation decisions already, in the development of the 1997-2002 Transportation Improvement Program (TIP) and the 1999-04 TIP. In these two exercises, over $100 M in federal funding was committed to new projects with an emphasis on improving the mix of projects in the TIP.

The support for the *New Visions* plan has led to broad interest in creative implementation of the plan's elements. Over the past three years, implementers have made remarkable progress across nearly all categories. In addition, many aspects of the public involvement started in the New Visions process have continued. Both the Bicycle and Pedestrian Transportation Task Force and the Goods Movement Task Force have continued meeting, and new stakeholder/ public involvement working groups have been created around the REVEST set of rail initiatives and the Champlain-Hudson International Trade Corridor effort.

In 1999, CDTC initiated a formal update of the New Visions plan. Because of the strong support for the existing plan, and the healthy progress being made in implementing it, CDTC members chose to pursue an update rather than a full-scale re-invention of the plan. In 1999, the original New Visions plan was still a contemporary product in the minds of CDTC participants and the memory of the plan's extensive development was still fresh. Most of the outside contributors to the New Visions plan were judged to be more interested in implementation of the plan's recommendations than in re-thinking the plan's philosophy.

In must be recalled that the original New Visions effort included the use of three conferences, nine on-going task forces, hundreds of thousands of dollars of staff and consultant effort, over 60 public meetings and a one-year public comment period -- before the plan was drafted. CDTC could not repeat this level of effort within the next few years without compromising its credibility.

Instead, CDTC undertook a more focused effort to produce the New Visions 2021 plan. Its key aspects include:

- Reflection on CDTC's TIP actions and on other local transportation initiatives to assess the consistency between New Visions principles and actual events.
- Reliance on contributions from stakeholders and the public in project implementation efforts to demonstrate continued support for New Visions concepts.
- Use of the results of two regional public attitude surveys and a survey of residents and property owners along NY 5 to demonstrate continued support for the New Visions concepts.
- Use of two continuing task forces -- Goods Movement and Bicycle and Pedestrian Transportation -- to contribute to the update.
- Creation of two technical new task forces to refine the information in the plan:
    1) A Finance Task Force to guide staff effort related to project costs, resource assumptions and budget adjustments.
    2) A Travel Task Force to help the staff assess the accuracy of the New Visions plan's travel assumptions and extend the horizon to 2021.

After the 2021 plan update effort is complete, CDTC will begin Phase 2 of the plan update effort. Phase 2 will take approximately 15 months and will conclude with a second update of the *New Visions* plan. This second update will extend the plan horizon to the year 2030.

WHAT THE *NEW VISIONS 2021* PLAN DOES

Because of the extensive consensus building effort in the original New Visions plan and the continued support for its implementation, CDTC believes that the *New Visions 2021* plan meets the needs of the Capital District in a manner that reflects the best judgement of the Capital District.

The *New Visions 2021* plan:

- reaffirms **CDTC's New Visions policies** and intentions for the region's transportation system.
- updates strategies and a reconciles the **budgetary framework** for CDTC's five-year Transportation Improvement Program (TIP) which allocates funds to and determines schedules for specific federal-aid projects.
- serves as a new **basis for legislative discussions** regarding funding programs and elimination of institutional and jurisdictional barriers.

The plan *does not* contain a list of all projects that CDTC expects to undertake over the next 20 years. It is not a substitute either for the careful project-by-project priority setting that takes place in creating the TIP or for the careful examination of alternative solutions to site-specific problems that takes place in the planning and design processes. Consequently, the plan is not a series of lines on a map. Rather, it is a statement of principles, strategies and budgetary emphasis to guide more detailed project decisions.

The plan represents a significant break from "business as usual" in terms of policy and budgetary priority.

The original New Visions plan *did* represent a break from "business as usual." Measured in terms of policies and budget, it shifted from heavy emphasis on routine pavement, bridge and bus renewal and congestion mitigation to a carefully structured balance to achieve multiple objectives. Traditional infrastructure efforts are carefully balanced with actions focussed on travel safety, economic development and community enhancement, arterial management, bike and pedestrian accommodation and transit redesign. The plan called for transportation investment that keeps pace with travel growth while simultaneously improving the transportation - land use linkage to keep the rate of travel growth manageable.

The New Visions 2021 plan maintains this balance and confirms the achievability of the plan. It is primarily a refinement of the previous New Visions plan, reflecting the achievements and addressing the missed opportunities of the past three years while bringing strategies and budgets up to date.

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* Added in March 1997.

- Engage employers in **demand management.**
- Eliminate **at-grade crossings** on the high-speed Amtrak system and eliminate 25% of grade crossings on freight main lines.
- Redesign of **suburban arterials** in the region to improve access design, consolidate driveways, accommodate deliveries better, and improve safety for pedestrians and bicyclists.
- Double the annual investment in spot **safety actions** from 1995 levels and raise the investment in accident reduction efforts on local roads to the level on state highways.
- Fully **coordinate land** development and transportation planning processes throughout the region, including completion of comprehensive community master plans, corridor plans and an update to the "Regional Development Plan."
- Complete major **improvements** to surface access to the Albany International Airport.
- Complete redevelopment of the Albany International Airport, the Albany-Rensselaer Amtrak station and upgrades of all **intermodal facilities** in the region.
- "Creatively" complete Congestion Management System actions to address **critical** congestion along NY 50 (Glenville), Balltown Rd. (Niskayuna and Clifton Park), NY 85 (Bethlehem) and similar locations. Demand management, appropriate private contributions and designs that are compatible with the surrounding community and environment are critical to successful implementation.
- Complete a limited number of strategic "Economic Development and Community Compatibility" actions, such as the Selkirk Bypass, I-90 Exit 8 Phase 2, downtown projects, and canal corridor projects. These projects are driven not by congestion but rather by desires for **community development** and **transportation / community compatibility**.
- **Reduce** exposure to congestion, increase access to alternative modes and **improve** dependability of the transportation service compared to 1996 levels.
- Preserve the **Northway's vital function**, once alternatives are fully examined -- without major expansion of the roadway over at least the next decade.

REASSESSING THE NEW VISIONS PLAN AFTER THREE YEARS

CDTC and Other Follow-through

The continued validity of the CDTC New Visions policies was reconfirmed in part by a review of the actions of CDTC, its members and other parties in the years that have followed the New Visions adoption in 1997. CDTC believes that these actions reflect the plan very well and reflect the fact that the policies in the plan remain relevant to current issues and perspectives. Evidence of implementation of the plan includes the following facts:

- In the 1997-02 TIP update, CDTC members directed available funds to new projects in direct response to the New Visions plan. This included:

  1. Full funding for "creative completion" of existing project commitments.
  2. Use of new merit evaluation procedures revised according to the New Visions plan to more fully incorporate the core performance measures and social and environmental costs of projects.
  3. Treatment of federal highway funding (with the exception of HBRR and Interstate funds and other earmarked funds) as flexible.
  4. Consideration of projects based on merit and urgency rather than ownership. This led to programming a large number of non-state projects, particularly in urban areas.
  3. Direction of $90 M in funds available for new projects to project categories that were under-represented (relative to the New Visions plan's budget allocations) in the previous TIP. This led to programming $15 M in new bridge rehab/replacement projects, $37 M in new highway rehab/ reconstruction projects, $5 M in additional transit projects (from highway funding), $5 M in additional safety projects, $17 M in "community compatibility / economic development" projects, and $9 M in bicycle and pedestrian projects. No highway capacity projects were considered, due to that category's over-representation in the existing TIP.
  4. Use of multiple public involvement steps, including the reservation of $5 M in programming capacity for public input during the review of the draft TIP.

- In the 1999-04 TIP update, CDTC members worked with far fewer dollars to commit to new projects than in 1997, but still remained faithful to the New Visions plan. The actions included:

  1. Full funding for "creative completion" of existing project commitments, including provision of all necessary funds to cover the costs of designs that incorporate New Visions features (access management, landscaping, bike and pedestrian accommodations, etc.) The commitment to full funding is the primary reason that few funds were available for new projects.
  2. Addition of a $1 M set-aside for high priority Enhancement projects that do not receive funding in the statewide competition.
  3. Addition of two safety projects (sign replacement for improved visibility) in the city of Albany and Albany County.
  4. Addition of a number of local bridge projects.

- CDTC's Unified Planning Work Program (UPWP) continues to be directed explicitly by the recommendations of the 1997 New Visions plan.

  For 2000-01, New Visions themes include a pre-Major Investment Study analysis of Northway options; refinement of the transit plan through a Transit Service Standards Study; substantial data collection toward a new travel model; and considerable effort to advance and support integrated land use and transportation planning.

  The New Visions plan included forty-four specific recommendations for short-range planning-related efforts. Many of these recommendations provide affirmation and support for existing efforts such as CDTC's *Commuter Register* program. Others represent new ventures.

  Given the ambitious agenda established in the plan, progress made in less than three years since the plan's adoption is quite commendable; several items -- TIP procedures, project design practices, the tandem lot study, demonstration commuter rail initiatives, a regional human service transportation brokerage, expanded funding for community/transportation

planning -- have been *advanced considerably ahead of the New Visions schedule*. Some progress has been made in virtually every aspect of the New Visions recommendations set.

The details of the New Visions planning recommendations and their relationship to the 2000-01 UPWP are described in Appendix B. The original 44 recommendations are divided in Appendix B; there are 38 descriptions of recommendations that were largely or completely carried out and 18 descriptions of recommended actions that have been deferred, delayed or altered.

- The New York State Department of Transportation (NYSDOT), the Capital District Transportation Authority (CDTA), other transportation agencies and local governments have taken actions that advance the New Visions plan as well. Among others, these actions include:

  1. In addition to project design and construction of projects such as the regional Transportation Management Center in the past three years, NYSDOT's Environmental Initiative and Context-Sensitive Design policies; new bike and pedestrian design guidelines; and a new economic development policy.

  2. CDTA's core service restructuring, creation of the Access Transit brokerage, expansion of shuttle services, construction of the new Rensselaer Rail Station and initiation of the commuter rail demo, scenic train trackwork and Schenectady Amtrak Station reconstruction.

  3. The Albany International Airport reconstruction and expansion; the Port of Albany's track work and container facility construction and new master plan; and urban revitalization plans in Albany, Troy, Schenectady and elsewhere.

  4. The REVEST regional rail and intermodal initiative developed in April 1998 and revised in March 2000 from New Visions and local efforts; this effort totals $135 M in projects, of which $80 M was fully committed by early 2000.

  5. The Champlain-Hudson International Trade Corridor Initiative which in linking multi-modal and intermodal planning efforts in the Capital District with others stretching from New York to Montreal.

  6. Passage of the TEA-21 legislation in Washington and the multi-year transportation budget in Albany supporting the budgetary requirements of the New Visions plan.

  7. Significant development of electronic toll and fare collection, notably the substantial use of EZ-Pass on the New York State Thruway and shortly, at the Albany International Airport and Rensselaer Rail Station parking facilities.

Public Attitudes

The continued relevance of the New Visions policies is also confirmed through examination of current public attitudes. CDTC developed the New Visions plan with explicit attention to public attitudes and priorities. The extensive task force activity, conferences, use of workbooks and worksheets and public meetings were employed to ensure a strong regional consensus on the choices reflected in the plan.

Attitudes Evidenced in Ongoing Activities

Reflecting on contributions from the general public, environmental community, business community, transportation industry stakeholders, elected officials, news media and others, CDTC feels assured that the New Visions direction is consistent with a continuing regional consensus. Among the items with clear regional support are the following cross-section of New Visions plan elements:

1. Very positive public and business community response to NYSDOT's creative facility designs such as the Broadway Saratoga Springs "gateway" project, with substantial interest in similar treatments elsewhere;

2. Support for greater public involvement and community leaders' contributions to project decisions during project development;

3. Support for further improvements in the approaches used to articulate and evaluate alternative project designs.

4. Increased interest in appropriate bicycle, pedestrian and community-enhancing aspects of highway projects.

5. Visible interest and support for the commuter rail demonstration, shuttle services, jobs access and brokerage projects of CDTA.

6. Very effective development use of electronic toll and fare collection, notably the substantial use of EZ-Pass on the New York State Thruway and shortly, at the Albany International Airport and Rensselaer Rail Station parking facilities.

7. Broad community support for intermodal projects (such as the Albany International Airport and Rensselaer Rail Station).

8. General acceptance of policies to focus on management strategies to address congestion issues on the Northway in the near future.

9. Strong business support for both REVEST and the multi-modal Champlain-Hudson International Trade Corridor initiatives.

10. Public concern regarding traffic noise from the expressway system, leading to a full-scale noise assessment by NYSDOT.

11. Improved designs for the proposed I-90 Exit 8 Phase 2 connector as a result of enhanced public involvement and the use of CDTC's community quality of life measurements in comparing and revising alternatives.

11. Increased participation from the minority community and increased frequency of projects and project proposals addressing minority and low income residents (such as Schenectady's Vale Neighborhood master planning effort complementing CDTC's NY 5 Land Use and Transportation Concept Study; CDTC's funding of the Albany Housing Authority's North Albany economic revitalization project; the South Troy Waterfront study). These efforts show support for New Visions commitments to social equity and complementing federal initiatives for Environmental Justice.

In addition, CDTC can reflect on the products of several survey efforts that gauge the attitudes of the public to current transportation policy.

CDTC's Annual Survey with the SUNYA Center for Social and Demographic Analysis

In 1997, CDTC initiated a cooperative effort with the State University of New York at Albany' Center for Social and Demographic Analysis. The effort attaches questions regarding public assessment of the transportation system to a broader survey of attitudes regarding job prospects, general well-being and the like. In so doing, CDTC is able to gather opinions of transportation in the context of other issues. The products of the survey are thus more likely to be representative of the public's attitudes than either a survey solely focused on transportation or public comments at an open house or hearing.

CDTC uses the survey as a yardstick to measure the success of the planning, programming and project development efforts in the region. As such it is helpful in considering the success of the New Visions plan and public attitudes towards the actions taken as a result of the plan.

The original New Visions plan contained an emphasis on providing a balanced transportation system characterized by the acceptance of modest increases in congestion (the net increase after accounting for committed projects) in exchange for improvements in transit, bike, pedestrian access; overall reliability; and reduced social and environmental impacts. The broad goal for transportation service is to "maintain or improve overall service quality from 1996 conditions" and "enhance the quality of life in the region."

The SUNYA survey confirms that the public judges that the plan's implementation in the first few years is generally on target. Of the several questions asked, consider the following:

1. Regarding congestion, 57.5% of respondents in 2000 said that congestion affects their life "a lot" (13.6%) or "somewhat" (43.9%). These values are not significantly different in a statistical sense from the 1997 response, in which 63.5% said that congestion affects their life "a lot" or "somewhat".

2. Similarly, the differences in responses in 1997 and 2000 for questions about congestion affecting where respondents live, where they work, when they work or where they shop are not significantly different.

3. In contrast, the positive response to a broad question regarding the "quality of the highway system" demonstrated a statistically significant improvement from 1997 to 2000. In 1997, 59.0% rated the quality of the highway system as good or excellent. In 2000, 71.4% rated the quality of the highway system as good or excellent.

4. In addition, support for transit service is reflected in the surveys. Each year from 1997 to 2000, between 93.2% and 96.2% of respondents said that CDTA's bus service is very valuable or somewhat valuable. (The year to year differences are not statistically significant.)

In sum, the ongoing survey efforts indicate that the public perceives the transportation system performing in a manner consistent with the New Visions plan -- with a resulting increase in system quality.

The NYS MPO Association's Statewide Attitude Survey

Further, the NYS MPO Association sponsored a shared-cost initiatives of the twelve MPO's in New York in 2000. This effort involved a survey of eight subsamples of populations grouped by geographic area across the state. The purpose of the survey was to assess public attitudes towards transportation policies, perceptions of existing system quality, and preferences regarding funding options.

Key results for the Capital District subsample (which included counties to the north and south of the four-county Capital District) support the New Visions plan. These include:

1. The public assessed the importance of various transportation goals with the following ranking (the number in parentheses reflects the percentage of respondents stating that the goal is important):

   - Emphasis on continued maintenance of the existing highway and public transit systems (97.9%).
   - Reduce congestion through measures that better utilize the existing highway system. For instance, EZ-Pass, park and ride and car pools. (88.9%).
   - Transportation projects that promote economic development and job creation (86.1%).
   - More projects to improve the quality of life. For example, more bicycle trails, sidewalks, access to outdoor recreation, and noise reduction (86.1%).
   - Expanding public transit service, such as bus and rail (80.7%).
   - Projects that encourage development in existing built-up areas already served by the transportation system (80.3%).
   - Reduce traffic congestion by adding lanes or building new roads (77.3%).

   These responses both confirm support for the New Visions policies and also mirror the general emphasis of the New Visions plan -- CDTC's complete commitment to system preservation as its top priority; increased visibility of quality of life and economic development projects, and reduced reliance on highway expansion.

2. The survey also elicited support for intermodal improvements (82.2% strongly support or somewhat support upgrading the high-speed rail corridor -- the highest support among the various geographic areas of the state), consistent with the plan's emphasis and subsequent actions.

3. The survey also identified support for transportation spending, with 85.4% of Capital District respondents assigning a high priority or very high priority to government spending for transportation. The Capital District's support was second to New York City's among all geographic areas.

4. The survey reflected the New Visions' outreach results which indicated that there is not consensus support for increased transportation funding. (The New Visions plan is crafted around existing resources and modest increases over time in keeping with inflation and travel growth.) When asked "which of the following ways of raising revenues is best", Capital District respondents chose "none" 39.8% of the time for local funding and 38.9% for state funding. (These numbers are similar to those for other geographic areas.)

5. Even the events of the past few years in exploring fixed guideway transit options in the Capital District are consistent with survey results. Over 70% of Capital District respondents support funding for commuter rail (which is an active option being explored through the demonstration project), but only 50% support light rail funding (exploration of which on NY 5 has led more to Bus Rapid Transit).

In sum, the survey provides strong support for the New Visions principles and actions, and validates CDTC's approach to New Visions 2021 as an update of the existing plan, rather than a wholesale rewrite.

The NY5 Land Use and Transportation Assessment

A major recommendation from the New Visions plan was to pursue a serious examination of land use and transportation concepts in the NY 5 corridor from downtown Albany to downtown Schenectady. This effort is being wrapped up in late 2000 and has led to a "preferred future" generated through an advisory committee, design charettes, workshops and open houses, use of

computer visualizations and technical work. The preferred future is characterized by improved streetscaping and bike and pedestrian accommodations; accompanied by significant improvement in transit services and land use and site re-design.

The preferred future fully reflects pursuit of principles of the New Visions plan. In the summer of 2000, CDTC distributed 14,000 newsletters with color simulations of possible future site design, street design and transit design along with a survey to gauge public opinion. The public was asked two questions about the potential changes that provided residents, business owners and property owners along the corridor an opportunity to confirm or reject CDTC's New Visions approach.

The first question was, "Is this a vision that you think the communities along the Route 5 corridor should work to achieve?" 76% responded yes, 20% were not sure, and only 4% said no.

The second question was, "Would you be willing to accept traffic levels and congestion roughly as they are on Route 5 now if we could improve transit, walking, biking, landscaping, attractiveness and safety?" To this question, 79% responded yes, 11% were not sure and only 10% said no.

Combined, the responses from the two questions provide another confirmation that the New Visions principles and priorities continue to resonate with the public.

Task Force Assessment

To further test the contention that the New Visions 2021 effort is most appropriately pursued as an update, several CDTC task forces were asked to assess the success of implementation of the original New Visions plan and to identify changed circumstances and perspectives.

Two new task forces -- a Financing Task Force focusing on cost and budget aspects and a Travel Task Force focusing on travel and demographic projections -- were created specifically for the New Visions update. Additionally, two existing task forces, the Bicycle and Pedestrian Task Force and the Goods Movement Task Force were asked to assess the plan.

All task forces were asked to address the following questions.

For Phase 1 (leading to the New Visions 2021 Plan):

1. How have circumstances changed since New Visions was adopted? What has not changed?
2. How has our understanding of issues changed since that time?
3. How much of the New Visions plan has been achieved in just three years? Are we on target?
4. What facts and factors must we accommodate in reconciling the current plan to these issues and extending it to 2020?
5. Do these mid-course corrections require changes to the New Visions' set of principles, strategies, actions and budgets?

For Phase 2 (leading to a New Visions 2030 Plan in 2001):

1. What issues need further, in-depth examination than can be achieved by the end of phase one? What is the status of this work (locally, statewide, nationally)?
2. What does current research tell us about the issues needing in-depth examination?
3. What factors are (or could be) changing over time that will (or would) significantly affect the plan?
4. What tentative conclusions can be drawn about these issues?
5. What follow-up study or research is required before firmer conclusions can be reached?
6. What policy actions should CDTC and others take based upon this information? Specifically, how should real-world actions being taken today be revised to better relate to this information?

The products of the task forces constitute much of the basis for the revisions to the original New Visions Plan that are reflected in the New Visions 2021 Plan. Briefly, the Phase 1 answers of the task forces are as follows:

Financing Task Force

The Financing Task Force reviewed the progress of implementing the New Visions plan as well as the status of revenues and project costs (relative to expectations of the plan). A summary of the task force's conclusions follows:

1. **The region's perspective on the New Visions plan has not changed.** Expectations remain high regarding transportation - community integration and caution remains regarding major investments (Northway, rail systems, etc.).
2. **Commitment to the plan remains strong**. NYSDOT, CDTA and others are working hard to implement the concepts and projects of the New Visions plan.
3. **Much has been achieved in three years, including proof that New Visions concepts can be implemented**. Great progress has been achieved on major projects that were moving slowly prior to New Visions. Rail elements (REVEST) have moved much faster than anticipated.
4. **However, the pace falls somewhat short of the very ambitious schedule of New Visions**. For example, the plan calls for reconstruction of 25 lane miles of non-state arterials per year; the TIP funds only 14 per year. (See table for overall pace.)
5. **So far, revenue growth has kept pace with the plan's requirements, but renewed construction inflation or failure to pass the state transportation bond (or find an equivalent source of funds) may jeopardize this situation.** TEA-21 can be credited for most of the growth in finances in the past three years. More difficult challenges may lie ahead. (See New Visions Funding Chart).
6. **Project costs have increased relative to New Visions estimates -- particularly for urban non-state arterials and Interstate work**. For urban projects, this is due to an expansion of the scope of such projects and unanticipated costs of utility work compounded by the transfer of administration of the projects from NYSDOT to municipalities and their consultants. For Interstate projects, the cost increase is due to new design features (bridge shoulder width, broader safe areas on either side of the shoulders) and the increased use of night construction due to daytime traffic growth.
7. **CDTC is confronted in the 2020 horizon with the double challenge of keeping revenue growth sufficient to meet New Visions' requirements while addressing rising project costs.** The task force has helped generate the reconciled budget plan for New Visions 2021 and will continue the budget exploration into Phase 2.

The full text of the Financing Task Force's report is available.

Travel Task Force

The travel task force reviewed travel forecasts upon which CDTC based its 2015 plan and has discussed new approaches to handling travel forecasting for the update. A summary of the task force's findings follows.

1. **CDTC's forecasts from the early 1990's have proved fairly accurate to 2000**. A moderating of the rapid traffic growth of the 1980's was anticipated by CDTC and is borne out by NYSDOT's traffic counts. There is no need to recreate CDTC's forecasting process for purposes of the New Visions update.
2. **The New Visions plan's requirement for a 15% reduction below trend forecasts of traffic by 2015 (in order to meet congestion, safety, budgetary and quality-of-life objectives) appears plausible**. (See traffic growth chart.)
3. **The budgetary implications of designing all highway projects to fully meet future traffic demand are immense -- and new approaches to highway design are necessary to use scarce resources wisely**. The Task Force recommended that the TIP process should be used to more clearly state project objectives consistent with the Congestion Management System principles.
4. **It would be wise to explore alternative growth forecasts to test the sensitivity to traffic forecasts of the plan, its results and its budget**. NYSDOT recently completed a consultant effort that forecasts a modestly higher growth rate than CDTC's.
5. **The issue of how travel may change over the next generation will have to be a key focus of the task force in Phase 2 of the New Visions 2030 effort.**

The full text of the Travel Task Force report is available.

Bicycle and Pedestrian Task Force

This task force focused primarily on how successful implementation of the New Visions plan has been, from the perspective of walking and biking. Their conclusions are summarized below.

1. **TEA-21** increased funding for bicycle and pedestrian accommodations over and above the ISTEA era (within Enhancement and CMAQ programs).

2. **New initiatives at local and state levels,** such as urban revitalization, waterfront plans, HUD initiatives, Coastal Water initiatives and NYSDOT Environmental Initiatives including Context Sensitive Design have added benefits to the bike and pedestrian realm including sidewalk improvements and amenities that encourage pedestrian activity.

3. **Environmental Justice:** This will help ensure the mobility of lower income neighborhoods because they have a higher percentage of households that do not own vehicles.

4. **Heightened interest/awareness of bicycle and pedestrian needs and benefits:** More local municipalities are showing support and commitment to walkable communities (e.g. the Town of Bethlehem with its pedestrian safety committee and the Town of Guilderland with its bike path and sidewalk committee); new master plans and municipal policies are highlighting the need for provisions for all modes (e.g. Clifton Park has just adopted a Trail Master Plan and the City of Albany's bicycle and pedestrian sub-committee are creating a city-wide bike network) and other organizations are exploring ways they can contribute to a better walkable environment (e.g. NYSDOH, School boards, Neighborhood associations).

5. **New manuals and guidelines for bicycle and pedestrian accommodations** include FHWA's new policy in response to Section 1202 (b) of the Transportation Equity Act that bicycle and pedestrian facilities must be incorporated into all transportation projects unless exceptional circumstances exist; AASHTO's Guide for the Development of Bicycle Facilities (1999); and the revisions to the Federal MUTCD's Part 9 (traffic controls for bicycle facilities) which will be available in 2001.

6. **A major roadblock is the issue of maintenance costs for sidewalks/trails.** Even with developers willing to foot the construction bill, municipalities have chosen to turn down these opportunities because they can not afford to maintain the facilities.

7. **Community members would like sidewalks but are not willing to have parts of their property taken or to have businesses relocated.** Retrofitting communities with sidewalks and room for bike lanes has been more of an issue than expected.

8. **In general, the results since New Visions are a bit discouraging to the Bicycle and Pedestrian Task Force.** There was a huge effort to create the New Visions policies and action items but where are the results, where are the walkable communities or at least the commitments? The results are coming slower than desired. New policies take time to embrace but with each project going in the ground an opportunity may be lost. The commitment towards bicycle and pedestrian projects only seems to come if federal funding is available. These facilities are still not considered an item to budget for locally by municipalities - they are not seen as essential to a transportation corridor.

9. In contrast, there are a number of successes to point to, relative to New Visions actions listed in the previous plan:

- **Action 34: Four Class 1 facilities in 20 years** - City of Troy urban bike path (6 miles)(parallels the I-787)**,** Albany-Shaker bike path(1.8 miles)**,** I-90 Exit 8 Connector (approx. 3 miles)**,** Route 50 in Saratoga (multi-use path) (approx. 1.5 miles)
- **Action 33: Spot Improvement Program** - The Spot Improvement program was commenced in 1999- 2000 and will be funding over 10 projects in three counties including the Bike Racks on Buses program which will fund 58 racks (1/4 of the CDTA fleet) by September 2000.
- **Action 14: Regional Site Design handbook** - This project is intended to grow out of the Route 5 land use/transportation concepts study and this study is moving along well with great visioning for the "look" of a walkable and bikeable corridor. With local municipalities responsible for more project work, some type of "Capital District" planning and design guidelines will aid the creation of walkable communities.
- **Action 19: Revision of NYSDOT's project scoping and development procedures manual** - This action has not been commenced. The revision of these procedures can include consideration for bike and pedestrian facilities.
- **Action 7: Priority Network Document** - Along with the bicycle and pedestrian network, other networks including transit, ITS, are to be identified for special consideration (for additional amenities, etc.) in renewal work. While the bicycle and pedestrian network has been identified the Prioirity Network Document has not been produced. Having this document published would add weight to the importance of treating these networks as a priority for improvements.
- **Action 21: Work with NYSDOT to develop materials for use in the design process -** This action has not been commenced. Addressing the design process will help assure full consideration of all modes in facility design, including the incorporation of traffic calming steps in residential and mixed-use areas.

To advance the importance of the needs of bicycle and pedestrians, these action items need to be made a priority item.

10. **More time is needed to do participatory public outreach.** This time must be factored into the project. Projects will benefit with public involvement from the get-go rather than at the tail end.

11. **The issue of available federal funds for construction and the lack of local money to maintain it must be addressed.**

12. **There should be a larger effort in public education.**

13. **A top priority should be to repair, repave, sweep - whatever it takes to make existing bike routes and trails bikeable.** The State should invest more money to maintain the state bike routes. Facility maintenance should be explored through a regional clearinghouse, best-practice research or a think-tank so that all municipalities can benefit from the most up-to-date information on affordable maintenance practices.

14. **Every effort should be made to ensure that the language in the Bond Act supports bicycle and pedestrian accommodations.**

15. **The Bicycle and Pedestrian Priority Network should be made into a policy.** The roads identified in the network are those roads that need accommodations made to facilitate the movement of bicycles and pedestrians in our major corridors. Planning and construction must be done differently in these corridors. The municipalities and NYSDOT must agree to the suggested accommodations for this network. This must be made a priority.

16. **CDTC should revisit the efforts needed to allow the New Visions policy to become part of the Capital District's routine planning and implementing actions.** Some investigation into why these policies are not always followed through at the ground level should be initiated.

The full text of the task force's report is available.

Goods Movement Task Force

This task force examined changes since 1997 from the perspective of freight and intermodal activities. Their findings are listed below.

1. **There have been significant freight related changes since New Visions adoption, including:** TEA-21 and the Transportation Bond Act passage; the ton-mile tax reduced; there appears to be less willingness to accept noise and truck traffic; and the speed limit increase from 55 to 65. Further, the REVEST initiative (high speed rail); E-Zpass; a new Air Cargo Facility; Southwest belly freight mail; the Transportation Managament Center has been built; and the Port of Albany has expanded. Additionally,the Conrail transfer to CSX/NS has affected goods movements significantly.

2. **There is greater awareness of freight mobility issues than 5 years ago (economic development synergy).**

3. **E-commerce - delivery schedules, more package deliveries, more distribution centers, freight forwarding and locating near the airport are recent events (12% growth in air cargo next 5 years)**

4. **There is greater understanding of the Capital District's freight opportunities - that all modes are available.**

5. **Highway & bridge programs and design improvements appear to be on target. Airport access projects are in design, and the Transportation Management Center is contributing significantly.**

6. **However, greater progress and renewed efforts are required for delivery access (need guidelines); port access improvements and elimination of at-grade rail crossings**.

7. **Refocused efforts are required to address the effects of e-commerce, just-in-time delivery, land use and transportation compatibility and tax policies.**

8. **The New Visions Plan should acknowledge work on the Thruway Tandem Lot relocation, and re-examine strategic congestion locations (NY 7, Exit 24) with actions such as High-Speed EZ-Pass in Phase 2.**

The full text of the task force report is available.

Preliminary Environmental Justice Discussion

In April of 1997, USDOT issued an Order on Environmental Justice (EJ Order 5610.2) requiring DOT to implement the principles of Executive Order 12898 through the incorporation of EJ principles in all programs, policies and activities carried out by USDOT. In December of 1998, the Federal Highway Administration issued a similar order requiring the incorporation of EJ principles in all FHWA programs, policies, and activities.
USDOT has since conducted workshops to educate recipients regarding the purpose and requirements of the Executive Order. MPOs and state DOTs across the nation are at various stages in defining terms, evaluating processes and results and in identifying actions to address any inequity.

Executive Order 12898 was created to bring federal attention to the environmental and human health conditions in low-income and minority communities with the goal of achieving EJ. The goal of Environmental Justice is to ensure that any adverse human health or environmental effects of any government activities do not disproportionately affect minority or low-income populations. EJ does not intend to provide preferential treatment to these populations, but rather fair treatment to all populations. Specific to transportation, Executive Order 12898 has been issued in order to

ensure that all Federally funded transportation-related programs, policies, and activities that have the potential to cause adverse affects, specifically consider the effects on minority and low-income populations. EJ is a public policy objective that has the potential to improve the quality of life for those whose interests have traditionally been overlooked.

Program Objective

CDTC's Title VI-Environmental Justice (EJ) Program is intended to ensure that EJ principles are included in CDTC's planning process. CDTC's objective is to fulfill this requirement proactively. Yet, as is the case with many other federally funded transportation agencies, CDTC is in the early stages of forming a standard procedure for addressing EJ principles. The following steps describe CDTC's proposed approach to implementing EJ:

1. Educate staff on EJ regulations, issues, and components.
2. Provide staff with case studies of successful EJ implementation.
3. Collaborate with NYSDOT and other MPO's regarding their status/approach concerning EJ implementation.
4. Formulate a standard procedure that allows for the realistic implementation and documentation of EJ analysis and principles.

The approach seeks to answer three core questions:

1. Is there adequate access to the process?
2. Is the outcome equitable?
3. Are the impacts fairly distributed?

These efforts will include a significant technical effort during 2000-01.

Known Contributions to Environmental Justice

Prior to outreach and careful technical analysis, it is not possible to conclude that there are no significant EJ issues in the Capital District. Early outreach in the Capital District by the NYS Department of Environmental Conservation identified several transportation-related concerns.

However, there are several aspects of CDTC's planning and programming processes and of its New Visions plan that have positive Environmental Justice aspects and go beyond typical commitments at the metropolitan level. These include the following:

1. Use of an Urban Issues Task Force during the creation of New Visions, elevating urban social and fiscal issues in discussions leading to the plan's creation.
2. Inclusion of urban revitalization as a central theme of the New Visions plan.
3. Adoption of principles that make transportation funding available based on need and function rather than jurisdiction. This action has resulted in elevating the ability of cities (which own more important roads and have greater fiscal needs than towns and villages) to receive federal funding on a par with the state highway system (which are largely suburban and rural).
4. Establishment of an "Economic Development / Community Compatibility" budget line in the plan and the TIP. Programmed projects under this heading include several projects to reroute trucks out of low income residential areas.
5. Development in New Visions of a "Community Quality of Life" evaluation criterion which is now being used also at the project level to assess community impacts of transportation projects.
6. Development in New Visions of a "Level of Compatibility" measure to assess impacts of traffic on residential life.
7. Creation of a "Community and Transportation Linkage Program" to respond to local community transportation and land use planning issues. Current projects include a collaborative effort with the Albany Housing Authority in conjunction with its HOPE VI public housing project to revitalize commercial areas in low income areas of North Albany; a Central State Street community planning project in a low – moderate income area of Schenectady; and an effort with Albany County to examine effective, residentially-compatible truck access to I-787 in several communities.

8. Priority examination of transit and community revitalization potential along NY 5 from Albany to Schenectady. This corridor contains the residences of 30% of all households in the region without access to vehicles and is the largest "transit dependent" market; examination has focused on neighborhood issues (traffic calming and discouraging drug trafficking) alongside streetscape, transit quality, pedestrian safety and other issues critical to the residential neighborhoods along the corridor.

9. Priority funding commitment to allow CDTA to complete a 100% modernization of its full-sized bus fleet with low floor buses.

10. Provision of $300,000 of CMAQ funds as startup funds for CDTA's Access Transit subsidiary serving Medicaid transportation users.

11. Support for feeder services, jobs access transit services and extended service hours to provide better transportation to low income and "welfare-to-work" individuals.

12. Examination through NYSDOT Region 1 of potentially-unacceptable noise exposure levels in residential areas, with the goal of identifying and programming appropriate countermeasures. While the study is still in its early stages, most of these areas can be expected to be in cities, largely in minority and low income areas.

As a result, CDTC believes it has many of the elements in place to ensure environmental justice in its activities.

CAPITAL DISTRICT CONTEXT

The Capital District is comprised of the four counties surrounding Albany -- the capital of New York State. A map of the region appears in Figure 1.

HISTORIC CHANGES 1970-2000

The Capital District has experienced dramatic growth in travel in the last decade. Travel during the afternoon peak hour increased by 37 percent between 1980 and 1990. In the twenty-year period from 1970 to 1990, peak hour travel increased by 86 percent. Specific examples of this growth in travel include the following increases in average annual daily traffic (AADT) from 1985 to 1991:

Between 1980 and 1990, regional population increased by 5% while travel increased by 37%.

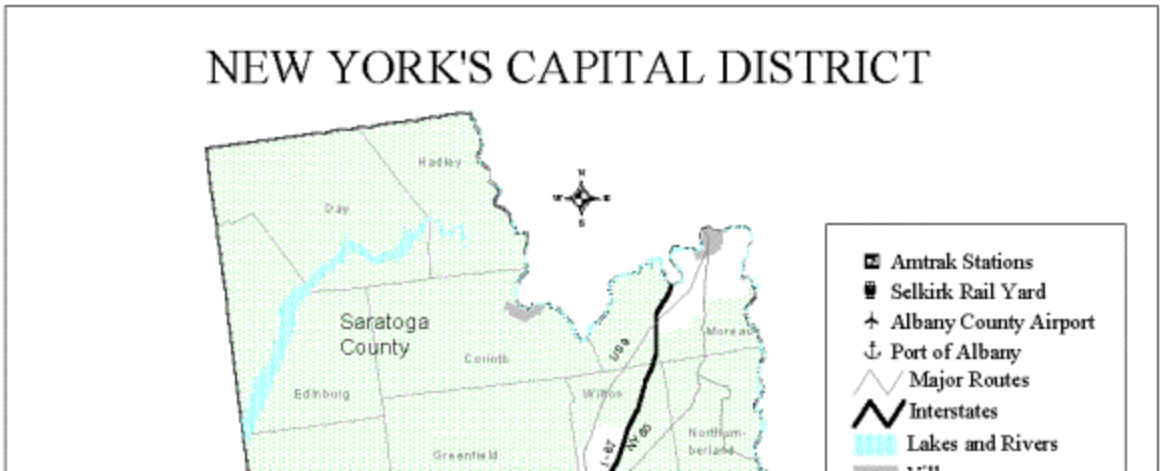
- the Northway at the Mohawk River went from 45,500 to 69,900;
- I-787 (Wards Lane to NY 378) increased from 45,500 to 72,700; and
- the Thruway (Exit 24 to 25) increased from 37,000 to 52,900.

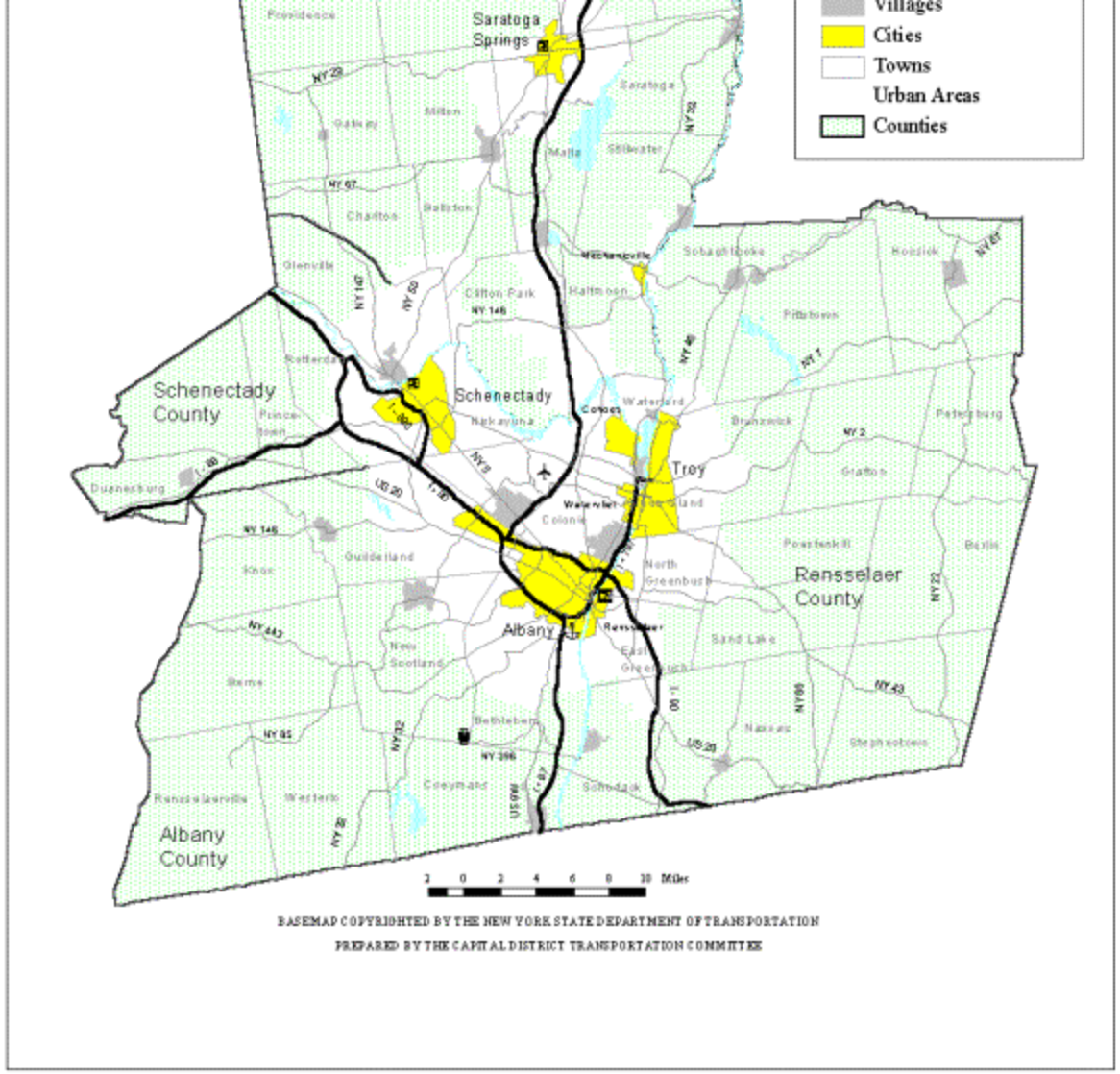
The growth in travel has resulted in part from regional increases in population, households and employment. But between 1980 and 1990 regional population increased by only 5 percent, while travel increased by 38 percent; households increased by 10 percent and employment increased by 20 percent. Other variables contributed to travel growth, such as automobile ownership and gasoline costs per mile. The number of vehicles in the Capital District more than doubled between 1970 and 1990 while the cost of gasoline per gallon actually declined by 4 percent in constant dollars. The cost of gasoline per mile decreased by 40 percent in constant dollars between 1970 and 1990. Gasoline cost per mile traveled has been decreasing (discounting inflation) until recently because the cost of fuel has grown more slowly than inflation and the fleet has become more fuel efficient. Fuel cost per mile is difficult to predict. In spite of the dramatic and rapid increase in gas prices that has been experienced in the year 2000, the true cost of fuel per mile (after inflation) is still less than in the early 1980's. To date, there have been no indications that rising gasoline prices have caused people to drive less.

The number of vehicles in the Capital District doubled between 1970 and 1990.

The location of growth in households and employment has also influenced travel. The suburbanization of employment has continued to the point that employment in the central cities (Albany, Schenectady, Troy, and Saratoga Springs) was exceeded by employment in the remainder of the four counties by 1990. Thus, work trips to suburban locations have increased. Saratoga County has experienced the fastest growth in population, households and employment, which has contributed to increases in travel demand in north-south corridors, most notably the Northway.

Figure 1: The Capital Region





In addition, retail and other service industries have followed households to the suburbs. The *1990 Nationwide Personal Transportation Survey* documents dramatic increases in overall personal trip making, with the largest growing portion being "non-work" related trips.

The dramatic growth in Capital District car travel has not been matched by other modes. (See Figure 2.) According to the U.S. Census, between 1970 and 1990, commuting to work by single occupant vehicle increased by 86 percent while commuting in a carpool declined by 32 percent. Commuting by transit and walking declined (by 16 percent and 24 percent respectively). Those who worked at home increased 14 percent over twenty years. These trends by mode are comparable to national trends.

Over 20 years, the cost of fuel per mile dropped 40%; single occupant commuting increased 86%; carpooling declined 32%

For the 2021 plan update, traffic counts throughout the 1990's were reviewed and compared with STEP Model estimates. The STEP Model forecast an average annual growth rate of 2.5% for the 1990's for PM peak hour VMT. For the first eight years of the decade, daily VMT on the State touring routes increased at an average annual rate of 1.9%. While more detailed analysis will be conducted in Phase 2 of the plan update, the Travel Task Force

concluded that the fact that VMT growth has on average been lower than forecast lends credibility to the New Visions plan assumption that traffic growth could be dampened with plan implementation.

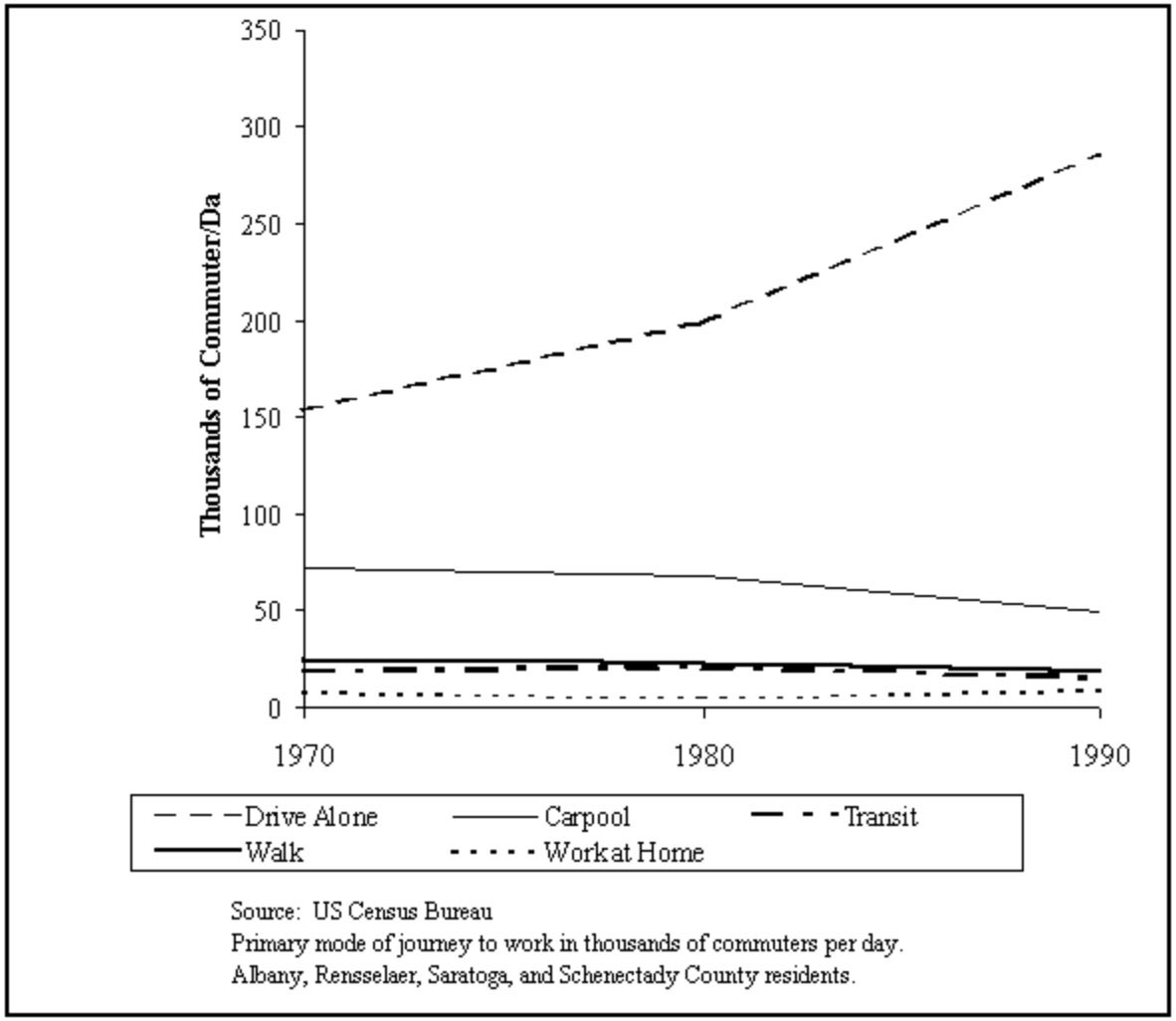


Figure 2: Capital District Work Trip By Mode

POTENTIAL CHANGES 2000-2021

Regional growth is expected to be modest; travel growth may lessen.

Travel forecasts were developed for the years 2000, 2015 and 2021 using the CDTC Systematic Traffic Evaluation and Planning (STEP) Model. The results are documented in *Analysis of Year 2000 Congestion Levels in Critical Corridors of the Capital District* and the *Travel Task Force Phase 1 Report*.

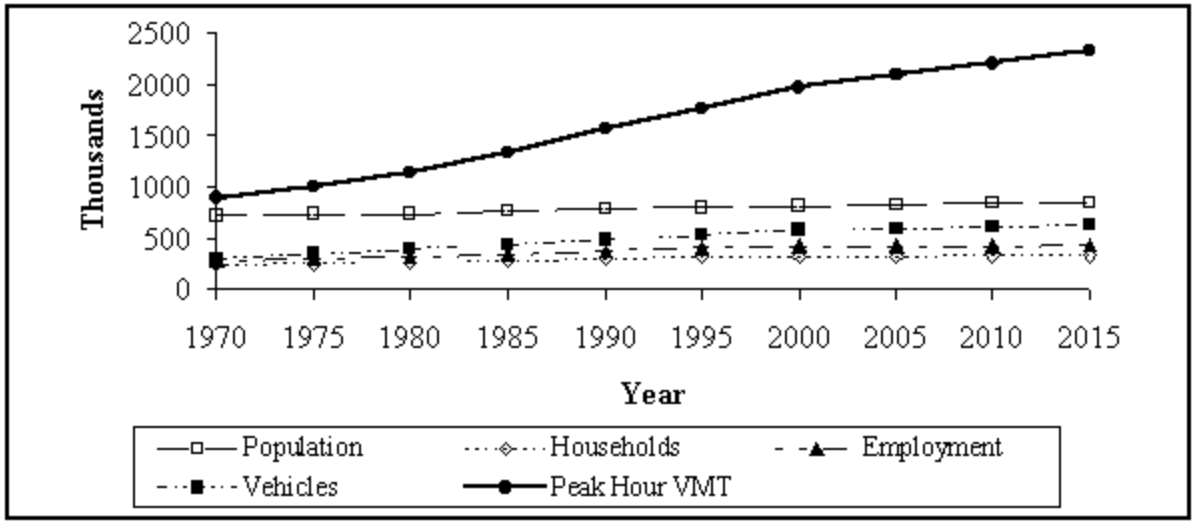
CDTC projects that traffic growth will slow after the year 2000.

Year 2000, 2015 and 2021 trip generation was developed by zone based on Capital District Regional Planning Commission (CDRPC) forecasts of households and employment. The trip generation rates that were used are documented in CDTC's *Local Travel Parameters* report. Trip distribution and traffic assignment were developed using the CDTC STEP model. Trip distribution was developed to be consistent with projections of travel in CDTC's *Forecasts of Regional Traffic Growth For Use in Year-2000 Needs Estimate*. With an assumption that household vehicle availability in the Capital District will reach saturation by year 2010 (there will be at least one car per licensed driver), travel growth was projected to slow somewhat after the year 2000. The resulting projections of traffic, population, households, employment, and vehicles summarized below, represent a plausible baseline forecast to the year 2015 based on recent trends in travel. While population, households and employment are projected to grow between 9 and 12 percent from 1990 to 2015, travel is projected to grow 49 percent in that thirty five year period. Between 1990 and year 2000, travel is forecast to increase 2.4 percent per year; the baseline forecast from year 2000 to year 2015 indicates an annual growth rate of 1.1 percent per year.

3

Figure 4: Capital Region Travel Parameters

VMT = Vehicle Miles Traveled



The predicted increase in travel in the baseline forecast is expected to result from three nearly equal factors:

1. additional activity (more households and employment);
2. increased vehicle trip making for existing activity; and
3. increased average trip lengths as the Capital District continues to develop suburban land.

More than half of the new jobs are expected to be in Albany County.

Based on CDRPC forecasts, between 1990 and 2015 the four counties will each experience similar percentage growth in employment (between 11 and 16 percent). However, Albany County will have the largest net growth in employment since it starts from the largest base level. Approximately half of the region's growth in employment is projected to occur in Albany County (23,344 out of 44,528 new jobs).

Nearly half of new households are expected to be in Saratoga County.

Albany County will still have the largest number of households, while Saratoga County will experience the largest growth in households. Almost fifty percent of the region's growth in households (16,900 out of 35,123) is expected to occur in Saratoga County.

Figure 5, Figure 6, and Figure 7 illustrate this projected growth in households, employment, and travel, respectively. These figures readily show that overall regional growth is small in comparison to baseline figures, and thus trend development scenarios are based on modest incremental growth in the region. While the number of trips generated will depend in part on growth in households and employment, all four counties are projected to experience growth in trips in similar proportions:

- 35 percent in Albany;
- 34 percent in Rensselaer;
- 46 percent in Saratoga; and
- 31 percent in Schenectady.

Trips within central cities will increase 25 percent; all others will grow by 42 percent.

It is expected that suburban employment will continue to grow at a faster rate than central city employment. Suburban employment, because it tends to be more geographically dispersed, is more difficult to serve with transit. Almost all of the household growth is forecast to occur outside of the central cities. The growth in trips, which depends on households and employment as well as other variables, will be much greater outside the central cities. While central city trips are projected to increase by 25 percent, trips outside of the central cities will grow by 42 percent.

Annual growth trends between 2015 and 2021 are expected to be comparable to annual trends forecast from 2000 to 2021. Higher growth scenarios are possible and were tested by the Travel Task Force. The Task Force concluded that the STEP Model trend forecasts were the most appropriate for use in evaluating trend conditions; and that the STEP Model New Visions forecasts are the most appropriate for use in the plan. Historic VMT growth and VMT growth forecast under several scenarios is portrayed in Figure 6A.

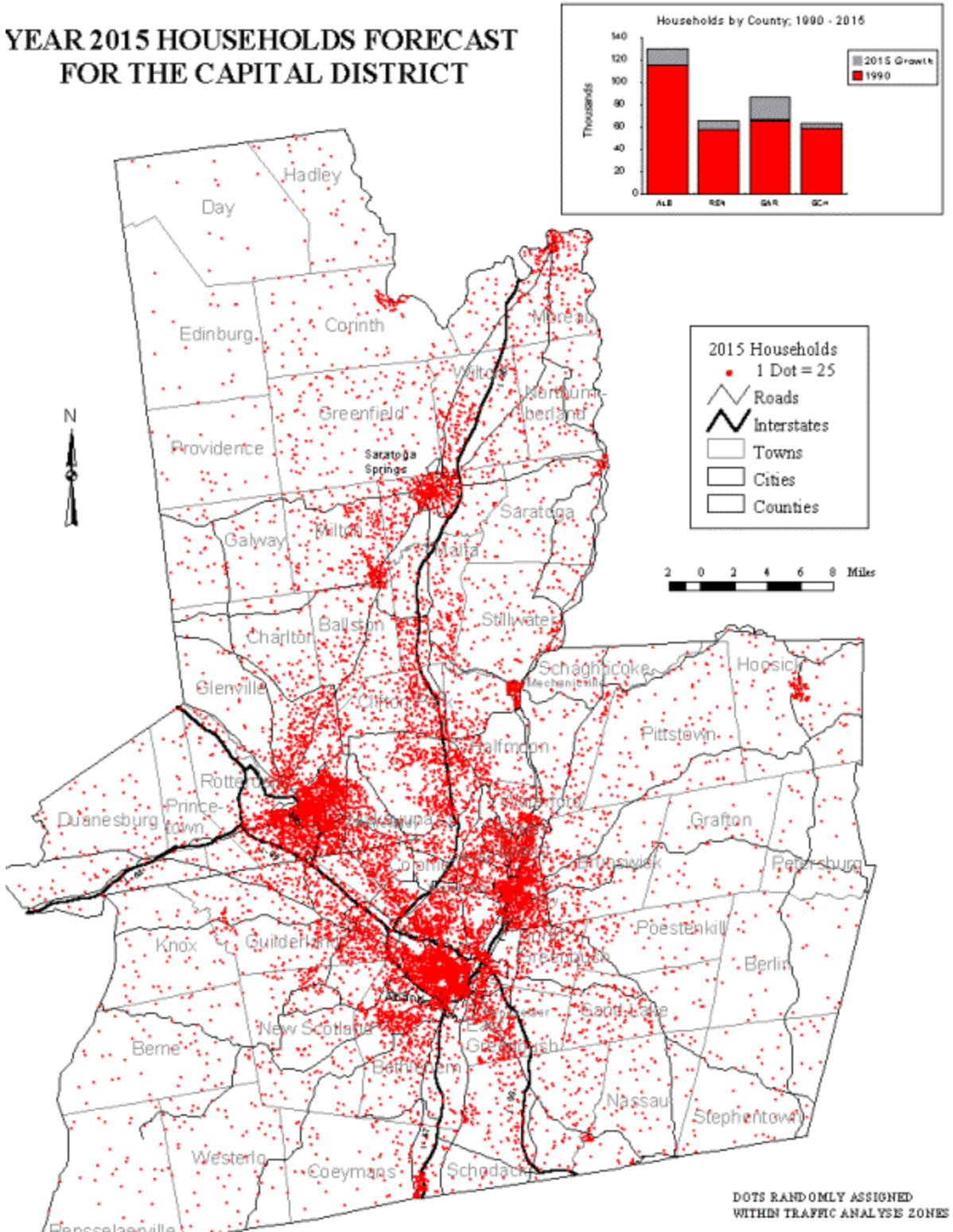
The plan builds on the region's unique strengths that should be the envy of many metropolitan areas.

None of these trends is unique to the Capital District. We mirror national trends. The choice of how to respond to them, however, provides room to pursue options tailored to local circumstances. CDTC's *New Visions* effort identifies a plan of action that best suits the Capital District -- a plan that builds upon the area's unique strengths. Among these strengths are:

- numerous small, walkable communities;
- a capable and increasingly entrepreneurial public transportation provider (CDTA);
- the generally high level of service provided by the highway system;
- the established partnering attitude at the New York State Department of Transportation, Region 1;
- a strong history of cooperative transportation planning through CDTC and the Capital District Regional Planning Commission (CDRPC); and
- heightened public awareness of the importance of regional intergovernmental cooperation.

These strengths should be the envy of most metropolitan areas of the nation. They also provide the basis for the region to confront the challenges of coming years successfully. CDTC's choice is to foster investments that improve the region's **economic, social and physical health** while enhancing the quality of life in the area. Within this approach, CDTC's *New Visions* plan identifies the means to those ends.

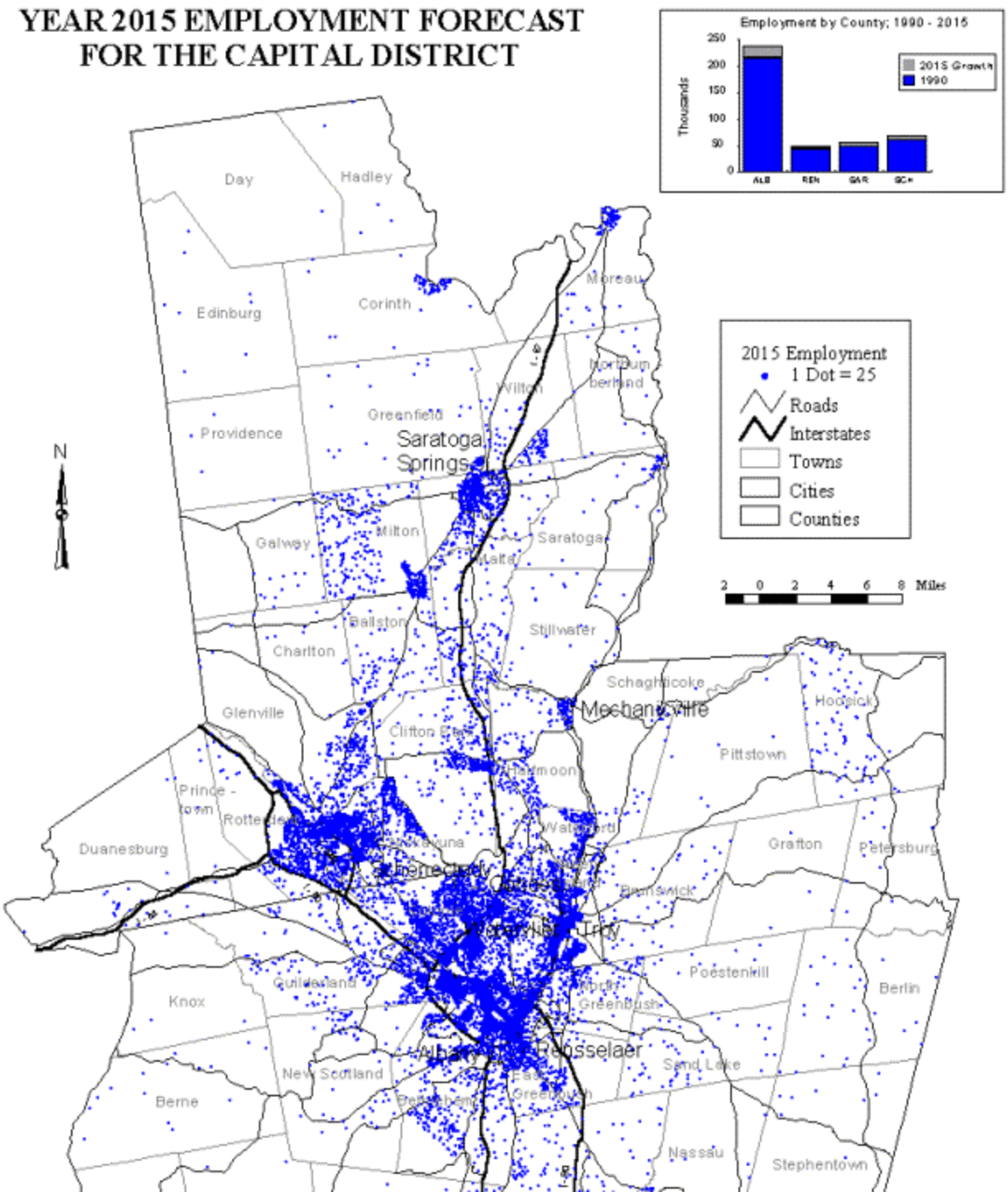
Figure 5: Projected Household Growth



DATA SOURCE: CDRPC

PREPARED BY THE CAPITAL DISTRICT TRANSPORTATION COMMITTEE

Figure 6: Projected Employment Growth



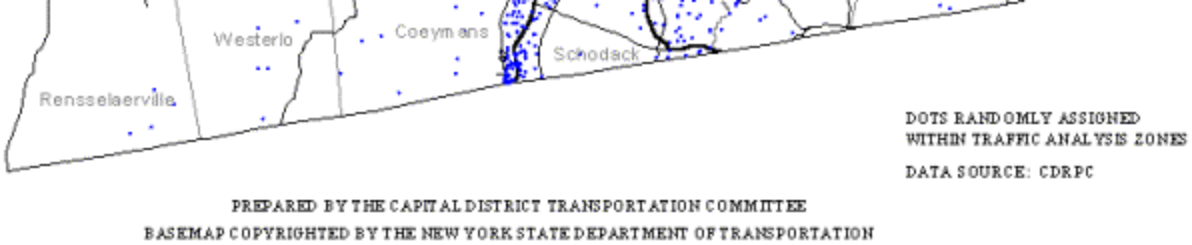
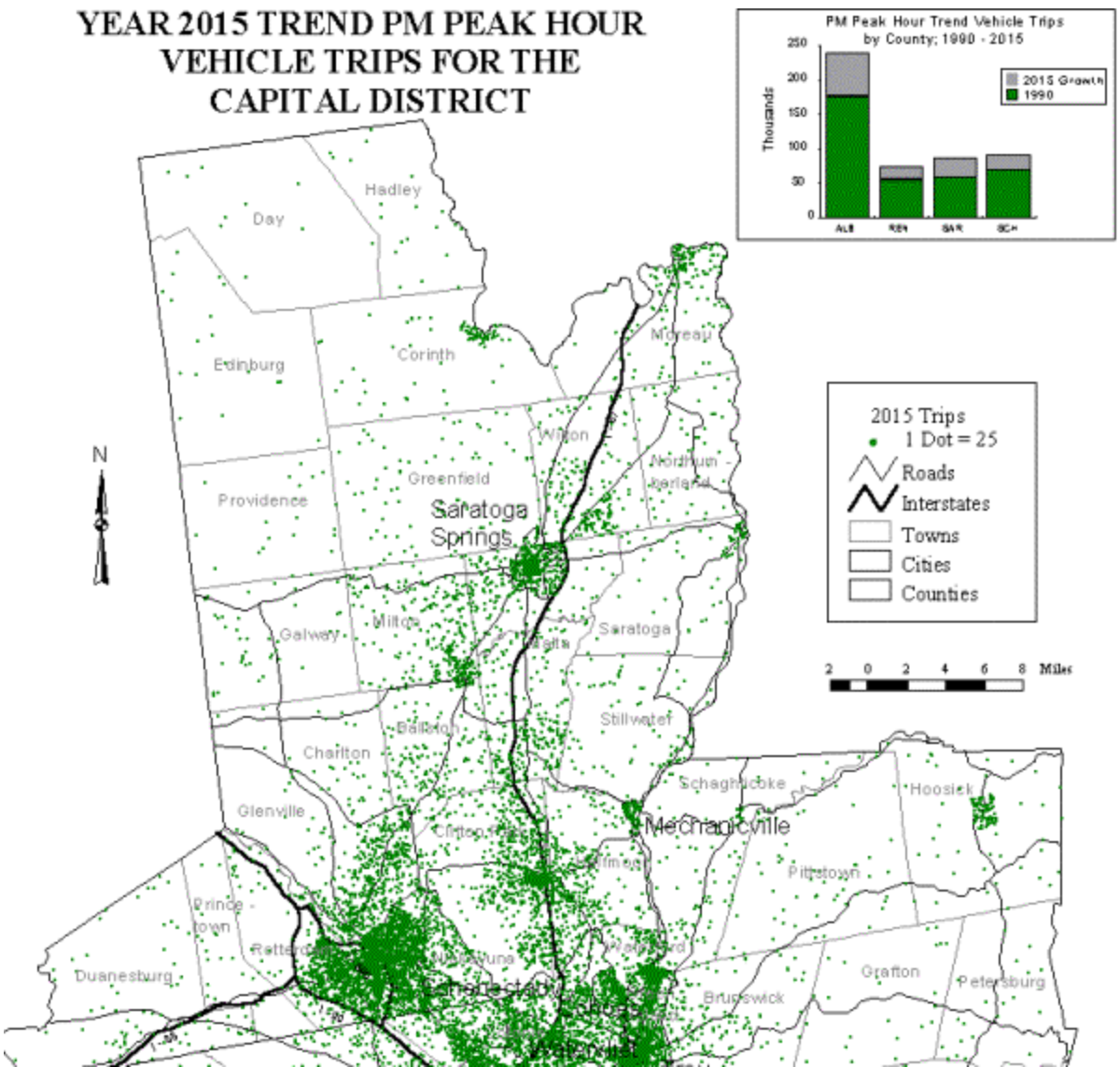
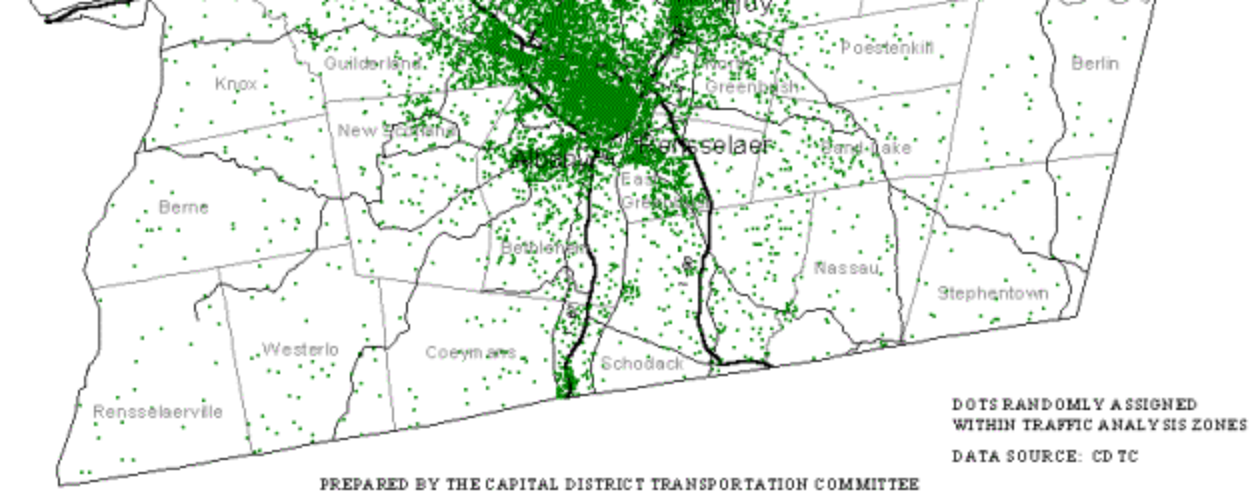


Figure 7: Projected Travel Growth



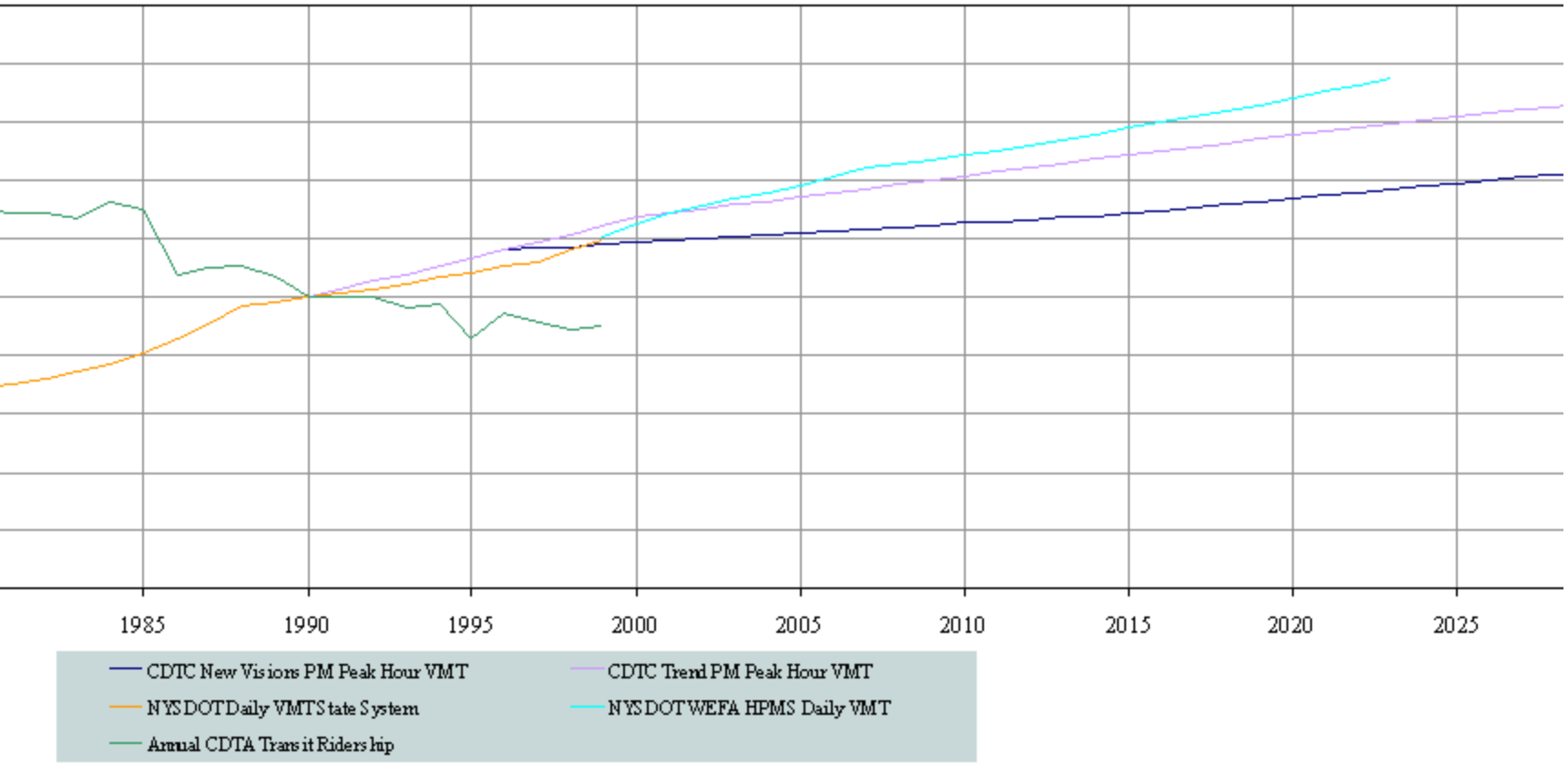


DOTS RANDOMLY ASSIGNED
WITHIN TRAFFIC ANALYSIS ZONES

DATA SOURCE: CDTC

PREPARED BY THE CAPITAL DISTRICT TRANSPORTATION COMMITTEE

Figure 6A
Travel History and Forecasts in the Capital District



VISION STATEMENT

Participants in the original *New Visions* effort grappled with CDTC's forecasts of future conditions -- conditions characterized by a loss of travel options, convenience and reliability. The *New Visions* principles, strategies, actions, and budget requirements are crafted to produce a very different future.

A broad vision of desired future conditions was represented in the original New Visions plan by the following reflections of "George and Jane", a fictional couple of the year 2015. Respondents to the *New Visions Workbook* provided strong confirmation that the vision represents a desirable outcome of the next twenty years of public and private actions. At the same time, the respondents and other participants in the *New Visions* process recognize significant obstacles in achieving the vision.

The vision is built upon common themes that emerged from New Visions discussions and public comment.

The year is 2021. George and Jane, life-long Capital District residents, prepare for retirement. They are pleased that they have always had meaningful employment -- and pleased that they have been and still are Capital District residents. According to George, "It's a pleasant place --not too big, not too small, with a variety of attractive, livable communities and cultural opportunities ... and always some new industry emerging to keep the economy perking." They eagerly "talk up" the virtues of the Capital District to friends and relatives who live out of the area.

George can tell you about his years of commuting, but the nightmare traffic jams aren't recent memories. Somehow, he recalls, the "corner was turned" when a combination of events gave him a greater sense of control. He can't say whether it was having direct access to up-to-the-second traffic information that helped, or the Johnny-on-the-spot removal of disabled cars that made the difference. Maybe it was having a transit option that, for George's commute, was actually quicker than driving. Certainly, once his employer allowed him to -- at least occasionally -- work at home on the computer, traffic congestion was less of a stress producer than it had been, although it never did go away. And, of course, in the back of his mind he had always tucked away the option of moving closer to work, where he could walk or bike to work like many of his friends did.

Jane enters her retirement years feeling fortunate that the region's governments and transportation providers long ago overcame many obstacles. They have been working cooperatively with each other and with the private sector to build communities and transportation systems that serve these communities while preserving open space and maintaining good air quality. Developers are eager to do business in the Capital District because they know where the development is desired and they know that the community uses development to knit together a more cohesive community. Jane knows that it took a lot of work on somebody's part so that her granddaughter can bike to the shopping center safely, that it took a lot of work so that the new development fits in with the old. She's often remarked how impressive it is that the new sidewalks and service roads, improved traffic signals and transit service have allowed her community to absorb so much activity without serious traffic problems. Unlike some places they have visited, the development in the Capital District seems intentional -- as if someone knew what he or she was doing!

George and Jane know that their interests will change in coming years. Fortunately, they have a wide choice of activities in the region. Today, the older cities are as vibrant as the suburbs -- each plays a role in the life of the region -- and rural scenes with agricultural and recreational activity are only a few miles away. George and Jane have a range of housing options as seniors, many within walkable neighborhoods, others with transit "feeder" service to main transit routes so that they won't feel isolated if and when they can no longer drive. They're confident that they can continue to live independently and still stay in close contact with their children and grandchildren who live throughout the region.

George and Jane may never know all the effort that went into bringing about the Capital District of 2021 that they love, but they're quite appreciative that all that hard work paid off.

What is remarkable is that, three years after adoption of New Visions, the "George and Jane" vision is more believable than when it was written. There is clear movement towards making that vision a reality, both in terms of transportation actions that are increasing options and in terms of local planning activities that are creating better structure to communities.

As a result, the vision stated above appears even more achievable than when first written. Further, the results of the Travel Task Force indicate that extending the plan to a 2021 horizon should not introduce a significant difference in the challenges faced by the region. In other words, success in achieving the 2015 vision should translate into similar success for 2021 mobility, access and quality of life.

PERFORMANCE OBJECTIVES

The trend forecasts in **Error! Reference source not found.** presented a challenge to achieving the stated New Visions goals. Reaching the vision depends on the successful outcome of many initiatives and external events. These include:

1. Successful implementation of physical, operational and institutional actions implied by the *New Visions* principles and specifically called for by the *New Visions* strategies and actions.
2. Adequate funding for full implementation of the *New Visions* plan.
3. Complementary state and national policy actions relating both to the Capital Region's economic competitiveness and to subjects such as vehicle emissions and fuel efficiency standards.
4. Complementary private investment decisions in the Capital Region in the transportation system (rail, air, intercity bus, trucking, communications), in workforce management (telecommuting, demand management, transit pass support, etc.) and in the location and design of residential, commercial and industrial development.
5. Complementary private sector initiatives nationally and internationally to develop and market cleaner, quieter, safer and more fuel-efficient cars and trucks.

Achieving the goals depends on both the plan and other external events.

Table 1 presents achievable performance objectives relative to selected core performance measures; these objectives are achievable if the five conditions stated above are achieved. It is within the region's grasp to use a combination of transportation, land use and other policies along with private actions and state and national policies to preserve the current strengths of our regional transportation system and address its weaknesses.

Table 1: Performance Objectives for Core Measures

Selected Core Measures		2021 Performance Goals and Qualifications	1990 Conditions	1996 Conditions	2000 Conditions	Year 2015 Full Plan Improvement from 1996	Year 2021 Full Plan Improvement from 1996	Year 2021 Full Plan Improvement from 2000
Transportation Service								
ACCESS	Percent of PM Peak Hour Trips Transit Accessible	Increase from current levels	18.60%	na	na	✓✓	na	na
	Percent of PM Peak Hour Trips With Transit Advantage	Increase from current levels	0.40%	na	na	✓✓✓✓	na	na
	Percent of PM Peak Hour Trips Accessible by Bicycle and Walking	Increse from current levels, and improve quality of facilities	28.9% (1995)	na	na	✓✓	na	na
ACCESSIBILITY	Travel Time between Representative Locations; see Appendix; Sample Time: Selkirk Yards to Saratoga Springs (minutes, PM Peak)	As with congestion measures, maintain close to current times and increase predictability	59	64	69		✕✕	✕
CONGESTION	Daily Recurring Excess Person Hours of Delay	Maintain close to current levels	6,546	16,999	26,344	✕	✕✕✕	✓✓
	Excess Person Hours of Peak Hour Delay Per PMT	Maintain close to current levels	1.1	2.4	3.2	✓	✕✕✕	✓
	Daily Excess Vehicle Hours of Delay by Truck	Maintain close to current per VMT	125	357	553	✓	✕✕✕	✓✓✓
FLEXIBILITY	Reserve Capacity on the Urban Expressway and Arterial System (PM Peak Hour Vehicle Miles of Capacity)	Accept some decline in exchange for greater reliability & route, mode choice	855,008	772,039	696,552	✕	✕	✕
Resource Requirements								
SAFETY	Estimated Annual Societal Cost of Transportation Accidents, Millions of Dollars ($M)	Reduce from current per capita levels	$510	$685	$810	✓		✓
ENERGY	Daily Fuel Consumption (thousands of gallons)	Reduce from current per capita levels	880	na	na	✓		✓
ECONOMIC COST	Annual Vehicle Ownership and Operating Costs for Autos and Trucks, Millions of Dollars ($M)	Reduce from current per capita levels	$696	$815	$901	✓		✓
	Other Monetary Costs of Transport: Highway and Transit Facilities and Service, Parking Facilities, Environmental Damage, Millions of Dollars ($M)	Reduce from current per capita levels	$779 M	na	na	✓		✓
External Effects								

AIR QUALITY	Daily Hydrocarbon (HC) Emissions (kg)	Reduce well below	47,632	40,840	na	✔✔✔✔	✔✔✔✔	✔✔✔✔	
	Daily Nitrogen Oxide (NOx) Emissions (kg)	current levels	53,661	46,023	na	✔✔✔	✔✔✔	✔✔✔	
LAND USE	Residential Use Traffic Conflict: Miles at LOC "E" or "F"	Reduce from current levels	82.4	na	na	✔✔✔	✔✔✔	✔✔✔	
	Arterial Land Access Conflict: Miles at LOC "E" or "F"	Reduce from current levels	29.9	na	na	✔✔✔	✔✔✔	✔✔✔	
	Dislocation of Existing Residences and Businesses	Enhance rather than dislocate existing properties							*
	Community Quality of Life- Factors that reflect community quality of life in the central cities, inner suburbs, outer suburbs, small cities and villages, and rural areas.	Contribute significantly and explicitly				✔	✔	✔	
ENVIRONMENTAL	Number of Major Environmental Issues to be Resolved to Implement Existing Commitments	Use transportation investments to enhance the environment							*
ECONOMIC	How does the transportation system support the economic health of the region?	Contribute significantly and explicitly				✔	✔	✔	

✔✔✔✔	Positive impact greater than 50%, future relative to base year.
✔✔✔	Positive impact between 20% and 50%.
✔✔	Positive impact between 10 and 20%.
✔	Positive impact less than 10% or not quantified.
	Negligible impact expected.
✕	Negative impact less than 10% or not quantified.
✕✕	Negative impact between 10 and 20%.
✕✕✕	Negative impact between 20 and 50%.
✕✕✕✕	Negative impact greater than 50%, 2015 relative to 1990.
*	Indicates impact has been quantified.

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Achieving the Core Performance Objectives

Supplemental Performance Objectives

SYSTEM GOALS

The vision can be translated into a small number of largely measurable goals. While these goals appear to be modest, the truth is that they represent quite a reach. Achieving them will require full implementation of the transportation and land use actions listed in CDTC's *New Visions* plan. A high degree of success in areas that are outside the control of CDTC's participants, such as vehicle technology, national energy policy and national and state economic growth policies will also be required. **To achieve *New Visions* goals, we must continue to find ways to overcome the obstacles cited in Figure 7.**

CDTC Long-Range Transportation System Goals

Within the context of broader national, state, regional and local public and private actions to meet the economic, social, educational and other needs of the region, CDTC's long-range transportation system goals are:

- *Transportation Service*

♦ Maintain or improve overall service quality from current conditions.
♦ Enhance the quality of life in the region.

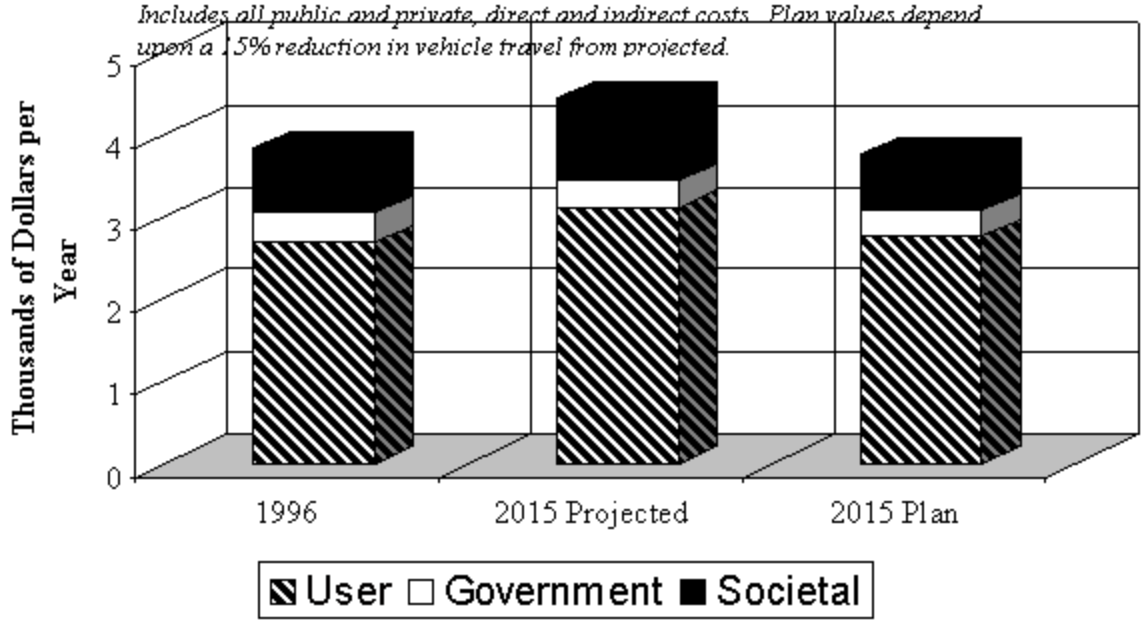
- *Resource Requirements*

♦ Reduce the per-capita resource requirements related to provision, operation, use and mitigation of the impacts of the transportation system from current per capita costs. (See Figure 8.)
♦ Reduce the per capita cost of accidents (crashes).

- *External Effects*

♦ Build strong urban, suburban and rural communities.
♦ Knit them together into a cohesive metropolitan area.
♦ Support economic and social interactions that accommodate population, household, employment and commercial and industrial growth while improving environmental quality and enhancing the natural and built environment.

Figure 8: Annual Per Capita Monetary Costs of the Capital District Transportation System



Are these goals desirable?

Definitely. The transportation system exists to facilitate economic and social interactions that are necessary to the vitality of the nation and to the Capital District and must do so in an effective manner. At the same time, the immense private and public investment in transportation systems and vehicles provides opportunities to influence corollary areas, such as environmental health and resource protection. It is not in the region's best interest to watch mobility, access, safety and cost measures deteriorate in coming years while billions of public and private dollars are spent on transportation and related activities. The region is better served by using these resources to achieve strong, livable communities characterized as both economically and environmentally healthy.

Are these goals consistent with state and national objectives?

Definitely. Among other examples at the national level, Congress has established a legal connection between transportation investment and air quality, other environmental objectives, mobility of the disabled and, through the ISTEA and TEA-21 provisions, broader community goals. President Clinton has made international commitments to holding CO_2 emissions (essentially energy consumption) at 1992 levels. Secretary of Transportation Pena established goals for doubling walk and bike mode share, for achieving "sustainable" communities, for implementing "Operation Timesaver" Intelligent Transportation Systems in all major metropolitan areas and for similar initiatives in smaller areas. The Federal Highway Administration and Federal Transit Administration have established national policies to ensure that federal-aid benefits all segments of society and implements environmental enhancement measures and contributes to sustainable community development. The list of similar federal objectives that both direct and empower the *New Visions* goals is quite lengthy.

> *"As we move forward into the 21st century, we have the ability to make our State's highways, structures and public transportation systems into one of the most efficient intermodal transportation systems in the nation. To accomplish this, facilities for pedestrians and bicyclists must be incorporated into highway, bridge and transit projects and integrated throughout NYSDOT's policy, planning, implementation and operations effort."*
> Commissioner John B. Duke, May 1996

At the state level, NYSDOT has established design policies and a Statewide Transportation Plan, called *The Next Generation.* This plan sets objectives (among others) in system planning and facility design to increase transit, bike, walking and carpool usage; integrate land use and transportation planning; and facilitate economic growth. These are cornerstone concepts in the *New Visions* Plan, as well.

Are these goals achievable?

Definitely, although great effort on the part of all involved will be required. The challenges facing the Capital District are quite real. Continued increases in dependence on the automobile, continued insistence upon commuting by single occupant vehicle in the peak hour, and continued land development that is not integrated with neighboring parcels would clearly preclude achieving these goals. The obstacles cited in Figure 7 must be confronted -- and overcome -- in order to reach stated goals. This includes overcoming the most commonly cited obstacle in the review of the *New Visions* Workbook -- the challenge of working together as a region.

The most commonly cited obstacle to the vision was getting local governments to work together.

The stated goals are neither radical nor reactionary. They are not modal in nature. A balanced strategy recognizes the strengths of various modes and the contributions of all communities in the Capital Region to achieve and sustain regional goals. It is essential to realize that even full implementation of CDTC's desired capital investments will not be sufficient to allow the region to meet the goals. Innovative, intelligent and coordinated local planning and private investment is as important -- if not more important -- than regional transportation investment in meeting the goals.

Over the past few years, CDTC's members' implementation of the transportation project agenda has been quite impressive, even if falling short of ambitious goals. Repeatedly, however, slow progress has been cited in the area of changing land use patterns and modifying the site development process to achieve access management, streetscape and community structure objectives. The contrast is so great that, in the NY5 Land Use and Transportation Concept Study, the "baseline" future was assumed to include full implementation of CDTC's highway, bike, pedestrian, ITS and transit projects from New Visions -- because of the steady implementation currently underway -- but did not include any significant changes in land use and site design from that already present.

Performance Measures

Trend Conditions

OBSTACLES AND CHALLENGES

Responses to the *New Visions Workbook* in 1996 highlighted the very real obstacles and challenges facing the region in attempting to achieve the vision. These responses are summarized in Figure 1. They present a realistic perspective on the vision. While the vision represented where the region would like to be in the year *2021*, it is clear that few in the region were naive about the difficulty of getting there.

Figure 1: Challenges to the Vision

(Cited in public responses to the New Visions Workbook question, "What do you believe are the greatest challenges facing the Capital District in accomplishing the vision?")

- The large number of autonomous political units.
- Adequate funding to accomplish our vision in a reasonable time frame.
- Fragmented planning and zoning control -- competition among localities for investment without an overall regional plan.
- Finding the money for investing in options that are alternatives to automobiles.
- Recognizing how essential pedestrian access and safety is to the region.
- Linking suburbia with sidewalks.
- Retrofitting mixed-use development into suburbia.
- Controlling/ managing sprawl.
- The inability of local and state officials to elevate our transportation problems to a national level to ensure funding.
- Coordinating local land use decisions with regional goals.
- Getting the proper public/ private financing to solve transportation problems.
- Developing common goals that permit the best use of our resources.
- Unless the U.S. Constitution is changed in the opposite direction than it is being pushed in, development will occur where the property owners want it.
- Rapid public transit.
- Land use patterns that discourage long commutes.
- Reversal of suburban sprawl.
- Creating vibrant cities.
- Revitalizing urban areas, parking problems, lack of funding, lip service to ideals but money flows only to highways.
- Convincing people that conversing with neighbors is better than conversing with TV or computers.
- Selling it to the many entities involved.
- Competition among municipalities for jobs and development.
- The declining economy of our area will make it difficult to place a high priority on many elements of this "vision".

- This vision will conflict with many local interests when actual implementation is tried.
- Achieving cooperation among the various government organizations in the Capital District.
- Formless sprawl is still the standard urban development practice.
- Inertia.
- City budgets and suburban prejudice.
- Probably the biggest challenge will to be to get people to believe that such can be done.

- Political balkanization and resistance to regionalize.
- Dwindling economic resources and increasing public infrastructure costs.
- Free market forces that dictate mode choice.
- Poor regional and local land use controls.
- A non-visionary parochial attitude that focuses on entrenchment.
- Getting new industry in the area.
- Affordable senior citizen housing.
- Providing mobility and accessible transit service for an increasingly aging population as spread out as it is.
- A transit system quicker than SOVs.
- Developing many walkable and bikeable communities.
- Suburban land use and zoning laws and practices and opposition to trying anything new.
- Conserving the older cities from gradual decay due to their disproportionate social burdens like crime and school systems underfunded for their task.
- Unresolved social and economic conditions -- many poor people feeling like strangers in their own country -- could affect the region more by than all the transportation investments that are or are not made.
- Parochial attitudes and partisan politics.
- Getting the region to think like a region -- the BIG one.
- Realtors walking away from in filling.
- Many special interest groups, politics, and just plain reality.
- Control over driveways and curb cuts.
- Downtown parking situation.
- Increasing traffic congestion -- i.e. Northway.
- Lack of mass transportation and/ or the public's lack of interest in mass transit.
- Turf wars between cities, towns, counties and villages.
- Workplace accessibility via walking or biking.
- Creating a state tax structure that is competitive.
- Building or rebuilding the neighborhood.

- Finding the money to accomplish the projects without raising the taxes that drive the people out.
- Preservation of open space -- rural areas, villages, etc.
- Reconciling and balancing the seemingly contradictory need for more efficient infrastructure to accommodate the anticipated growth in the Capital District and minimizing impacts on the environment.
- The old social and political cultures of the area; i.e. I live in Troy and I don't like city xyz.
- Too many people only able to live paycheck to paycheck to survive and not thinking about long-range goals.
- Reining in land developers and getting them to conform to any plan which benefits the general welfare of the community, if it results in less profit for them.
- Ensuring that small, local governments reflect this vision NOW.
- Consensus building among different levels of government upon a shared set of goals.
- Cooperation on a regional basis to get things done.
- Reducing material and energy consumption.
- Emphasis on quality of life, rather than economic.
- The winter weather is a large obstacle to bike and pedestrian actions.
- Translating the regional vision into implementable policies.
- The need for the backing of all the mayors, the Governor, and other prominent New York State politicians if "newer suburban development is to occur in the interior of the region, rather than at its fringes".

As with the review of the vision statement, review of the list of challenges and obstacles reveals much hope. Much action has occurred in the past three years on the subjects itemized in the list. Urban revitalization efforts are numerous and supported by state policy moving state employment sites into Albany, Schenectady and Troy. Suburban "town centers" are emerging from planning efforts in places such as Glenville and Malta. State tax reductions have spurred job growth in the area. Regional cooperation on initiatives such as New Visions, REVEST, Enhancement Projects, the Champlain-Hudson International Trade Corridor all point to further progress in coming years.

Performance Measures

Core performance measures, shown in
Figure 9, focus attention on relevant topics and objective information. Use of this list of core performance measures provided for an informed discussion of a variety of transportation strategies, actions, and projects throughout the *New Visions* process. The core measures also help identify the magnitude of the challenge facing the Capital Region in attempting to attain the system goals stated above. A more detailed discussion of *New Visions* performance measures can be found in the *New Visions Workbook Technical Appendix* and other reports shown on page 215.

Figure 9: Core System Performance Measures

Transportation Service

Access: What travel alternatives exist? *(% of person trips within a defined non-auto (walk, bike, transit) to auto time difference[1]; % of person trips with a travel time advantage for non-drive-alone modes (including carpools); # or % of major freight movements with modal alternatives[2])*

Accessibility: How much time does travel take? *(travel time between representative locations, including major intermodal facilities; peak vs. non-peak, by quickest mode)*

Congestion: What is the level of exposure to traffic congestion? *(excess delay: recurring, non-recurring by mode [auto, transit, freight, bike, pedestrian]*[3])

Flexibility: Can the system respond to unexpected conditions? *(reserve capacity on system[4]; percent of person trips that could be accommodated by modes other than auto in an emergency[5]; # of corridors with reasonable alternatives during closure or disruption[6]; amount of risk associated with fixed capacity investment[7])*

Resource Requirements

Safety: What are the safety costs associated with transportation? (*estimated societal cost of transportation accidents)*

Energy: How much energy is consumed in providing, maintaining and using the transportation system? *(equivalent gallons of fuel/day for transportation capital, maintenance, operation and use)*

Economic Cost: How much does the transportation system and its use cost, in addition to safety and energy costs? *(Annualized capital, maintenance, operating and [monetary] user costs for transportation system; value of commercial time in travel)*

External Effects

Air Quality: What is the effect of the transportation system on air quality? *(Daily emission levels (HC and NOx); air quality attainment status)*

Land Use: How does the transportation system affect land use? *(Amount of open space; dislocation of existing residences and businesses; land use - transportation compatibility index[8]; community quality of life measure[9])*

Environmental: How does the transportation system affect important environmental features? *(Impacts on sensitive areas [wetlands, parklands, historic areas, archaeological sites); noise exposure index[10]])*

Economic: How does the transportation system support the economic health of the region? *(Narrative discussion of economic-activity supporting or constraining features of transportation system)*

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[1] Maximum acceptable time difference is approximately 15 minutes; up to 20 minutes for longer trips.

[2] While choice of mode for freight movement is largely decided by cost factors, availability of alternative modes is a measure of access.

[3] Person hours used for all values except for truck traffic, for which vehicle hours are more relevant.

[4] Reserve capacity is defined by corridor and is modally-weighted.

[5] Maximum value derived from access value (see footnote 1), further constrained by non-auto system capacity (bus capacity, etc.).

[6] Reasonable alternatives for personal travel during closure/disruption of a highway include transit (on alternative routes) or parallel highways; reasonable alternatives for freight are primarily parallel highways. Modal alternatives for freight are captured under access.

[7] Risk is defined as the "opportunity cost" of over or under-investing in a capital project if projections prove incorrect. Examples include loss of needed rights-of-way; building capacity predicated on unrealized future demand; or construction of under-sized facilities.

[8] Index captures the level of traffic intrusion in residential areas, defined as daily traffic divided by average residential driveway spacing. Compatibility between arterial and local access function is defined as daily traffic divided by average commercial driveway spacing.

[9] Measure is a combination of quantitative and qualitative factors that reflect community quality of life by subregion (central cities, inner suburbs, outer suburbs, small cities and villages, rural areas). See Technical Report series for more information.

[10] Index is the product of dB_a and number of households in areas in which dB_a exceeds accepted thresholds.

ADDITIONAL INFORMATION

New Visions is the official transportation policy for the Capital District and guides CDTC's planning activities and funding priorities for the use of federal-aid. It provides the basis for legislative discussions regarding funding, elimination of jurisdictional barriers and other subjects. The *New Visions* Plan is not the last word on the issues contained in the plan, however. Continuous refinement and step-wise implementation will serve as the basis for revisions to the plan in coming years. Over the next fifteen months, CDTC will explore the significant demographic, social and technological changes that can be expected to dramatically change travel demand and transportation technology over the next 30 years. A New Visions 2030 is planned for adoption by December 2001.

Additional Reports

A considerable amount of information was gathered, analyzed, and presented in the course of developing New Visions, implementing the plan over the past three years and developing the New Visions 2021 plan. The following reports provide additional information about relevant topics or are core CDTC documents. They are available, free of charge, upon request.

- 1999-2004 Transportation Improvement Program (TIP) – May 1999
- 2000-01 Unified Planning Work Program – March 2000
- *New Visions 2030 Phase 1 Task Force Reports*: Finance Task Force, Travel Task Force, September 2000
- *NY 5 Land Use and Transportation Concepts Study*: draft working documents, September 2000
- *I-90 Exit 8 Phase 2 Connector Major Investment Study*, December 1999.
- *New Visions for Capital District Transportation full report:* January 1998.
- *New Visions Executive Summary* – January 1998
- *New Visions* Phase 3: Results of Public Outreach - June 1996
- *New Visions* Workbook - December 1995
- *New Visions* Workbook Technical Appendix: Performance Measures - December 1995
- Regional Transportation Plan Report: Commitments to *New Visions* - December 1993
- Analysis of Year 2000 Congestion Levels in Critical Corridors of the Capital District - October 1993
- *New Visions* Phase 1: "White" Papers by the Task Forces - December 1993
- Estimated Marginal Monetary Cost of Travel in the Capital District - April 1995
- Transit Futures Report - October 1995
- Fixed Guideway Transit Investigation Summary Report - July 1995
- Community Quality of Life: Measurement, Trends and Transportation Strategies - August 1995
- Goods Movement in the Capital District: A Performance Report - December 1995

♦ Executive Summary

- Evaluation of the Transportation Impacts of Land Use and Development Scenarios - October 1995
- Development of an Arterial Corridor Management Strategy for the Capital District - January 1996

♦ Executive Summary

♦ Planning Report

♦ Land Use/Traffic Conflict Measurement and Trends

♦ Land Use/Traffic Conflict Inventory and Measurement

- Long Range Infrastructure Issues in the Capital District - December 1995
- Expressway Management Task Force Technical Report (includes Intelligent Transportation System and Expressway Incident Management Plans) - December 1995
- Northway Study (NYSDOT Region 1) - July 1995
- Making the Capital District More Bicycle- and Pedestrian-Friendly: A Toolbox and Game Plan - October 1995
- Special Transportation Needs Summary Report - November 1995
- Saratoga County Park-and Ride Lot Study – May 1993
- Schenectady Downtown Circulation Study – February 1996
- FORWARD MOTION: Newsletter of the Capital District Transportation Committee – September 1997

To obtain more information, copies of background documents or copies of a shorter Executive Summary contact:

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We would like to hear from you!

THE *NEW VISIONS* FISCALLY-CONSTRAINED BALANCED BUDGET

The *New Visions* plan's treatment of budget issues represents an important policy shift. The budget comes to grips in a flexible, policy-oriented manner with CDTC's perspective on relative priority for funding within a constrained budget. It also provides direction for exploration of additional funding.

Additionally, the completion of the *New Visions* effort concurrently with developing CDTC's 1997-2002 Transportation Improvement Program (TIP) placed a special burden on the *New Visions* budget. It was required to provide some guidance to hard decisions regarding TIP capital programming and scheduling.

CDTC follows a structured approach to the *New Visions* budget that establishes policy, guides TIP decisions and provides flexibility to deal with changing budgetary assumptions. The approach described is built upon the following funding principles which are central to the *New Visions* plan, having been developed through CDTC's past practice, task force work and public response.

1. CDTC desires full implementation of all plan elements.

For example, reducing the percentage of deficient bridges to 20% (one element of the plan) and improving bike and pedestrian accommodations on a priority network (another element) are both important, and complete implementation success is desired for both.

2. Under constrained budgets, preserving the existing transportation system has a higher priority than making improvements or additions.

CDTC's existing principles and the *New Visions* effort have repeatedly emphasized the need to maintain what we currently have as a priority.

3. Even under constrained budgets, making some degree of progress with improvements is essential.

It is realistic and appropriate to assume that some amount of highway or bridge improvement, bike accommodation or access management redesign will be included in CDTC's and members' action agendas -- even if budgets are reduced from historic levels.

4. Availability of funds dedicated to a particular mode, system or purpose frees up "flexible" funds.

Sources with a tightly defined list of eligible purposes are a reality. These benefit specific purposes directly, and other purposes indirectly. Practically speaking, if CDTA receives a discretionary Section 3 capital grant for bus replacement, or if State Dedicated Funds for state highway projects are increased, this increase reduces the load on other, flexible fund sources.

5. Priority for the use of flexible funds is not to be based on ownership.

This statement emphasizes CDTC's historic perspective, on funding, reaffirmed through the *New Visions* effort -- funding availability and project design should be based on function and location, not on issues of jurisdiction.

Based on these principles the New Visions adopted approach is based upon the conclusions that:

- Flexible funds can be broadly targeted to specific project categories based on relative funding need -- after accounting for the availability of dedicated funds and after assigning extra weight to the funding requirements of preserving the existing system; and,

- Project priority within a project category can be determined based on need, cost effectiveness, urgency and other factors.

Following this approach, CDTC has used the cost of full implementation of the consensus strategies and other *New Visions* recommendations on a comparable basis. Careful distinction has been drawn between preserving the existing investment and making improvements.

Full implementation is reasonable and reachable

CDTC has been well served in the effort to define a full implementation budget by extensive effort to identify desired actions at a scale that is able to receive broad support. As a result, consensus strategies for transit, bike and pedestrian, arterial management, special needs and other improvements defined by task force recommendations are roughly of comparable scope and "reach". The full implementation budget is not an unconstrained budget which seeks to mitigate all congestion, address all infrastructure deficiencies, retrofit the entire network with ITS components or make ideal pedestrian and bicycle accommodations. Effort has been made to keep the full implementation plan reasonable and plausible over the 21-year horizon.

Using *New Visions* budgets to target funding to various project categories will be treated broadly during TIP development, as a guide in developing a balanced program rather than a rigid funding sub-allocation. Partly this recognizes the fact that the full implementation budget estimates are imperfect and will be refined in coming years. Broad treatment will also keep this potentially valuable tool from becoming a hindrance to CDTC's effective decision-making process. CDTC is not a project sponsor or implementer, and flexibility is necessary to respond to those aspects of the plan which are implemented.

The approach is policy-centered, focussing on CDTC's commitment to a wide range of initiatives without being wedded to a single, inaccurate estimate of costs and funding availability. It is dynamic in its ability to handle changes in funding while also providing the basis for any effort to increase levels of either dedicated or flexible funds. It also places appropriate attention on all elements of the plan because of their inter-relation with regard to funding availability.

The following "Regional Transportation Plan Budget" is based on the *system preservation* needs and *full implementation* budgets described earlier and relate to three budget scenarios:

1. A Reduced Funding Scenario. This is an assumed 16% reduction (relative to inflation) in state and federal funds used for capital purposes. Such a reduction could come about through an inability of resources to keep pace with inflation or from a reduction in anticipated federal or state funding. (The proposed 2000 Transportation Bond is expected to provide about 16% of highway and bridge capital resources, for example.) Under this scenario, most flexible funding would cover system preservation needs, with only about $16 M available annually to other purposes. Improvements would be tied nearly totally to dedicated funds and other earmarks. This effectively eliminates CDTC's budget goal to achieve steady progress in all areas. Under this scenario, bridge and pavement conditions could be maintained but major bridge projects may need to be deferred. Only a small portion of the desired improvements in local street reconstructions, ITS, bike and pedestrian, congestion relief, and transit improvements could be undertaken.

2. A Steady-State Funding Scenario. Adherence to the CDTC policy to make comparable progress across all improvement initiatives, steady and reasonable progress is possible at current funding levels -- if they keep pace with inflation. The degree of success is dependent upon total funding availability. Under levels of funding comparable to current levels (the steady-state funding scenario), expected state, federal and local funds would continue at current levels (adjusted for inflation) through the 21-year period, and all federal demo project funds and other anticipated "exclusive" funding would be received.[1] This budget level totals $460 M per year. After accounting for funds earmarked for specific purposes, this budget allocates $82.5 M annually to cover remaining system preservation needs, leaving $43.5 M of $126 M per year in "flexible" funds for improvements across all fronts. The flexible funds combine with exclusive funds to allow the Capital District to achieve about 2/3 of its desired set of $133 M in annual improvements.

   This scenario represents the "financially constrained" version of the plan. The transportation system could function at this funding level and a large number of improvements made, but **goals could not be fully achieved**.

3. A Full-Funding Scenario. An additional $38 M per year above the steady-state funding scenario is sufficient to achieve full implementation of the entire *New Visions* plan. Although $38 M represents an increment in the annual transportation budget of less than 10% of the steady-state budget, it represents a significant increase (31%) in "flexible" funds available to the Capital District. The full funding budget overall is a full 1/3 higher than the basic, system preservation budget. ($501 M compared to $368 M.) The funding increase to move from the steady-state level to full implementation could be provided simply by ensuring that revenues are (1) adjusted for inflation and (2) track travel. The full-funding scenario calls for no more funding than would be provided by increasing current revenues (from all sources) 1% per year in real terms over the next 21 years -- a grow rate approximately equal to expected travel growth.

In all three scenarios, intermodal facilities are assumed to have access primarily to "exclusive" funding, such as passenger facility charges, tenant rents and direct federal state and local grants. FTA funds are also defined as exclusive to transit. FHWA earmarks for Enhancements, and Safety and Rail projects are treated as exclusive fund sources, as are FHWA Highway Bridge Rehabilitation and Replacement (HBRR) funds (assigned to the Bridge Rehabilitation & Reconstruction category.) Demonstration funds, FHWA/FTA planning funds, and private developer mitigation fees are also treated as exclusive funds. Existing budgets for highway operations at the state and local level are also treated as exclusive and not available for use on capital projects.

"Flexible" funds, which could assigned to any of the competing budget needs are limited to the sum total of federal and state funds, including local match, not otherwise identified as exclusive. These funds include most of FHWA's Surface Transportation Program, National Highway System, Interstate Maintenance and Congestion Mitigation/Air Quality funds, along with State Dedicated Fund, State Bond and other "100% State" funds.

Table 1 represents a summary of the funding levels possible for each investment category for the steady-state funding and full implementation scenarios.

Fiscal Constraint Requirement

The TEA21 requires CDTC's plan to be fiscally or financially constrained. That is, CDTC must not raise expectations for facility and service improvements that are not affordable under reasonable assumptions of funding availability. The *New Visions* budget policy explicitly addresses the fiscal constraint requirement. By following the stated policy, CDTC at all times is able to judge the magnitude and extent of improvements in any investment category that can be afforded at expected levels of resources. **Error! Reference source not found.** presents the fiscally constrained plan developed using forecasts of a steady level of funding.

Figure 1 and graphically represent the average annual 20-year funding levels for improvements by improvement category (aggregated somewhat for display purposes from the categories in the preceding tables). System preservation requirements (in 2000$) increase over time with increased truck travel, averaging $368 M per year. Similarly, if total funding tracks the growth in travel, it will grow over time -- averaging $501 M per year -- and meet the *New Visions* full implementation requirements.

Overall Budget Conclusions

On the whole, it appears that the revised plan's reach has increased beyond the previous New Visions' plan's reach. Better understanding of project costs, further identification of upcoming "extraordinary" bridge replacement needs and greater definition of intermodal projects have increased the full implementation budget roughly considerably. The new budget totals $501 M, or nearly 14% more than the full implementation budget adopted in 1997.

At the same time, experience has confirmed that system preservation needs remain at roughly the levels estimated in 1997. As a result, it has become clear that a good proportion of the full plan is composed of actions that constitute desired improvements -- not mere preservation of existing services and facilities. The Capital District is successfully implementing intermodal projects, congestion management projects, ITS projects, transit enhancements, and community-supporting streetscape, bike, pedestrian and freight access projects. The revised New Visions budget reflects the fact that these projects are not cheap and go far beyond merely holding our own.

It is very good news that the revised estimates of resources have also gone up, indicating that funding commitments to the plan have kept pace with the growth in funding needs, as called for in the original New Visions budget. The revised budget and resource estimates indicated that the Capital District can continue to achieve a good share of the desired set of improvements if current funding levels remain intact. A higher proportion of exclusive and flexible funding is available for improvements in the revised budget, as compared to the original New Visions' steady-state budget.

Three wild cards threaten this picture of steady, consistently refined progress. The first is the Transportation Bond referendum in November 2000 and related assumptions of state funding of the capital program. The second is reauthorization of the federal authorizing legislation, TEA-21, in 2003. The third is the very recent identification of renewed inflation in the highway construction industry.

Based on a simple calculation of the share of the five-year highway and bridge budget that is expected to come from bond proceeds (about 15/95 or 16%), failure to pass the bond would remove at least $20 M a year from the CDTC budget. If the bond fails, and the Governor and Legislature cannot agree on a comparably-funded alternative revenue source, the New Visions steady-state budget is seriously imperiled and full implementation funding much less likely to occur.

Similarly, reauthorization of TEA-21 in any manner that provides fewer financial resources the Capital District would seriously constrain the region's ability to achieve the desired improvements. Funding losses could result from a turnback of taxing authority from the federal government to the state, creation of new "equity" formulas that provide a lower percentage of funding to New York State, or other changes.

Further, any inflationary effect reduces the purchasing power of a static level of resources. It also seriously compromises the ability of elected officials to increase the funding levels to both meet the impacts of inflation and address the desire for increased funding in real terms.

In summary, the New Visions 2021 budget tracks well with CDTC's expectations when it adopted the New Visions plan three years ago. However, the budget threats and challenges remain at least as serious as those present in 1997. A summary of key differences between the previous plan's budget and the new budget is shown on the following page.

Summary of Budget Differences from Previous New Visions Plan

Annual Funding Levels	Previous New Visions Plan	Draft New Visions 2021 Plan
System Preservation Needs	$ 364.448 M	$ 368.362 M
Annual Cost of Improvements	$ 76.899 M	$ 133.111 M
Full Implementation Budget	$ 441.347 M	$ 501.473 M
Exclusive Funding Level	$ 293.175 M	$ 336.669 M
Flexible Funding Level	$ 107.600 M	$ 126.100 M
Total Steady-State Resources	$ 400.775 M	$ 462.769 M
Improvements Funded Under Steady-State Funding	$ 37.000M	$ 59.700 M
Percent Completion of Desired Improvements	48%	71%
Annual Funding Gap Under Steady-State Funding	$ 40 M	$ 39 M

Table 1: New Visions 2021

Regional Transportation Plan Budget By Element

		basic	*plus*	*total*		*Steady-state Funding*	
		System Preserve	**Desired Improve-ments**	**Annual Average Need**	**Available Exclusive Funds**	**Comparable Progress Policy**	**Full Implement-ation Scenario**
REGIONAL PROGRAMS[2]							
1	Intermodal Facilities	10.638	30.457	41.095	39.600	40.392	41.095
2	Transit Infrastructure	5.956	5.535	11.491	10.285	10.924	11.491
3	Transit Service	38.000	3.860	41.860	41.860	41.860	41.860
4	ITS (Technology) and Traffic Infrastructure	2.578	7.672	10.250	2.050	6.642	10.250
5	ITS (Technology) and Traffic Operations	.715	1.825	2.540	0.375	1.682	2.540
6	Highway Rehab, Reconstruction and Redesign -- Priority Network	55.960	31.845	87.805	7.790	72.829	87.805
7	Highway Rehabilitation & Reconstruction – Other	15.000	0.250	15.250	15.250	15.250	15.250
8	Bridge Rehab & Reconstruction	62.000	20.100	82.100	31.092	73.494	82.100
9	Highway and Bridge Maintenance	171.800	2.500	174.300	174.300	174.300	174.300
10	Strategic Highway and Bridge Actions -- CMS-based (capacity)		10.277	10.277	1.341	6.074	10.277
11	Strategic Highway and Bridge Actions –		8.712	8.712	4.315	6.644	8.712

	Economic Development /Community Compatibility						
12	Supplemental Goods Movement Accommodations		3.665	3.665	1.971	2.868	3.665
13	Supplemental Bike & Pedestrian Accommodations	0.275	2.343	2.618	1.2	1.951	2.618
14	Supplemental Access Management Actions		0.500	0.500	0.500	0.500	0.500
15	Supplemental Safety Actions	1.800	2.000	3.800	1.800	2.859	3.800
16	Demand Management	0.240	1.360	1.600	0.300	0.989	1.600
17	Integrated Planning & Outreach	3.400	0.210	3.610	2.640	3.511	3.610
	SUBTOTAL	368.362	133.111	501.473	336.669	462.769	501.473

Figure 1: Steady State Funding Program, Comparable Progress Policy

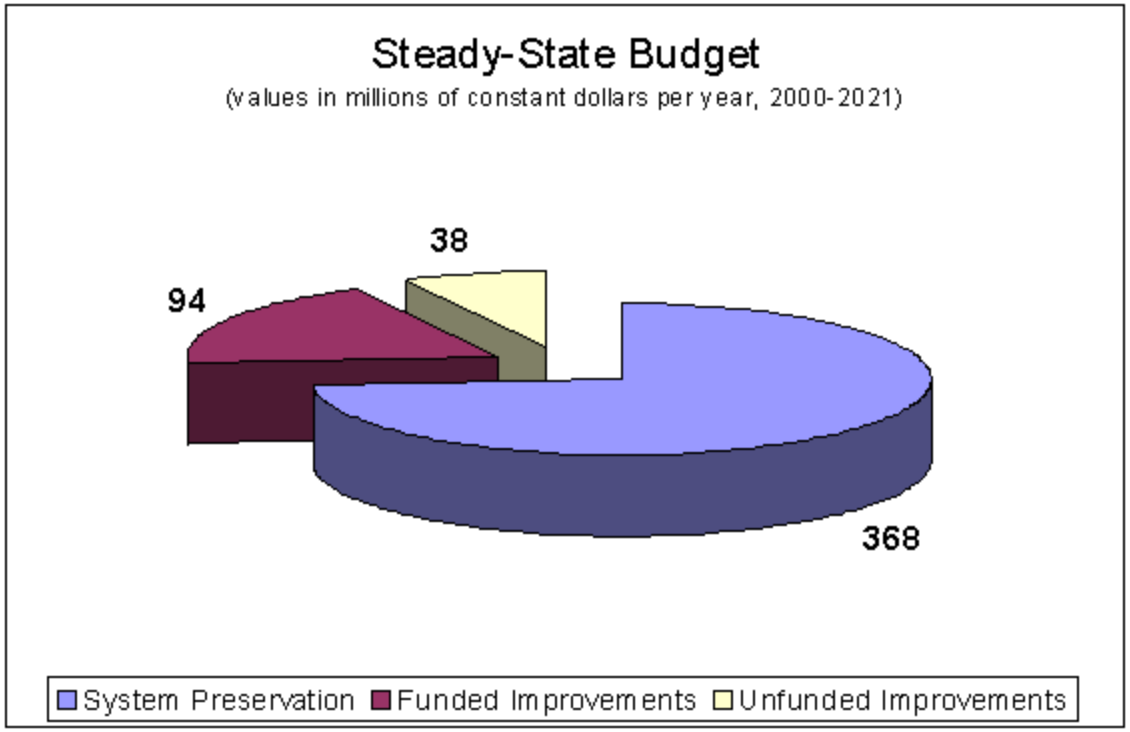


Figure 2: Full Implementation Program

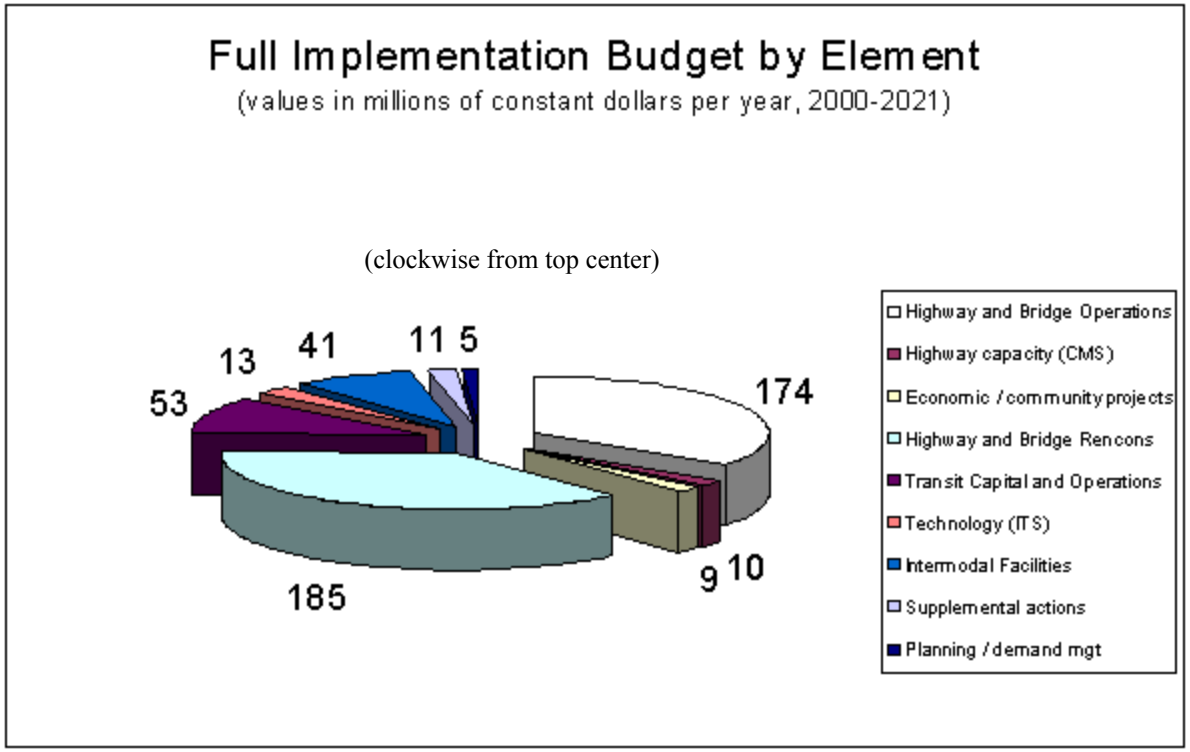
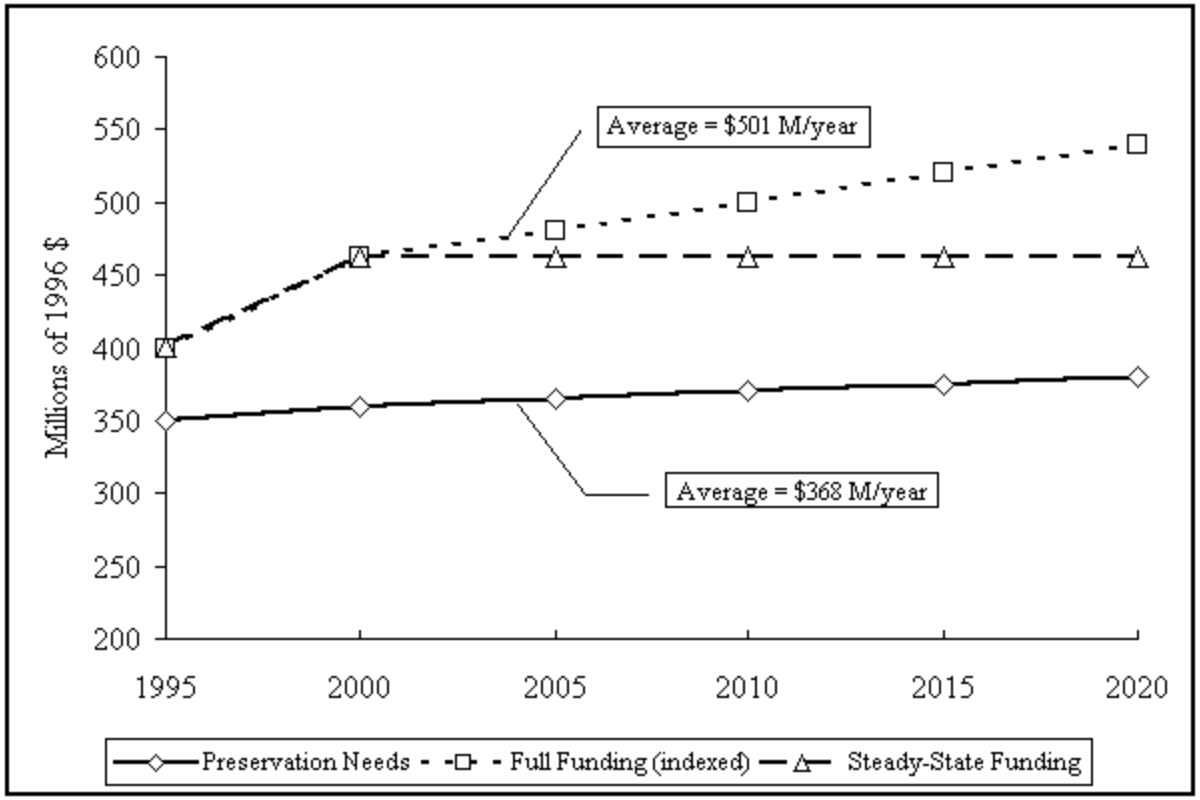


Figure 3: New *Visions 2021* Annual Budget Implications



FUNDING OPPORTUNITIES

Additional funding must be found to fully implement the plan: $38 M per year plus any additional amount to advance major transit initiatives (beyond Bus Rapid Transit) or major Northway actions. As shown in the Visions and Goals chapter, residents and businesses of the region are rewarded with safety, time and other resource savings far in excess of the cost of the improvements.

Assuming support for the improvements, there are several broad options available. Information on these options is valuable to the discussion of the *New Visions* choices. It is not appropriate to consider any of the consensus strategies or major transportation policy choices identified by the *New Visions* Plan as real commitments without consideration of where the financing will be obtained.

As identified in task force discussions and in New York State Department of Transportation's "The Next Generation... Transportation Choices for the 21st Century" (July 1995 draft), the following are the leading opportunities to fill holes in funding of existing commitments and to underwrite new initiatives:

1. **Retain New York's share of transportation authorizations and appropriations in the next TEA-21.** As recommended in the original New Visions plan, New York worked hard to secure an equitable share of federal transportation resources in the TEA-21 legislation. In coming years, comparably-difficult work lies ahead in both assuring that TEA-21's successors maintain an equitable share of resources for New York and maintaining TEA-21's guarantees of appropriation and release of authorized funds. The gaps between appropriations and authorizations were a major shortcoming of ISTEA.

2. **Maximize efficiency in the use of existing resources.** As noted earlier, a compelling argument for additional funding must begin with citation of existing efficiencies. *New Visions* task forces and others have highlighted several potential areas of efficiency:

   - Further coordinate and consolidate human service agency transportationm expanding upon the success with Medicaid transportation experience by CDTA's subsidiary Access Transit since 1998;

   - further coordinate CDTA and State University of New York at Albany (SUNYA) and other transit services, as initiated as a result of the collaborative Washington / Western Ave. Urban Corridor Study in 1998-99;

   - better coordination of or fully consolidate highway maintenance operations (towns, villages, cities, counties, state) -- the over $100 M in annual local highway operations budgets offers tremendous opportunities for cost-savings;

   - transfer jurisdiction of highways to better align needs with personnel and financial resources;

   - increase the use of the private sector in service delivery;

   - engage in partnerships with private construction contractors to reduce costs and increase longevity of highway projects;

   - refine the "risk assessment" tradeoff analysis used before committing to new highway or bridge capacity elements of a routine infrastructure renewal project; and

   - further integrate transportation planning with land use and development planning so that public or private investment maximizes the "bang for the buck".

3. **Consider greater use-based revenue sources.** As cited in NYSDOT's "Next Generation" Plan, pricing "transportation based on usage ... could also help achieve other desirable transportation goals such as congestion reduction, or energy and environmental goals (p. 89)." This notion has been supported by *New Visions* work and the public response to the *Workbook* outreach. A shift of revenue sources to use-based sources also makes it more practical to index revenues to use. Among the options available are to:

   - Provide authority for an additional per-gallon fuel tax, perhaps on a local option basis. Currently, local governments in New York do not have authority to impose a use-based, dedicated fee.

   - Consider congestion pricing on major facilities such as the Northway, with variable pricing by time of day or type of vehicle to discourage peak-hour, single-occupant travel while raising funds for desired initiatives.

   - Consider parking pricing, either as part of a congestion pricing strategy (discouraging single-occupant travel in congested areas) or as part of an overall transit marketing and financing arrangement. (A $1/day downtown parking fee would generate about $6 million per year. A $3/day fee was used by the Transit Futures Task Force in testing fixed guideway applications.)

4. **Consider dedicating a supplemental portion of a broad-based tax.** Nationwide, it is typical for major local transportation initiatives to include partial or primary financing through dedicating a portion of a broad-based tax, such as a sales tax. Few metropolitan areas in the nation undertake major highway upgrade or fixed guideway transit system development efforts without a new local funding stream. Generally these actions are offered to the public on a referendum basis and often are part of a broad package of both highway and transit initiatives. In California, the metropolitan TIPs include projects funded through a local-option supplemental sales tax. Boulder Colorado's initiatives have been funded with a 1/4 cent dedicated sales tax. *The entire budget requirement for full implementation of the plan of $40 M (not counting any major Northway or transit projects) is approximately equal to a one-half cent region-wide sales tax.*

5. **Explore additional private sector opportunities to finance transportation improvements or services.** CDTC's task forces have encouraged CDTC to continue this region's successful process of public - private highway financing through such mechanisms as mitigation fees. These mechanisms help share costs of improvements equitably between

developers and the public. Additional opportunities for private sector include:

- Encourage employers to contract directly with CDTA or other operators for transit services, such as bus service that circulates through employment centers and feeds trunk routes.

- Develop new transit pass programs that, similar to the "EcoPass" program in Boulder, Colorado, provide for steep pass discounts to any employer that secures passes for all employees.

- Change state legislation to allow NYSDOT to accept private funds directly (from developers) to undertake a joint transportation improvement, and to allow the private sector to accept public funds to undertake a joint transportation improvement.

6. **Examine all other possibilities.** The following financing mechanisms are suggested in NYSDOT's "Next Generation" report or are used in neighboring states:

- Establish a regional infrastructure bank (NYSDOT, p.89);

- Privatize more of the transportation system (NYSDOT, p. 89);

- Explore personal property taxes as a substitute for or supplement to other revenues. This option has not been cited by NYSDOT or by any of CDTC's task forces but has a particular advantage in being a deductible tax from federal income tax. For example, a 1% annual ad-valorem personal property tax could raise approximately $27 million as a replacement for or supplement to other taxes that are not deductible. Personal property taxes are used in other states.

Again, the purpose of exploration of new revenue streams is not to increase transportation revenues significantly. Rather, it is primarily driven by the need to make revenue mechanisms more equitable and to allow funding levels to keep pace with inflation and travel growth. Adjusted for inflation, if real revenues per mile of travel could be maintained at 1996 levels (levels authorized in federal, state and local legislation) through the year 2015, the full implementation of CDTC's *New Visions* plan would be affordable.

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[1] The steady-state funding level is equal to the funding levels shown in NYSDOT Region 1's five-year "project listing" of May, 1996 (for state and federal fund sources), combined with information from CDTA on its current resource expectations, information from the state comptroller on municipal transportation budgets, information from the New York State Thruway Authority regarding its five-year program in the Capital District, information from CDRPC and the Albany County Airport Authority regarding airport plans and budgets, information from CDTA regarding the Rensselaer Amtrak Station and information from the Port of Albany.

[2] All values are in millions of 2000$, annually over 21 years, 2000-01 to 2020-21, including all fund sources.

SOURCES OF FINANCING CAPITAL DISTRICT TRANSPORTATION

At least seventeen different sources are used to fund highway and transit in the Capital District.

Current transportation financing is an intricate mix of inter-governmental transfers and other complexities. Funds are raised directly from users (transit fares, for example) for services received, indirectly from users (gasoline taxes, for example) for costs associated with use, and from the public. Both user-based and general revenue sources are used to collect transportation funds at the local level, at the state level and at the federal level. At least seventeen different funding sources are used to finance governmental highway and transit functions in the Capital District.

New York State relies on revenues collected both at the federal level and at the state level to fund its transportation work. CDTA and other transit providers use a mix of federal revenues, state revenues, local revenues and fares. Local governments carry out highway functions primarily with local revenues, but also use state funds and, occasionally, federal funds.

Table 26 on page 199 presents an estimate of the total tax and fee burden to the four-county Capital District's residents and businesses for revenue sources used at least partially for highway and transit purposes.

Due to the complexity of all the inter-governmental transfers and direct and indirect sources, the reader is cautioned to view these numbers as approximations provided to facilitate discussion of new financing ideas. They have been derived from several data sources and are associated with various calendar or fiscal years between 1992 and 1995. For this reason, a range of estimates is provided for each value.

The table also relates the tax and fee sources to their use in financing the program of projects shown in CDTC's 1994-99 Transportation Improvement Program. (It should be noted that the 1994-99 TIP assumes the ability to spend carryover balances of federal authorizations during the five-year period; thus, the annual average federal funds shown in the TIP exceeds a single year's authorizations.)

As shown in Table 26, the governmental highway and transit functions in the Capital District (ranging from snow plowing to building bridges and buying buses) are supported by a mix of federal, state and local-based taxes and fees. CDTC's 1994-99 TIP (and other maintenance and repair work not shown on the TIP) is predicated upon an expectation of:

- approximately $85 M annually in federal funds;
- $154 M annually in state funds; and
- $154 M annually in local funds, developer assessments and transit fares.

(Not shown in Table 26 are other, site-specific highway investments made directly by developers to mitigate traffic impacts.)

Table 26: Highway and Transit Revenue Sources

REVENUE SOURCE with at least partial use for highway or transit	Form of tax/fee	Approximate Total tax & fee collections attributable to the Capital Region		Annual $ to Transportation Reflected in 5-year Capital District Program	Capital District gain/loss in annual revenue from change in tax or fee
		Low	High		
Revenues for Federal-aid Program					
Federal Fuel Taxes	Dedicated[1]	$55 M	$65 M	$67 M	1¢/gallon = $3.4 M/year
Heavy Vehicle Fees, Excise Taxes	Dedicated	$8 M	$10 M	$10 M	
Federal Personal Income Taxes	General[2]	$1550 M	$1800 M	$4 M	
Corporate, Other Non-dedicated Taxes	General	$600 M	$700 M	$2 M	
Deficit Borrowing	General	--	--	$2 M	
Revenues for State Program & State Aid					
State Fuel Taxes	Part Dedicated	$25 M	$30 M	$26 M	1¢/gallon = $3.4 M/year
Highway Use Tax (Heavy Vehicles)	Part Dedicated	$8 M	$10 M	$11 M	
Vehicle, Driver Registration Fees	General	$22 M	$26 M	$1 M	
Petroleum Business Tax	Dedicated	$4 M	$6 M	$6 M	
Thruway Tolls[3]	Dedicated	$70 M	$75 M	$72 M	
State Personal Income Taxes	General	$440 M	$510 M	$13 M	
Corporate, All Other State Taxes	General	$425 M	$500 M	$15 M	
Sales Tax (State share is 4%)	General	$275 M	$325 M	$7 M	1¢/$ = $70 M/year
Bonding (borrowing)	General	--	--	$3 M	
Personal Property Tax on Vehicles	--	--	--	--	1% of vehicle = $27 M/year

Revenues for Local Government Programs					
Transit Fares	Dedicated	$9 M	$11 M	$10 M	10¢ fare = $0.8M/year
Traffic Mitigation Fees and Assessments	Dedicated	$1 M	$4 M	$3 M	
Mortgage Recording Fee	Part Dedicated	$20 M	$30 M	$7 M	
Property Tax & Other General Taxes	General	$1150 M	$1325 M	$79 M	
Sales Tax (Local share is 3 or 4 %)	General	$235 M	$275 M	$55 M	1¢/$ = $70 M/year
Congestion Tolls		--	--	--	Max. feasible = $10-20 M/year
Parking Tax		--	--	--	$1/day = $10-60M/year
Annual Capital Region Totals[4]		**$4,900 M**	**$5,700 M**	**$390 M**	

Resource Expectations

Because transportation revenues draw from federal, state and local taxes and user fees as well as private developer resources, projecting future revenues is a difficult and risky undertaking. Future revenues are related not only to levels of future transportation demand (generating user fees) and overall economic growth (generating taxes) but also to public policy.

While there is broad support for strong continued governmental responsibility for transportation, the details concerning the relative funding responsibilities of the federal, state and local governments are likely to be adjusted in coming years. Consequently, it is extremely difficult to project the resources that can be expected to be available for new initiatives.

Elected leaders are rethinking fundamental assumptions about government. This makes resource forecasting extremely difficult.

Clearly, the ability of the Capital District to undertake new initiatives identified through the *New Visions* process is predicated on making the most out of current resources and preparing a compelling case if additional resources are required.

A compelling argument is needed for any new funding.

While projections of future funds cannot be made with confidence, and CDTC has not adopted any policy positions regarding long-term financing, the following technical assessment *can* guide discussions about financing options for *New Visions*' initiatives:

1. Future resources for transportation will draw *primarily* from the existing mix of sources. Nationwide, the contribution of new funding sources (congestion tolls, for example) can be expected to provide only a fraction of the total transportation resources in the coming twenty years. The Capital Region will likely mirror this situation.

2. Funding for transportation purposes is related to funding for all other government functions and revenues. Reliance on dedicated fund sources does not remove transportation funding from the policy debate over taxes and government functions.

3. Reduction in funding from one level of government puts increased pressure on revenues from other levels of government, from users and from the private sector. This pressure can be expected to be most intense with regard to expensive initiatives that are primarily of local benefit, such as a rail transit initiative or an extensive sidewalk program.

4. Finding new financing streams will be challenging. Support for new financing may be present only if:

   a) There is a belief that existing funds are being spent efficiently; and,

   b) The user or taxpayer asked to provide the financing is convinced that the benefits of the transportation investment exceed the additional cost.

5. General tax sources (sales taxes, for example) has the ability to generate significantly more revenues than user-based sources (gasoline taxes, for example). For example, a one-cent sales tax in the Capital District produces $70 million per year. A one-cent per gallon gasoline tax produces $3.4 million per year.

6. Traditionally, it has been considered appropriate to use a mix of user-based and general revenues to support governmental transportation costs. This is based on the "public goods" logic that users of transportation receive only part of the benefits of the public facility or service. Users should therefore be expected to pay only part of the cost. Other parts of society benefit from the presence of a highway or transit service. Therefore, society should bear part of the burden of its cost.

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[1] Dedicated taxes are restricted to highway and/or transit purposes.

[2] General taxes support general funds to finance a range of activities including national defense, state and local law enforcement, education, community development, and social programs, in addition to highways and transit.

[3] Thruway tolls attributable to the Capital District are assumed to be approximately proportional to exiting traffic (as a percent of system totals) for operating expenses. Attributable tolls are also assumed equal to the capital budget in the four counties.

[4] Table does not include revenues or expenses for intermodal terminals. Documentation is available upon request. The *New Visions* Workbook Technical Appendix contains details of the assumptions applied.

Funding Needs by Category

The following discussion addresses the financial requirements of implementing the strategies and actions of the plan, grouped according to the categories in Table 7

1. Intermodal Facilities

Intermodal facilities included in the budget are the Albany International Airport and other airports in CDRPC's Regional Aviation System Plan; the Port of Albany; Amtrak stations in Albany/Rensselaer, Schenectady and Saratoga Springs. Trailways and Greyhound inter-city facilities (other than those provided at public intermodal facilities) and private railroad and trucking facilities and terminals are not shown.

Planned upgrades are captured in the full implementation budget.

Full implementation costs are derived from:

- the Albany International Airport's 2000-2004 capital improvement plan,
- CDRPC's Regional Aviation System Plan,
- the Port of Albany's new ten-year master plan,
- the REVEST document, 2nd edition

A majority of the work identified is desired within the first ten years of the 20-year *New Visions* plan.

For this category, the cost of system preservation was broadly estimated in 1997 at one-half the cost of the New Visions 2015 full implementation of facility redesign and improvement. New estimates of full implementation funding requirements are derived from more recent plans, including REVEST. The majority of the funds for this category is expected from dedicated, discretionary funding sources. Highway and transit access improvements to these intermodal facilities are captured elsewhere, under budgetary categories relating to transit infrastructure, strategic highway and bridge actions and supplemental goods movement actions.

Completion of major work at the Albany International Airport and substantial progress on the Rensselaer Amtrak Station reconstruction would be expected to temper the scale of necessary work over the next 20 years from the level shown in the original New Visions plan. However, further work remains substantial; the Airport is beginning a five-year $230 M capital program and additional expansion can be anticipated over the remaining years of the New Visions plan horizon. Using the 2000-01 TIP as the first year of the twenty-one year period also captures about 1/2 of the cost of the Rensselaer station's construction. Additionally, the increased capital stock at the Airport and the Rensselaer station raise the cost of system preservation over previous estimates.

Approximately 80% of the total intermodal full funding requirement for elements other than the airport and port improvements is assumed to come from exclusive sources, with the balance competing for flexible funds, as available. Airport and port improvements are assumed to be funded fully by exclusive sources.

Table 1: Intermodal Facilities Budget

(Average cost per year, 2000-2021)

	System Preservation	Full Implementation
Albany International Airport	*$7.150 M*	*$27.750 M*
Schenectady County Airport	$0.600 M	$1.200 M
Saratoga County Airport	$0.300 M	$0.595 M
Other Airports	$0.538 M	$1.075 M
Port of Albany	$1.500 M	$3.000 M
Rensselaer Amtrak Station	$0.500 M	$2.000 M
Western Gateway Intermodal (Schenectady Amtrak)	$0.100 M	$0.750 M
Saratoga Springs Amtrak Station	$0.100 M	$0.250 M
High-Speed Rail Track	$0.000 M	$1.975 M
Additional Intermodal Improvements (facilities, track)	$0.000 M	$2.500 M

New Visions 2021 Total	**$10.638 M**	**$41.095 M**
Previous New Visions Total	**$ 9.782 M**	**$19.558 M**

2. Transit Infrastructure

Transit infrastructure captures the capital side of the region's transit system needs. Included in the estimates are:

- the cost of replacing CDTA and Saratoga County transit fleets, including buses used for rural service and STAR equipment for complementary service for the disabled;
- providing garages, shelters and other support facilities and equipment;
- building park-and-ride lots for transit and carpoolers; and
- replacing those human service agency vehicles which have been provided with FTA funds.

Many transit amenities are assumed to be incorporated in other budget categories, such as highway rehabilitation & reconstruction and strategic highway and bridge actions. Costs of improved transit shelters, bus turnouts, sidewalk connections to new development that are associated with highway projects or private development are not included within the "transit infrastructure" budget below.

Many amenities are captured under other categories

The full implementation budget calls for vehicle replacement on a routine schedule of twelve years for full size buses, ten years for STAR and other smaller buses and five years for vans. The full implementation budget reflects completion of CDTA's recent program of vehicle replacement, which totaled $55 M over three years. The annual average replacement cost attendant to a twelve-year replacement cycle kicks in after 1999.

Unit costs are consistent with CDTA's capital plan, NYSDOT's guidance for Section 5310 human service vehicle purchases and USDOT's *1995 Status of the Nation's Surface Transportation System: Condition & Performance*. The full implementation budget also includes the following actions, in keeping with the *New Visions* plan:

1. Construction of an alternate fuel facility or STAR vehicle facility at CDTA ($5 M).
2. Purchase of alternate fuel vehicles for CDTA.
3. Expansion of CDTA fleet size by about 10% (23 vehicles), mostly through expansion of the fleet of mid-size vehicles for greater feeder service and integration of STAR and fixed route service.
4. Expansion of the Saratoga County fleet by about 15% (three vehicles).
5. Corollary CDTA equipment, passenger facilities (shelters/ transfer stations) and garage facilities equal to about 33% of the cost of vehicles.
6. Continued construction of park-and-ride lots at the current TIP pace of about $250,000 per year.
7. Further system expansion (additional passenger amenities, stations and shelters for bus rapid transit) at a rate of about $1.5 M annually.

This modest capital expansion permits service redesign along the lines suggested by the Transit Futures Task Force and the Special Transportation Needs Task Force and allows consideration of recommendations from the NY 5 Land Use and Transportation Concepts Study. The full implementation budget does not include capital for major transit initiatives such as commuter rail or light rail systems other than the planned commuter rail demo. Consideration of such initiatives is discussed separately, under Major Improvements categories.

The *system preservation* requirements maintain current fleets at approximately their current average age through a replacement at fifteen years for full size buses, twelve years for STAR buses and ten years for human service agency vans. No further expansion of park-and-ride lots is shown, nor is the cost of conversion to alternate fuels. Corollary equipment and facility expenses are estimated at about 25% of CDTA vehicle purchase costs.

Table 2: Transit Infrastructure Budget

(Average cost per year, 2000-2021)

	System Preservation	Full Implementation
CDTA full size buses	$3.744 M	$5.408 M
STAR and feeder buses	$0.390 M	$0.824 M
Alternate fuel facility	$0.000 M	$0.250 M
Other equipment & facilities	$1.144 M	$2.222 M
Park-and-ride lots	$0.000 M	$0.250 M
Upstate, other private	$0.440 M	$0.625 M
Human Service vehicles	$0.239 M	$0.412 M
Bus rapid transit	$0.000 M	$1.500 M
New Visions 2021 Total	**$5.956 M**	**$11.491 M**
Previous New Visions Total	**$5.956 M**	**$11.308 M**

3. Transit Service

Transit service cost estimates are derived from CDTC's *Transit Futures Report* and CDTC's *Special Transportation Needs Summary Report.* Costs shown are for annual operation of CDTA fixed route, STAR and rural services; Upstate Transit services; NYS Office of General Service (OGS) peripheral park-and-ride services; and other publicly supported transit operations (City of Mechanicville, etc.). Estimates of the cost of human service agency transportation in the Capital Region are not available, due to the difficulty of separating the transportation cost from other client service costs. However, the budget shown below does include the cost of establishing county and regional transportation brokerage services to improve the quality and quantity of services available through the CDTA/human service agency/private operator network.

The full implementation budget reflects redesign of transit service in general accordance with CDTC's Transit Futures Report. Many of the *New Visions* actions are physical, rather than operational in nature and are captured either above (as part of the transit infrastructure budget) or under other budget categories. Of the transit actions recommended in the *New Visions* plan, the following have budgetary implications for transit operations:

1. Continue development of peripheral and remote park-and-ride lot service.
2. Maintain and further develop feeder service in the central suburban area.
3. Improve transfer processes.
4. Explore more flexible labor rules.
5. Engage the private sector in service delivery where appropriate.
6. Integrate special transportation services into the regional system.
7. Adopt effective fare policies.
8. Support continuation and expansion of human service agency transportation through the Access Transit brokerage.
9. Establish a community-based transportation program (CTP) in suburban areas.
10. Establish a mobility-training program.
11. Complete the Commuter Rail demonstration project with two years' of operation at the REVEST estimate of $10.7 M.
12. Continue current regional Jobs Access programs to connect low income residents with jobs at a supplemental cost of about $1 M annually (above ongoing service budgets).

The Transit Futures Task Force estimated that the net effect on transit operating expenses of the *New Visions* recommendations for improved service would be modest. When balanced against savings from flexible labor rules and other initiatives, it is broadly estimated to be on the order of 5% of existing expenses. The incremental costs of actions to address special transportation needs populations have been

estimated separately in the *Special Transportation Needs Summary Report*. Other costs are included under demand management and integrated planning and outreach budget categories and are not shown as transit operations costs.

Recommended improved service increases the operating budget modestly.

Congestion pricing, aggressive parking pricing and other market-based transit strategies are recommended for further consideration in the Plan. Their impact is not included in the budget because further study and consensus building will be required before CDTC recommends their implementation. The operating costs associated with a major transit initiative such as commuter rail, a busway or light rail system are not included in this budget; the *New Visions* plan does not include a commitment to such service at this time. (See the discussion of "Major Investments".)

Transit fares provide over $10 M annually of the identified budget under both the system preservation and full implementation scenarios.

Table 3: Transit Service Budget

(Average cost per year, 2000-2021)

	System Preservation	Full Implementation
CDTA, Upstate, OGS	$36.000 M	$37.750 M
Supplemental STAR	$ 0.000 M	$ 0.500 M
Brokerage/Community Transportation Partnership	$ 1.000 M	$ 2.000 M
Mobility Training	$ 0.000 M	$ 0.100 M
Jobs Access / TANF transportation	$ 1.000 M	$ 1.000 M
Commuter Rail (demo only)	$ 0.000 M	$ 0.510 M
New Visions 2021 Total	**$ 38.000 M**	**$ 41.860 M**
Previous New Visions Total	**$ 35.000 M**	**$ 37.550 M**

4. Intelligent Transportation Systems (ITS) and Traffic Infrastructure

This category includes the capital costs for both current traffic signal systems and new ITS implementation over coming years. Full implementation is related to completing the current TIP project (Advanced Traffic Management System) and expanding that to a full Capital District ITS system per CDTC's Expressway Management Task Force report. Specific actions include:

1. Complete initial Capital District traffic monitoring, communications and traveler and transit information systems, per the current TIP projects at an estimated $4.9 M.

2. Expand the initial Capital District ITS program at an estimated cost of $50.825 M over 20 years. Advance multiple purposes (traffic flow, safety, traffic calming, bike and pedestrian accommodations, traveler and transit information and other needs) along the full priority network identified by the Expressway Management Task Force. (This priority network is a 260-centerline-mile subset of the priority network established for highway reconstruction purposes. It is composed of priority expressway corridors; priority arterial corridors that are immediate alternate routes for expressways; secondary alternate routes for expressways; and priority arterials not in expressway corridors.)

3. Expand transit-specific ITS (more advanced real-time bus arrival information, etc.) at an estimated cost of $1 M annually.

4. Expand the New York State Thruway Authority's ITS infrastructure, including EZ-Pass expansion and enhancement, HAR and VMS systems and construction of an ITS management center in Albany.

5. Upgrade or replace approximately 750 signals at an average cost of $.030 M/signal over 20 years, with routine replacement at ten years.

6. Replace ITS equipment on a fifteen-year cycle.

System preservation costs include operation and routine replacement of existing NYSDOT weather (Wx) stations, highway advisory radio (HAR) stations, variable message signs (VMS); maintaining Thruway Authority advisory radio and message signs; maintaining and replacing the Transportation Management Center hardware and field equipment and replacing existing signal hardware on a 20-year cycle.

Table 4: ITS and Traffic Infrastructure Budget

(Average cost per year, 2000-2021)

	System Preservation	Full Implementation
Initial Capital District ITS	$0.750 M	$2.127 M
Expanded Capital District ITS	$0.000 M	$3.388 M
Additional transit ITS	$0.000 M	$1.000 M
NYSDOT Wx/HAR/VMS	$0.080 M	----
Thruway ITS (HAR/VMS, management center, other EZ-Pass improvements	$0.040 M	$2.000 M
Traffic Signals	$1.125 M	$1.688 M
I-90 Connector ITS	$0.000 M	$0.050 M
New Visions 2021 Total	**$ 2.578 M**	**$ 10.250 M**
Previous New Visions Total	**$ 1.245 M**	**$ 7.182 M**

5. Intelligent Transportation Systems (ITS) and Traffic Operations

This category includes both current traffic signal operations and operations of new ITS systems described above. Specific costs in the full implementation budget include:

1. Joint incident management center staffing.

2. Operations and maintenance of the expanded Capital District ITS system and HELP vans annually at $540,000 for the existing Transportation Management Center, per the current TIP budget.

3. Annual operations and maintenance of the remaining initial ITS and of the expanded ITS at 2.5% of the capital cost, or an additional $500,000 for the remaining initial ITS and $1,250,000 for the expanded system.

System preservation costs are limited to routine traffic signal re-timing every three years. Private sector costs are not shown under system preservation costs, nor are current law enforcement agency expenditures. It is important to recognize the definition of "system preservation" as preserving the current amount of service and physical condition of the system -- not preserving its service quality or operational condition. Certainly, current amounts of incident management service will not be sufficient to preserve service quality in coming years.

Table 5: ITS and Traffic Operations Budget

(Average cost per year, 2000-2021)

	System Preservation	Full Implementation
Joint Incident Management Center	$0.540 M	$0.540 M
Expanded Capital District ITS	$0.000 M	$1.750 M
Thruway ITS operations	$0.050 M	$0.250 M
Traffic Signals Only	$0.125 M	----

New Visions 2021 Total	**$ 0.715 M**	**$ 2.540 M**
Previous New Visions Total	**$ 0.125 M**	**$ 1.015 M**

6. Highway Rehabilitation, Reconstruction and Redesign on the Priority Network

This category includes capital projects, both with agency labor and through private contractors, on a priority network. Use of a priority network for arterial management, goods movement, bike and pedestrian improvements and highway safety design is recommended in the plan because of work by many of CDTC's task forces. While there are differences among the approaches to the identification of priority networks taken by the various task forces, the concept is the same. There needs to be special attention to the design features, operational characteristics and multi-modal, multi-objective nature of a subset of the 16,500 lane miles of roads in the Capital District.

The arterial task force focussed on improvements possible during reconstruction (and in conjunction with development) for access management, driveway and signal spacing, pedestrian, transit and delivery treatment on about 220 miles of arterials in the region. The bike and pedestrian task force has identified about 1,100 centerline miles as a priority bike and pedestrian network, with over 300 miles having the highest priority for safe and effective bike and pedestrian accommodations. The goods movement approach has focused on the arterial network, specifically identifying physical constrictions that could cause costly inefficiencies or pose severe problems during a major incident or blockage. The infrastructure task force has taken the broadest approach to network identification. It examined the desirability of providing, through reconstruction over time, effective design features across the vast majority of the state highway system and a significantly increased portion of the non-state arterial and collector system.

The *New Visions* plan seeks to overcome jurisdictional barriers through transfer of ownership of roads or other means to allow treatment solely based on function and location. Full consideration of all modes of travel and full integration of community values into highway design on a priority network (regardless of ownership) are central features of the *New Visions* plan.

The *New Visions* plan places many demands on highway rehabilitation and reconstruction. Under the full implementation budget, resources are provided to improve a priority system composed of higher function roads and other identified connectors to serve all modes and complement the community based on appropriate design standards. Much of the upgrade effort is expected to occur on important streets and highways currently owned by cities, counties and towns. These roads have not received routine redesign as frequently as many important state highways have. Either jurisdictional transfer of these roads into state hands (perhaps partly as a swap with lower-function state roads) or redefined funding programs will be required to increase the resources available to improve these facilities. Adequate redesign by local governments working within existing budgets is not possible.

New Visions places a lot of emphasis on road rehabilitation projects.

Routine design improvements such as provision of sidewalks, shoulders for bike travel, median turn lanes, improved drainage and upgraded signals on the state highway system are already a matter of state policy. The full implementation budget captures the financial implications of such a policy.

Costs of rehabilitation, reconstruction and design upgrades of local streets and highways are derived from the Infrastructure Task Force's examination of this issue, using recent unit costs identified for state-designed reconstruction work both on and off the state highway system. These unit costs capture the incremental cost of making improvements that are compatible with community values and desires.

The full implementation budget will:

1. Achieve pavement condition goals of:

    - 0% poor Interstate highways;
    - no more than 5% poor non-Interstate National Highway System (NHS) roads;
    - no more than 8% poor non-NHS principal arterials;
    - no more than 12% poor other federal-aid roads; and
    - no more than 15% poor local roads.

2. Maintain these conditions under assumptions of traffic growth (particularly truck traffic growth).

3. Make routine accommodations for bikes, pedestrians, goods movement, access management, appropriate landscaping, and urban amenities (lighting, transit stops…) as reconstruction occurs on the priority network, in a manner consistent with the location of the project and community values.

4. Costs of capacity expansion performed as part of highway or bridge reconstruction work are not included. Such work would be carried out when warranted by "tradeoff analysis" or "risk assessment" efforts. The costs associated with the capacity work are considered under "Strategic Highway and Bridge Actions" discussed elsewhere in the budget discussion.

5. Accommodate the needs of an aging society by improving the size and visibility of directional signs through routine replacement. (The incremental annual cost of this effort has been estimated by the Special Transportation Needs Task Force at approximately $50,000, but this amount is assumed to be captured as a design detail in the overall budget estimate.)

For cost estimation purposes, the priority network includes a total mileage equivalent to the majority of the state-owned highway system plus approximately half of the existing non-state federal-aid roads. This totals about 3,000 lane-miles out of the total street system of 13,500 lane-miles. (Federal-aid roads are those eligible for projects on CDTC's TIP and include all arterials, all urban collector streets and rural major collector roads.) In the full implementation budget, these roads would be upgraded to appropriate NYSDOT-type standards with community direction regarding design speeds and bike and pedestrian accommodations, access, landscaping and other features.

Full implementation includes a significant increase in the number of upgraded facilities.

The full implementation budget reflects inclusion of 700 additional lane-miles (about half of the non-state federal-aid system) for treatment at a unit cost sufficient to capture incremental work required on these roads. This unit cost exceeds that for comparable work on state highways (due to the extent of drainage, shoulder/sidewalk and geometric work required when reconstructed). Over twenty years, the repair cycle would involve complete reconstruction and redesign of about 500 lane-miles of these reclassified local roads to priority network standards -- about 25 lane miles per year. (The current TIP sets a pace to upgrade only about six lane-miles of non-state roads' designs per year.) The budget is sufficient to accomplish the priority goals of CDTC's task forces, achieving appropriate bike accommodations on the identified priority bicycle/pedestrian network and access management and goods movement improvements throughout the majority of the region's arterial system.

While the full implementation budget exceeds the system preservation, the benefits of this initiative -- if well coordinated with local community plans and development activities -- are immense. Safety benefits alone from the upgrades in the design of priority, non-state roads are estimated to exceed $40 million per year.

System preservation costs have been estimated carefully by the CDTC staff and its Infrastructure Task Force. System preservation costs reflect a level of rehabilitation and reconstruction (with minor design improvements) on the state system sufficient to maintain current overall pavement conditions using current repair strategies and typical unit costs for state projects. System preservation costs off the state system reflect an effort by local governments, relying primarily upon local repair strategies and unit costs similar to current efforts. Design improvements would be rare. The incremental pace of work to accommodate traffic growth while maintaining current conditions is included in the system preservation budget estimate.

NYS Thruway Authority requirements are based on its current five-year program for the Thruway and the Canal System in the four counties.

Updated costs in the New Visions 2021 plan reflect the following modifications to the 1995 calculations including in the original New Visions plan:

1. Unit costs for reconstruction/ rehabilitation work reflect recent experience with TIP projects. Overall, this increases the average cost of reconstruction work on priority non-state roads by 33% over previous estimates. This increase is exclusively attributable to the significant difference between estimates and actual costs for urban-type arterial reconstructions.

2. Overall funding requirements for work on the state system are up modestly from the previous estimates, due to increased cost estimates for urban-type state work (in villages, some suburban sections). Additionally, the estimate for work on the interstate has been upped by 40% to reflect the recent experience with night construction and revised federal design standards.

3. The original New Visions estimates inadvertently excluded the costs of design, right of way and supervision for state and local TIP projects. The updated construction estimates are inflated an additional 25 - 30% to cover these phases.

Table 6: Priority Network Highway Rehabilitation, Reconstruction and Redesign Budget

(Average cost per year, 2000-2021)

	System Preservation	Full Implementation
State and Local	$45.125 M	$80.015 M
NYS Thruway/Canal System	$ 7.470 M	$ 7.790 M
New Visions 2021 Total	**$55.960 M**	**$87.805 M**
Previous New Visions Total	**$45.500 M**	**$60.700 M**

7. Highway Rehabilitation and Reconstruction off the Priority Network

This category reflects the requirements for ongoing preservation of roads, primarily under location jurisdiction, that are not considered part of the priority system. Total mileage is about 10,000 lane miles of mostly residential streets and rural roads. For this category, the system preservation and full implementation budgets are virtually synonymous. Design improvements and the addition of bike, pedestrian or goods movement features in coming years on these non-priority roads would not be routinely expected. It would occur mostly in the context of private development, through mitigation fees, or as part of stand-alone bike path or sidewalk projects. Such costs are reflected in other *New Visions* budget categories. Rehabilitation and replacement of existing sidewalks (extensive in city and village settings) in conjunction with local street repair and reconstruction is included the budget estimate.

The costs shown for non-priority roads reflect the incremental cost of wear-and-tear from traffic growth (particularly truck traffic growth).

The incremental cost for the full implementation budget is associated with the cost of meeting long-term pavement goals and improving the visibility of signs and markings to accommodate the needs of an aging society.

Table 7: Non-Priority Network Highway Rehabilitation and Reconstruction Budget

(Average cost per year, 2000-2021)

	System Preservation	Full Implementation
New Visions 2021 Total	$15.000 M	$15.250 M

8. Bridge Rehabilitation & Replacement

Rehabilitation and replacement of highway bridges on the state and local road systems comprises a substantial part of the *New Visions* budget. Full implementation costs are derived from the Infrastructure Task Force's work with NYSDOT Region 1. The full implementation budget is based upon a goal of having no greater than 20% of all highway bridges in poor condition, with none showing serious deterioration (bridges rated than less than "3.0" in NYSDOT's scoring system). The cost of capacity built as part of bridge replacement is not shown in this budget category. Such work would be carried out only when warranted based on "tradeoff analysis" or "risk assessment". These incremental capacity costs are considered under "Strategic Highway and Bridge Actions" discussed on page **Error! Bookmark not defined.**.

Increased funding for bridge rehabilitation will be required to meet goals.

Between 1990 and 1995, the percentage of state bridges rated as deficient dropped from 41% to 38% while non-state bridges dropped from 61% to 42%. However, NYSDOT has indicated that further progress will be more challenging and involve expensive projects. Recent progress may not be a good indicator of future progress, because many of the "easy fixes" have been accomplished and more difficult and expensive projects remain. For this reason, the current budget is assumed sufficient only to preserve existing overall bridge system conditions.

NYS Thruway needs are based on the Authority's five-year program. The need for overall system condition improvement on the Thruway is similar to that for state bridges. Therefore, an increase in funding over current budgets comparable to that required for the priority system is assumed to be required for the Thruway in order to meet long-range condition goals.

System preservation and full implementation costs also include the incremental cost of wear-and-tear caused by traffic growth.

The new values in Table 15 reflect the following changes from those in the original New Visions document:

1. The state and local system preservation value was updated to reflect a combination of the current five-year bridge infrastructure TIP budget of approximately $44 M annually and NYSDOT's 12-year capital program which averages $24 M annually (after setting aside major projects). An approximate 2.5% increase (half of an estimated 5% increase for 21 years) is added to cover expected impacts of increased travel.

2. It is assumed that full implementation would require continuation of the current five-year budget and access to an additional amount estimated at $19 M per year to cover a large majority of "extraordinary" bridge replacements. There are many large bridge candidates vying over the next twenty years for a portion of the normal bridge budget or access to the "extraordinary" funds. These include the Patroon Island bridge (as much as $75 M), Batchellerville bridge ($30 M), Menands bridge and bridge structures along I-787 in Albany (as much as $270 M alone). A portion of the $400 M extra funding included in the full implementation budget for "extraordinary" bridge replacements (roughly 1/4) is assumed to come from additional

exclusive sources, above the level of the current five-year program's exclusive bridge (HBRR) funding. The remainder of this large budget category is assumed to compete for available flexible funds with all other project categories.

3. The estimate for system preservation of Thruway bridges is equal to the annual average in the Thruway's current five-year capital program ($14.900 M), with an increment to cover expected VMT increases.

4. The estimate for costs of system preservation on other bridges was continued as in the original New Visions plan.

Table 8: Bridge Rehabilitation and Replacement Budget

(Average cost per year, 2000-2021)

	System Preservation	Full Implementation
Priority system	$40.000 M	$59.000 M
NYS Thruway	$14.900 M	$15.650 M
Other highway bridges	$7.100 M	$7.450 M
New Visions 2021 Total	**$ 62.000 M**	**$82.100 M**
Previous New Visions Total	**$ 81.400 M**	**$88.600 M**

9. Highway and Bridge Maintenance and Operations

This is the largest budget category.

This category is the single largest commitment of transportation resources in the Capital Region. Captured under this heading are all other ongoing NYSDOT and local transportation expenses, excluding capital projects (including design and supervision), planning, traffic operations and transit services shown elsewhere. Included in the category is street repair and patching, debris removal, grass mowing, snow removal, equipment purchases, and other activities of state and local highway departments and road crews.

NYSDOT expenses have been estimated at approximately 6.5% of NYSDOT's annual statewide operations budget based upon the Capital Region's share of the state's highway mileage. Current estimates of the scale of local activities have been derived from the State Comptroller reports on local government activities. Estimates of local expenses represent the sum of county, city, town and village transportation expenditures (for 1993), after removing approximately $30 million for capital improvements, public transportation, traffic operations, planning and contributions to other modes' operation -- airports and ports.

The NYS Thruway budget shown is based on the Capital District's share of the Authority's five-year budget for administration, maintenance and operations. Toll collection and police patrols are captured within the Thruway's budget and are included in the totals in the table below. Police patrol costs are not assigned to NYSDOT or local highway budgets and are not included in the table below.

The system preservation budget is assumed equal to the current level of expenses. The full implementation budget is also assumed equal to the current level of expenses. The *New Visions* plan's recommendations assume improved efficiencies from increased intergovernmental coordination and consolidation and consideration of privatization of maintenance activities. The increased efficiencies will permit improved service, addressing task force concerns (such as stepped-up maintenance and sweeping of shoulders and bike lanes).

Annual budgets in the 2021 plan are changed modestly from those in the previous plan. At the state level, salary increases have been largely offset by changes in labor rules (one-person snow plows, etc.). At the local level, costs are assumed to have risen modestly (about 5%) over previous New Visions efforts due to cost-of-living adjustments and the increased maintenance responsibilities due to additional sidewalks. The net is an overall change to the previous New Visions budget of about 2% for system preservation and an additional 1% for full implementation (to reflect construction of additional sidewalks, trails and bike paths.)

Table 9: Highway and Bridge Maintenance and Operations Budget

(Average cost per year, 2000-2021)

	System Preservation	Full Implementation
NYSDOT system	$23.000 M	$23.000 M
NYS Thruway	$33.800 M	$33.800 M
Local system	$115.000 M	$117.500 M
New Visions 2021 Total	**$171.800 M**	**$174.300 M**
Previous New Visions Total	**$166.800 M**	**$166.800 M**

10. Strategic Highway and Bridge Actions -- Congestion Management System (CMS) - based

CDTC's existing commitments include a number of CMS-based projects.

The *New Visions* plan includes a strategy to creatively complete existing commitments, many of which derive from CDTC's 1993 Regional Transportation Plan. In the 1993 Plan and the 1994-99 TIP, CDTC commits to a number of strategic highway and bridge improvements, seeking to address long-standing congestion; these projects range from widening the Rexford Bridge to improving access to the Albany International Airport. These projects are based on CDTC's Congestion Management System and are consistent with CDTC's Congestion Management Principles. Critical levels of congestion have been reached. Integration with demand management strategies is occurring. Compatibility with the community character and plans and local land use management is expected. These projects are listed in Table 6.

This category also includes smaller-scale intersection work to provide turn lanes and other congestion-relief actions. Additionally, this category includes comparable future projects to address similar issues to those addressed by existing TIP projects.

This budget category also covers capacity costs associated with infrastructure reconstruction and replacement projects. The *New Visions* plan calls for including capacity aspects in work triggered by reconstruction only when warranted by "tradeoff analysis" or "risk assessment." The financial requirements of this type of work are most evident for bridge replacements in growing corridors. The *New Visions* plan calls for the capacity aspects of such projects to compare favorably in terms of need and urgency with other projects. Consequently, there is no separate set aside for capacity aspects of infrastructure rehabilitation projects in the budget. (Infrastructure rehabilitation projects most likely to trigger the most significant capacity considerations are those on the Northway corridor; the entire Northway issue is treated separately in this document.)

Table 10: Strategic Highway and Bridge Actions

Project Title	Total Cost	Infra-structure Part	CMS Need	Comm/ Econ Need	Dedi-cated Funds	Private Funding	Notes
TIP Commitments pre-New Visions, all phases							
A209, Buckingham Over NY 85	3.520	2.640	0.880	-			infra estimated
A198, Rt 7 over I-87	26.391	19.793	6.598	-			infra est.; not on TIP
A235, Rt9/Livingston	1.352		1.352	-			
A237, Everett Rd	5.755	5.000	0.755	-			infra estimated
A240, Exit3/Exit4	34.766		34.766	-			
A242, Slingerlands Bypass	20.340	8.136	12.204	-			
A275, Albany Shaker Road	12.300	4.920	7.380	-		6.150	infra at 40%; 50% Private
A289, Lincoln/Amtrak, Walker -Rapp	3.600		-	3.600			
A294, Watervliet Shaker Road	7.900	3.160	4.740	-		3.950	infra at 40%; 50% Private
A295, New Karner Road	33.450	13.380	20.070	-		16.725	infra at 40%; 50% Private
A290, Selkirk Bypass	7.735		-	7.735			
A296, Maxwell/ASR	5.806		5.806	-			

R105, Vandenburg Ave	6.900	2.760	4.140	-			
R111, Rt 7 Troy-Brunswick	8.320	6.000	2.320	-			Estimate, larger than TIP
R157, Rt9/20	25.110	24.000	1.110	-			infra/safety estimated
SA89, West Ave	3.740		-	3.740			
SA95, US9 w/Crescent	2.221		2.221	-			
SA98, Moe Road (includes turn lanes)	3.024	2.419	0.605	-			infra estimated
SA101, Clifton Pk Ctr Rd (add med.)	4.720	2.832	1.888	-			infra estimated
SA108, Balltown	12.708	5.083	7.625	-			infra at 40%
SA019, Glenridge	7.000	6.000	1.000	-			infra estimated
S93, Five Corners	5.200		5.200	-			
S94, Rt 7/146	2.240		2.240	-			
S96, Balltown	12.708	5.083	7.625	-			infra at 40%
S97,Route 50/Freemans	15.050	6.020	9.030	-			infra at 40%
S120, Glenridge	14.000	5.600	8.400	-			infra at 40%
I-90 Exit 8 Connector, Phase 2	46.300		-	46.300	46.300		Demo Funds/Bond/Tway
S125, Rt 7, I-890 to 5 Corners	12.150	7.290	4.860	-			infra at 60%
TIP Commitments since New Visions adoption							
A343, Pinegrove Ave. Cargo Facility	5.000	-	-	5.000	1.850		TIP commitment at 3.150 M
A345, Bypass for Elm St. Industrial Access	1.000	-	-	1.000	-		
A344, Church Street reconstruction to port	0.448	-	-	0.448	-		
R195, South Troy Industrial Access road	1.863	-	-	1.863	-		
SA158, Peebles Island bridge	2.160	-	-	2.160	-		
SA140, Erie Canal lock rehab	5.500	-	-	5.500	4.900		
SA 156, Mechanicville canal restoration	0.600	-	-	0.600	-		
Non-TIP							
Other economic/comm hwy actions	60.000		-	60.000			5 @ $3 M per 5 yr.
Other 'non-consensus' actions	60.000		60.000	-			5 @ $3 M per 5 yr.
TOTAL	480.877	130.117	212.814	137.946	53.050	26.825	
SUBTOTAL ON TIP	360.877	130.117	152.814	77.946	53.050	26.825	
SUBTOT NOT ON TIP	120.000		60.000	60.000			
per year, without dedicated or private	23.844	6.506	8.892	4.652	2.653	1.341	

All costs in millions of 1996 $.

Under the full implementation budget, current TIP commitments would be fully funded to allow creative design that achieves multiple design purposes. These purposes include congestion relief, accommodation of all modes, access management, and community enhancement through landscaping, environmental and noise mitigation and other features.

The budget for projects in this category beyond those on the existing TIP is estimated at a significantly lower level than that for those in the current TIP. This reflects a shift in the *New Visions* plan to create a better balance of project types. It also recognizes that (with the exception of the Northway congestion) the existing TIP addresses a majority of the long-standing congestion problems areas of the Capital Region.

If budgets are reduced, existing commitments may be downscoped.

At budget levels less than the full implementation level, it will be necessary for the "creative completion" of existing TIP projects to examine down-scoping and phasing work. The full cost of strategic highway and bridge actions that derive from congestion relief considerations in the existing TIP exceeds the available resources in a steady-state funding scenario. If the Capital Region intends to make steady progress on other fronts at the same time, a reassessment of these commitments is required.

There is no system preservation budget defined for this category. The infrastructure rehabilitation and replacement portion of the existing strategic highway and bridge rehabilitation projects in CDTC's TIP is substantial -- estimated at $130 million and is included within the highway and bridge rehabilitation and replacement budgets. Under the system preservation budget, no *capacity expansion* would be carried out as part of these projects. The budget for rehabilitation or replacement of these facilities (Rexford Bridge, New Karner Rd., etc.) would be captured entirely under the highway and bridge rehabilitation budget categories described earlier.

The full implementation budget reflects:

1. Full scope, "creative" implementation over the next ten years of existing TIP projects to address congestion through actions consistent with CDTC's Congestion Management Principles.

2. Further strategic intersection and highway link actions beyond the ten year horizon at a reduced pace.

3. Capacity aspects of projects triggered by highway and bridge repair, reconstruction and replacement.

The sum of the existing capacity-increasing commitments in the TIP, including post-TIP phases, is $213 M, after subtracting infrastructure rehabilitation aspects. Dedicated funds (federal and/or state demonstration money) account for $33 M and private, developer mitigation fees account for $32.2 M of this total.

The sum of items #2 and #3 above is estimated at $3 M per year. This pace would allow the equivalent of three $5 M additional projects (intersection projects, minor widenings, additional lanes on bridges when triggered by replacement) over each five-year TIP period through 2020. While this is not an insignificant amount, it reflects a significant reduction in emphasis on capacity projects from the current TIP.

Table 11: CMS-based Strategic Highway and Bridge Actions Budget

(Average cost per year, 2000-2021)

	System Preservation	Full Implementation
Existing commitments	$0.000 M	$ 7.277 M
Further work	$0.000 M	$ 3.000 M
New Visions 2021 Total	**$ 0.000 M**	**$ 10.277 M**
Previous New Visions Total	**$ 0.000 M**	**$ 13.500 M**

11. Strategic Highway and Bridge Actions -- Community Compatibility and Economic Development Purposes

This category includes strategic actions that are not aimed at alleviating congestion but rather are aimed at improving compatibility between the highway system and the community, or are aimed at providing strategic connections to enhance regional and local economic competitiveness. Many current TIP projects fit this category. The Selkirk Bypass is aimed at removing trucks from a historic hamlet. The Exit 26 bridge is targeted at providing more appropriate truck access between the Interstate system and an industrial park. Pearl Street reconstruction in downtown Albany is part of an overall strategy to revitalize the city's core. Phase 2 of the I-90 Exit 8 connector (included in the TEA-21 as a federal demonstration project) similarly is intended to accommodate regionally unique high tech economic development. Current projects in this category are listed in Table 6.

Regional interest in this new budget category is quite high.

Older urban areas have similar needs for improved truck facilities (Watervliet/Cohoes/Colonie, Saratoga Springs) or access routes to redevelopment opportunities (South Troy, for example). This category also captures other strategic transportation investments triggered by downtown revitalization plans (pedestrian walkways or malls, etc.) not otherwise captured in highway rehabilitation budgets. Region-wide interest in a program of this type appears to be quite high, judging from local initiatives and response to *New Visions* outreach efforts and statewide economic development initiatives. Such a budget category provides a specific opportunity for advancing projects needed to support a regional economic development plan or vision.

The full implementation budget incorporates the full cost of "creatively" completing existing TIP commitments (including the federal demo projects). While the original New Visions budget included an estimate of approximately $3 million per year over 20 years (out of flex funds) for additional community-serving initiatives beyond what might be provided by TEA-21 demo funds, the recent interest in such projects warrants a revision to that number. The revised estimate maintains the $3 M annual value which must compete for flexible funds, but adds an additional $2 M annual value as an estimate of further dedicated funds anticipated for this purpose.

Table 12: Budget for Strategic Economic/Community Highway and Bridge Actions

(Average cost per year, 2000-2021)

	System Preservation	Full Implementation
Existing commitments	$0.000 M	$3.712 M
Further work	$0.000 M	$5.000 M
New Visions 2021 Total	**$0.000 M**	**$8.712 M**
Previous New Visions Total	**$0.000 M**	**$6.948 M**

12. Supplemental Goods Movement Accommodations

Most actions to accommodate goods movement are captured elsewhere.

The vast majority of actions required for effective goods movement in the Capital District are captured by other budget categories. The full implementation budget for intermodal facilities addresses cargo needs both at the Port of Albany and the Albany International Airport. Full implementation of highway and bridge rehabilitation and reconstruction on the priority network will incorporate access management redesign and address serious vertical and horizontal clearance deficiencies on the arterial system. Strategic highway actions aimed at congestion relief will provide substantial benefit to the commercial sector. Many of the strategic highway actions aimed at community-compatibility or economic development provide an explicit benefit for goods movement.

The supplemental actions are limited to

- implementing a steady pace of grade crossing projects on the Conrail/Amtrak high speed rail line (one every five years at $6 M each),
- grade crossing projects elsewhere in the region on the freight main lines (one every five years at $2 M each) and
- Port of Albany surface access projects, including a new ramp from I-787.
- Relocation of Thruway tandem truck lots current located at the Exit 23 and Exit 24 interchanges. (A middle-range estimate of approximately $30 M is used in the budget, assumed to be funded with exclusive funds.)

Over twenty to twenty-one years, the annual average need is $3.665 M.

Many other goods movement related projects are included under pavement, bridge and community/compatibility and economic development budget categories.

Again, "system preservation" is defined in terms of preserving the existing physical condition of the system. Routine maintenance of existing grade crossings is included under other categories. System preservation would not include the cost of upgrades of equipment design or new grade separations, except if identified as a priority safety project (see the safety actions discussion).

Table 13: Budget for Supplemental Goods Movement Accommodations

(Average cost per year, 2000-2021)

	System Preservation	Full Implementation
High-speed grade crossings	$ 0.000 M	$ 1.200 M
Other grade crossings	$ 0.000 M	$ 0.400 M
Thruway Tandem Lot Relocation	$ 0.000 M	$ 1.500 M
Port Access	$ 0.000 M	$ 0.565 M
New Visions 2021 Total	**$ 0.000 M**	**$ 3.665 M**
Previous New Visions Total	**$ 0.000 M**	**$ 2.165 M**

13. Supplemental Bike & Pedestrian Accommodations

Full implementation executes a Bike- and Pedestrian- Friendly Capital District policy.

As for the case of goods movement, the majority of actions required for improved bike and pedestrian accommodation are captured in other budget categories. Full implementation of highway and bridge reconstruction on the priority system will provide, over time, full implementation of the "priority bicycle/pedestrian network" recommended by CDTC's Bike and Pedestrian Issues Task Force. Creative completion of existing and future strategic highway and bridge actions also provides a mechanism for making further improvements to accommodations.

The full implementation budget for supplemental bike and pedestrian accommodations includes:

- resources for additional signs, bike racks, pavement markings and maintenance on the priority network;
- a "spot improvement" program for isolated actions;
- rehabilitation of existing Class I bikeways;
- addition of four Class I corridors over 20 years;
- modest costs associated with local "traffic calming" efforts; and
- strategic sidewalk retrofits and connections when needed outside the context of major highway work.

Cost estimates were developed based on task force work. Continued pace of stand-alone bike and pedestrian-related TEA-21 Enhancement projects in the Capital District at $0.500 M per year is also included in the full implementation budget.

The system preservation budget is limited to maintenance and routine replacement of existing facilities, including sidewalk maintenance and replacement needed outside the context of major highway work. Cost estimates are preliminary.

The revised budget estimate reflects the high level of funding commitment to this category by CDTC in the years since adoption of New Visions. Approximately $9.20 M in bike and pedestrian projects was added in the 1997 TIP Update, with an additional $1 M set aside in 1999 for "Second Chance" Enhancements. Further, CDTC's estimate of expected projects from the Statewide Enhancement Competition has been revised upward (to $1.2 M annually, $1.400 M annually including CDTC's voluntary Enhancement program). As a result of CDTC's commitments , the cost of Class I work has been upped from $0.420 M annually to $0.500 M annually and the cost of standalone sidewalk implementation has been upped from $0.398 M annually to $0.500 M.

Table 14: Budget for Supplemental Bike and Pedestrian Accommodations

(Average cost per year, 2000-2021)

	System Preservation	Full Implementation
Signs, markings, maintenance	$0.075 M	$0.113 M
Class I facilities	$0.050 M	$0.500 M
Spot improvement program	$0.000 M	$0.100 M
Traffic calming	$0.000 M	$0.005 M
"Enhancement" projects	$0.000 M	$1.400 M
Sidewalks	$0.150 M	$0.500 M
New Visions 2021 Total	**$ 0.275 M**	**$ 2.618 M**
Previous New Visions Total	**$ 0.275 M**	**$ 1.536 M**

14. Supplemental Arterial Management Actions

As with goods movement and bike/pedestrian accommodations, much of the needed arterial management work is captured in other budget categories. Full implementation of highway and bridge reconstruction on the priority system will provide, over time, opportunity for significant progress in achieving desirable driveway spacing and implementing service roads and other arterial management techniques. Creative completion of existing and future strategic highway and bridge actions also provides a mechanism for making further improvements to arterial design.

Opportunities for service roads independent of road rehabilitation exist.

The full implementation budget for supplemental arterial management actions is focused on service road implementation through mitigation fees and other public/private agreements, pursued outside the context of a major highway project. Other supplemental actions, such as community education and assistance, corridor management planning, Generic Environmental Impact Studies and community master planning are shown under the "Integrated Planning & Outreach" budget category.

Table 15: Budget for Supplemental Arterial Management Actions

(Average cost per year, 2000-2021)

	System Preservation	Full Implementation
New Visions 2021 Total	**$ 0.000 M**	**$ 0.500 M**

15. Supplemental Safety Actions

Other budget categories capture a wide range of safety initiatives. Full implementation of highway and bridge reconstruction on the priority system will provide, over time, opportunity for significant progress in reducing the frequency and severity of crashes. Strategic highway and bridge actions provide additional opportunities for designing effective, safe facilities. Improved bike and pedestrian accommodations also contribute to travel safety. Demand management, transit improvements and other actions that effectively reduce vehicle miles of travel also contribute to safety.

Safety is a high priority – on and off the state system.

NYSDOT uses a structured Safety Management System to annually identify priority investigation locations on the state touring route system based on recent crash history. NYSDOT has a goal of reducing accidents by 25% in these locations that significantly exceed the statewide averages for crash experience. Between one and two million dollars of federal Surface Transportation Program (STP) safety funds are spent annually in the Capital District on supplemental safety actions, mostly on the state system. Continuation of this effort is assumed to reflect a system preservation budget -- mostly keeping pace with crash experience by constantly addressing the priority locations. The full implementation budget for supplemental safety actions extends this effort beyond the state system. Based on Capital District crash records, there is a need for supplemental safety actions off the state system of a comparable magnitude to that on the state system. The costs of developing a local Safety Management System (SMS) at CDTC are shown under the "Integrated Planning & Outreach" budget category.

The full implementation budget also includes preventative actions that target areas or corridors with high conflict levels (as measured through CDTC's conflict index, field observations and other means.) CDTC's Transportation System Management work in the early 1990's with the NYS Energy Office identified approximately 100 such sites. Preventative actions include improved signing at intersections, video surveillance for red light violations, emergency vehicle preemption, audible traffic signals at important locations, and speed enforcement.

Table 16: Budget for Supplemental Safety Actions

(Average cost per year, 2000-2021)

	System Preservation	Full Implementation
Spot Safety Actions	$1.800 M	$3.600 M
Preventative Actions	$0.000 M	$0.200 M
New Visions 2021 Total	**$ 1.800 M**	**$ 3.800 M**

16. Demand Management

CDTC is committed to implementing significant and effective demand management strategies. The *New Visions* process reinforced this need and commits to renewed support for public transportation coupled with a reluctance to commit significant amounts of additional funds towards peak-hour congestion relief. Discussion of the Northway congestion issue has repeatedly pointed to the logic of emphasizing use of carpools, express buses, staggered work hours, telecommuting, reverse commuting and other means of managing demand.

Demand management has proven to be cost effective.

In 1993, CDTC committed to a very substantial financial commitment to a voluntary demand management program – perhaps the most substantial in the nation -- with plans to accelerate current efforts to reach a $2.5 million annual budget by 1998. Such an effort was estimated to reduce peak-hour vehicle demand sufficiently to eliminate over 1,100 excess vehicle hours of delay (5-10% of the region's total) at a cost/benefit ratio of 11 to 1. Much of that progress remains to be achieved. CDTC and CDTA have established new Guaranteed Ride Home programs for transit users, carpoolers, bicyclists and walkers. However, the major employer-based financial programs to encourage carpools, subsidize employee transit passes and facilitate telecommuting and other activities have not materialized due to prohibitions on the use of federal funds for many of these efforts. Recent federal guidance has extended the eligibility for the use of CDTC's targeted Congestion Mitigation / Air Quality (CMAQ) funds to allow much of this previously prohibited work.

In 1999, CDTA achieved a breakthrough in using the CMAQ funds to help subsidize employer-based deep discounts for Albany County in conjunction with its office relocations. However, full implementation of the 1993 TIP's TDM budget is not anticipated. As a result, the budget estimate for this project category has been reduced from the level shown in the 1997 New Visions document.

A new entry in the table is operating support for TDM-related transit service. In 2000, CDTA expects to receive its first $50,000 check from the Town of Colonie out of airport area mitigation fees for transit service as a required TDM action. Full implementation is estimated at $300,000 annually, funded by mitigation fees.

Additionally, CDTC's shift of the Commuter Register to a web-based system has reduced the funding requirements for this effort.

The full implementation budget will:

- Achieve the existing TIP's level of effort and expand that continually that over the 21 year period;
- Implement a regional vanpool program of about ten vans and replace these vans on a five-year cycle;
- Establish the long-distance carpool matching program (included in the existing TIP);
- Maintain CDTC's Commuter Register program and
- Maintain CDTC's and CDTA's Guaranteed Ride Home (GRH) programs.

The system preservation budget is limited to continuation of the Commuter Register and Guaranteed Ride Home programs at current levels. (Additional demand management activity would be required to maximize the efficiency of the use of the existing system.)

Table 17: Demand Management Budget

(Average cost per year, 2000-2021)

	System Preservation	Full Implementation
Regional Travel Demand Management Program	$0.100 M	$1.000 M
Vanpool Program	$0.000 M	$0.250 M
Long-distance Carpool Program	$0.000 M	$0.005 M
TDM Transit Operations	$0.100 M	$0.300 M
Commuter Register	$0.010 M	$0.015 M
Guaranteed Ride Home	$0.030 M	$0.030 M
New Visions 2021 Total	**$ 0.240 M**	**$ 1.600 M**
Previous New Visions Total	**$ 0.065 M**	**$ 2.825 M**

17. Integrated Planning & Outreach

An important theme of the *New Visions* plan is integration of transportation planning considerations into the overall set of planning and development activities in the Capital Region. This points to working on more of a "continuum" of activities, rather than the current, often-separate efforts of developers, local governments, NYSDOT, CDTA and others. Many of the strategies and actions included in the Plan increase efforts to engage stakeholders in decisions, increase local planning work, and educate local officials, developers and the general public on subjects ranging from traffic safety to access management.

More outreach is key to successful implementation.

The full implementation budget will provide resources to:

- Continue current transportation planning activities by CDTC staff, CDRPC, NYSDOT and CDTA at levels shown in the 1996-97 Unified Planning Work Program;
- Establish a Safety Management System for non-state roads;
- Participate in education and outreach;
- Implement CDTC's TIP project for corridor management plans (and urban corridor plans);
- Continue Generic Environmental Impact Studies and comprehensive plans at the local level;
- Extend CDTC's traffic impact review and mitigation fee calculation services to additional communities;
- Enhance the regional travel model significantly; and
- Enhance routine traffic and travel data collection efforts.

The system preservation budget is limited to current transportation planning activities by CDTC staff, CDRPC, NYSDOT and CDTA at an expected level of expenditure for the 2000-01 Unified Planning Work Program. The value shown in the table represents an increase over the values in the 1997 New Visions report, reflecting both a fuller capture of all current activities by CDTC's participants, and also CDTC's implementation of New Visions recommendations for greater support of community planning activities. CDTC's "Community and Transportation Linkage Program" constitutes several hundred thousands of dollars of work on a dozen community-sponsored projects in 2000-01 alone.

Table 18: Budget for Integrated Planning and Outreach

(Average cost per year, 2000-2021)

	System Preservation	Full Implementation
Programmed UPWP Activity	$2.835 M	$2.835 M
Local Safety Management	$0.030 M	$0.050 M
Education and Outreach	$0.010 M	$0.050 M
Corridor and Community Plans	$0.300 M	$0.300 M
Generic Environmental Impact Statements & Comprehensive Plans	$0.000 M	$0.100 M
Regional Geographic Information System Enhancements	$0.100 M	$0.100 M
Mitigation Review Enhancement	$0.050 M	$0.100 M
Regional Model Enhancement	$0.050 M	$0.050 M
Data Collection Enhancement	$0.025 M	$0.025 M
New Visions 2021 Total	**$ 3.400 M**	**$ 3.610 M**
Previous New Visions Total	**$ 1.500 M**	**$ 2.094 M**

FUNDING REQUIREMENTS OF THE *NEW VISIONS* PLAN

Activities outside CDTC's realm are not included.

Table 7 groups the various *New Visions* actions into categories of regional programs and specific major investments for purposes of estimating financial needs. While an effort has been made to make the list as comprehensive as possible, there are some exceptions that should be noted for categories that include activities outside CDTC's traditional realm of highway and transit projects. First, private funds are shown only for projects that are carried out through a formal public-private financing mechanism (such as building service roads through publicly collected mitigation fees). Private costs for goods movement, rail operation and airline operation, for example, are not shown, nor are annual operating expenses for the port, airport or Amtrak service.

Within the transit arena, no firm estimate for the total cost of operating human service transportation is available locally or nationwide. Therefore, only the costs related to FTA-financed vehicle replacement at human service agencies are shown.

Not surprisingly, the largest categories of costs shown in Table 7 are related to maintenance, operation and rehabilitation of the area's highways and bridges, *exceeding $300 million per year* in the four-county Capital Region.

Table 7: Budget Categories Used in New Visions

		Actions Included
REGIONAL PROGRAMS		
1	Intermodal Facilities	Amtrak stations, airports, port, other public facilities
2	Transit Infrastructure	Buses, garages, stops/shelters, etc…
3	Transit Service	Cost of operations
4	ITS and Traffic Infrastructure	Signals/surveillance/communication technology
5	ITS and Traffic Operations	ITS operations; non-ITS traffic operations
6	Highway Rehabilitation & Reconstruction -- Priority Network	Capital work: contractual and force account
7	Highway Rehabilitation & Reconstruction -- other	Capital work: contractual and force account
8	Bridge Rehabilitation & Reconstruction -- Priority Network	Capital work: contractual and force account
9	Highway and Bridge Maintenance	Routine patching, plowing, sweeping, etc…
10	Strategic Highway & Bridge Actions -- CMS based	Congestion relief, development mitigation
11	Strategic Highway & Bridge Actions -- economic development/community	Community enhancement, economic inducement
12	Supplemental Goods Movement Accommodations	Other projects not captured in projects above
13	Supplemental Bike & Pedestrian Accommodations	Other projects not captured in projects above
14	Supplemental Access Management Actions	Other projects not captured in projects above
15	Supplemental Safety Actions	Other projects not captured in projects above
16	Demand Management	Rideshare/transit/telecommuting/flex hour support
17	Integrated Planning & Outreach	Regional and local transportation/land use work

System Preservation and Full Implementation

The *New Visions* budget makes a distinction between system preservation and desired improvements that are part of the full implementation of recommendations. The system preservation or "basic maintenance" budget is an estimate of the average annual cost over 20 years to preserve the system with its current design, current capacity and current average physical condition. Financial requirements for system preservation include routine transit vehicle, highway, and bridge rehabilitation and replacement, but do not reflect improvement in vehicle or facility design. If future funding were limited only to the system preservation levels, it would be possible to provide an equivalent transportation in the year 2015 and 2021 that is currently available -- with the same capacity, same design, same overall condition. CDTC's careful articulation of system preservation budgetary requirements reflects the high priority that CDTC assigns to system preservation.

The full implementation budget reflects the average annual cost of implementing the *New Visions* actions at an aggressive, but plausible pace. Under the full implementation budget, facilities and vehicles are improved per the recommendations of the plan and the overall physical condition of pavement and bridges is improved to meet stated goals. The difference between the system preservation budget and the full implementation budget represents the plan's *desired improvements*. The desired improvements are those items intended to make the region's transportation system function better, reduce user and environmental costs, complement the community, and meet the economic and travel challenges of the 21st century. The desired improvements can also be seen as the primary source of policy direction; under constrained financial conditions, these improvements compete for scarce funds.

Budget Policy

CDTC's policy approach to advancing the desired improvements is to

(1) Assure that basic system preservation needs are met first;
(2) Seek progress across all fronts whenever funding levels exceeds the basic system preservation level and
(3) Pursue funding levels sufficient to permit full implementation of the entire plan of reasonable actions.

CDTC's budget plan shows assumptions of funding availability and identifies the level of improvements possible under each.

BUDGET

Summary of Changes from 1997 New Visions document

Working from the findings of the Finance Task Force report, the CDTC staff has explored the components of change to resource availability, to unit costs and to the plan's commitments since the adoption of New Visions in 1997. The result is the following material, revising a major portion of the budget section of the New Visions document.

The exploration has confirmed the task force's perceptions:

1. Plan refinement and implementation efforts have proven the concepts of the New Visions plan and there is no need to review the fundamentals of the plan.
2. Experience has shown that certain -- but not all -- project types come with unit costs higher than anticipated in the New Visions budget.
3. Revenues have indeed tracked well with the New Visions requirement of steady increases in real terms.

Further, the exploration has yielded the following conclusions:

1. Implementation success in certain areas, such as bus fleet replacement and advancement of Congestion Management System (CMS) projects, combined with refinement of cost estimates for demand management, bridge rehab and other items has produced some reductions in funding needs over the next two decades.
2. New experience with ITS, bike and ped, economic development and other project types allows a refinement of resource requirements for these items.
3. As a result, the budget for the New Visions 2021 plan is more credible while remaining generally affordable. The impacts of the cost increases of certain projects (urban reconstructions, Interstate repairs, etc.) do not appear to be sufficient to jeopardize the entire budget plan.
4. This allows CDTC to process the New Visions 2021 budget plan as a true update, with no compelling need to revisit its basic commitments to system preservation, community orientation and steady progress across all functional areas.

Introduction

Recommended actions for the *New Visions* plan are both institutional and financial in nature. Many institutional actions (such as continuing outreach efforts, improving project evaluation methods or building coalitions between the public and private sector for goods movement) may require significant work, but have little budgetary impact. Better approaches to problem solving are expected to provide improved results for the same or less cost.

Other actions, however, have noticeable financial requirements. For example, actions to fully accommodate bike and pedestrian modes, address deliveries and improve safety and aesthetic design on highways that are reconstructed have an incremental price tag attached. Improvements in transit services or pursuing strategic highway actions (improved airport access, for example) also have potentially significant budgetary implications.

The *New Visions* Plan budget comprehensively identifies the sources of financing for the plan and levels of expenditures by category. The budget identifies the magnitude of investment needed to accomplish the vision stated earlier. It also deals with the challenging issue of assigning relative priority among needs during constrained budget times.

MAJOR INVESTMENTS

DEFINITION

Major investments are capital projects that have the potential, because of their magnitude or nature to be "region shaping." CDTC adopted a policy regarding major investments in 1995, calling for comprehensive investigation of alternatives (including the "no build") prior to making a commitment to a particular alternative in the regional plan.

In two subjects, the *New Visions* process identified candidates for major investments in the Capital District over the next 20 years: treatment of Northway congestion through major highway or transit investment; and, implementation of fixed guideway transit facilities. Extensive technical investigation and technical work has addressed these subjects. The *New Visions* Workbook posed particular questions regarding these major policy choices. Consequently, the original *New Visions* plan contained recommendations in these two areas.

In the past three years, CDTC participants have pursued further information regarding Northway congestion and fixed guideway options. This allows a refinement of CDTC's policy, but does not lead to any fundamental change to the approach reflected in the original New Visions plan.

NORTHWAY CONGESTION

Description

The Northway is the most congested transportation corridor in the region, when measured against Highway Capacity Manual (HCM) standards of acceptable delay. Forecasts show that it will remain so in the future, with congestion progressively worsening and spreading beyond the peak period. Traffic on the Northway has experienced dramatic growth, with average daily traffic doubling in many locations between 1974 and 1992. The theoretical maximum volume of a three lane expressway is routinely reached or exceeded in the AM peak period on the Northway, and unstable flows and traffic slowdowns are becoming frequent in the AM and PM peak periods. Since the adoption of the New Visions Plan, traffic has continued to growth -- and peak hour orientation has continued to be pronounced -- and routine and incident-related traffic slowdowns have become more common.

The Northway is the most congested corridor in the region -- both now and in the future.

By the year 2015, peak period demand on the Northway was expected to increase by over 30 percent from 1996 levels under the trend forecasts. At this level of demand, delay wiould increase dramatically, increasing the peak period driving time for peak Northway trips by significant amounts. For example, in the afternoon peak hour, on a day without unusual incidents, routine congestion along the mainline and at many interchanges will increase the travel time of the trip from the State Office Campus to exit 10 of the Northway from 31 minutes in 1990 to 51 minutes in 2015. Incidents or poor weather conditions will result in even longer delays.

In recent years, steadily-increasing congestion has been observed by even the occasional Northway user. What once was unusual -- traffic slowdowns or tie-ups due to incidents -- is now more commonplace. And like many urban freeways in the United States, traffic slowdowns are quite abrupt. Traffic may move at average speeds in excess of 55 or 60 mph even at volumes that exceed the theoretical capacity of the facility, then suddenly collapse to a near stand-still with the slightest disruption.

In the Northway Study conducted prior to adoption of the original New Visions plan, CDTC and NYSDOT anticipated that peak hour traffic would soon "spread" over a longer period of the day in order to accommodate travel growth. Surprisingly, NYSDOT's data from continuous count locations along the Northway do not yet appear to support that inevitable change. Instead, the peak hour concentration of traffic has been maintained in recent years despite continued traffic growth along the Northway. Some of this has been accomplished by squeezing even greater numbers of vehicles in the peak direction within the peak hour, but a majority has occurred through a substantial increase in reverse commuting in the peak hour. The continued peak hour concentration supports the contention that traffic delays on the Northway are not leading to significant changes in work times or other travel behavior.

In the Northway Study, a number of management and capacity-increasing proposals were put on the table, including transit alternatives. The major capacity-increasing alternatives would have capital costs conservatively estimated at between $70 million and $90 million, *not including* related interchange and access arterial improvements that might be required by the additional mainline capacity. The major transit alternatives considered would have capital costs between $100 million and $390 million for all aspects of transit construction to serve the corridor.

Options Identified

The Expressway Management task force acted as an advisory committee in the NYSDOT sponsored study of the Northway corridor. The Transit Futures task force also considered the Northway corridor in the development of its fixed guideway alternatives based on market research showing the corridor as promising for increased transit use. The Expressway Management task force developed three major highway alternatives for policy consideration. These alternatives include addition of a fourth "general use" lane in each direction; two reversible median express lanes; and a carpool lane or "high occupancy vehicle" lane. The carpool lane alternative provides higher speeds for those who travel by carpool as well as those who travel by express bus. All three alternatives would include adding highway capacity between Exit 1 and Exit 10 of the Northway. Demand and incident management strategies are necessary, but not sufficient, to address growing congestion. The impacts of these three alternatives are summarized in the Northway Study report and in the *New Visions Workbook*.

Highway, transit, demand management, and "do nothing" options were all considered.

The major transit alternatives that were considered by the Transit Futures task force for the Northway corridor included light rail in the Northway median or commuter rail on freight rail lines that would draw people away from the Northway. The impacts of these two alternatives are also summarized in the *New Visions* Workbook and in the *Fixed Guideway Transit Investigation* and *Transit Futures Reports*.

Demand and incident management strategies are necessary, but not sufficient, to address growing congestion.

If implemented, any of the actions has the potential to significantly affect overall transportation system performance in terms of congestion levels, access to alternative modes, energy consumption, safety measures and the like. Without a high degree of success in other areas of the *New Visions* plan (site design, demand management, substitution of communication for transportation, etc.), none of the alternatives will fully address the projected congestion. If implemented, any one of them also has the potential to affect the overall system budget significantly.

Public Response

The region's policy regarding addressing Northway congestion was one of the major policy choices posed in CDTC's public outreach effort. While the responses did not provide a consensus on the appropriate action on the Northway, they did provide a broad set of perspectives on the issue that added insight to the technical information generated by CDTC and NYSDOT.

Without repeating the comments of planning boards, business, interested individuals verbatim in this report (see *New Visions Phase 3 Results of Public Outreach*, July 1996), the following conclusions were drawn from the public response:

1. The importance associated with alleviating commuter traffic congestion was mixed. A majority of people who commented supported addressing the problem, even if it meant raising additional funds. Often, the support for improvement was qualified by a request that those benefiting from the improvement shoulder some or most of the cost of the improvement.

2. There was strong sentiment, however, from even some of those most directly affected that the cost of a major improvement to address commuter traffic is not warranted -- at least in the near future.

3. Response was mixed regarding perceptions of the potential for significant transit investment to serve the corridor effectively. Many saw no possibility for success while others qualified their recommendations for investment in terms of "*only* if it is transit."

4. There was frequent recognition of the phenomena of widened freeways simply "filling back up" and frequent discussion questioning the desirability of investing scarce resources primarily to allow additional long distance commutes.

Plan of Action

A plan of action for the Northway corridor is outlined below. The plan draws from the broader *New Visions* principles, vision, goals, strategies and actions. It also draws from the *New Visions* technical studies and from the responses to the *New Visions Workbook* questions.

The Northway actions are based on the following conclusions:

1. The Northway corridor is a critical corridor not only to the region but also to the state and the nation, serving vital interstate commerce and recreational traffic. It is the backbone of the Champlain-Hudson International Trade Corridor connecting New York city and the Eastern US with Montreal and Eastern Canada. CDTC commits to working collectively with NYSDOT and all affected parties to determine the most intelligent strategy to maintain adequate operation as part of the nation's Interstate system.

2. Major investment in extensive highway or transit solutions to serve commuter traffic is not warranted in the near term; demand management, incident management and bus transit services are more appropriate to near-term needs. Continued development and expansion of ITS approaches to corridor management are critical to extending the effective time period in which the current physical design of the Northway can function effectively.

3. A high level of success in the broad set of *New Visions* initiatives, including demand management, urban revitalization, developing more mixed use suburban communities, and incident management programs would have significant benefits on the Northway corridor. They will reduce the need for major investment over the long term.

4. In addition, there is much to be learned in the next few years from experiences with similar issues in other parts of the country. The impacts of the HOV lane on the Long Island Expressway, the High Occupancy/Toll facility in Orange County California, and freeway corridor rail investment in other places can be more intelligently assessed after a few years. The remarkable success of EZ-Pass technology on the New York State Thruway and related facilities raises the possibility of EZ-Pass helping in the effective management of existing or expanded capacity on the Northway. These various pricing strategies and electronic systems are rapidly maturing and will soon help set a long-range policy for the Northway.

5. However, NYSDOT's need for policy direction for near-term projects does not permit an indefinite delay in setting a long-term policy. Both the Airport access projects, such as the Exit 3 or Exit 4 improvements, and Northway bridge reconstruction are accommodating CDTC's existing policy stance on the Northway future.

In keeping with these conclusions, the Northway actions are:

Pursue Demand Management and Park-and-Ride Seriously

Congestion management principles call for full implementation of demand management prior to, or as part of, any major congestion-relieving investment. Strategies and actions listed elsewhere in the *New Visions* plan include continued development of park-and-ride lots in the Northway corridor, full implementation of employer-based demand management and continued support and development of transit service in the Northway corridor.

Events in recent years have not been especially encouraging in this area. Employer-based demand management is achieving only a small fraction of its potential and transit service in the corridor has witnessed ridership declines in response to State employment reductions / dispersals and necessary fare increases. Concentrated effort by all parties to capitalize on the potential of demand management and park-and-ride is essential.

Develop ITS Capabilities

The Northway is the region's ITS test bed.

The Northway corridor is serving as a pilot area for initial incident management programs in the Capital District, and as a core facility to the region's Intelligent Transportation System (ITS) program. Incident detection and response, traveler information and improvements to alternate routes (through scheduled actions such as construction of permanent overhead variable message signs and congestion mitigation on the Rexford Bridge and planned improvements such as remote signal operation of signals along US 9) will help address growing travel demand in coming years. It will also help define the maximum potential role for ITS strategies in addressing long-term needs in the corridor.

Examine Impacts of Actions in Similar Corridors Elsewhere

We can learn from the experiences elsewhere.

Many metropolitan areas are grappling with similar issues to those affecting the Northway. Some have pursued traditional highway widenings. Many (such as in the Long Island Expressway corridor) have opted for High Occupancy Vehicle lanes. A few have pursued rail construction. Variable tolling with HOV discounts is a new approach, with the CR 91 corridor in Orange County, California being a pioneer. The New York State Thruway Authority has analyzed congestion pricing and variable tolls to determine its merit for the Tappan Zee Bridge. CDTC will work with NYSDOT and others in coming years to assess the success of real-world actions in other parts of the country, before construction of any major improvement in the Capital District. From the experience of others, new insights and policy guidance for the Northway corridor may emerge in the next few years.

Complete an Analysis of Physical Implications of Corridor Alternatives

CDTC's 2000-01 Unified Planning Work Program (UPWP) budgets $100,000 in planning funds for a sketch analysis of the physical requirements of various long-range alternatives. Adding express or toll lanes to the Northway is expected to require a new Mohawk River structure; further information is needed on the land consumption and pavement and bridge requirements of new interchange connections, flyovers and the like. Similarly, any high-scale transit alternative within the Northway right-of-way can be expected to have significant land and access demands for ramps, stations and park-and-ride lots. The scheduled study will give CDTC a much clearer perspective on the physical requirements of a range of alternatives -- before any effort is made to examine their potential benefit in accommodating travel. This will allow CDTC to enter any Major Investment Study with "eyes widen open" regarding the scale of construction impacts of the "build" alternatives.

Conduct a Major Investment Study

The importance of the Northway corridor to the nation's Interstate System is recognized by CDTC, and working to assure its long-term effectiveness is a priority for CDTC. In order to assure its effectiveness, CDTC and NYSDOT will conduct a Major Investment Study (MIS) to thoroughly examine long-range alternatives. In order for NYSDOT to advance projects within the Northway corridor for construction over the next five to ten years, these projects are being designed so as not to preclude long-range construction options to address mainline congestion issues. By doing so, the Capital District avoids the danger of choosing a long-range alternative for the corridor prematurely.

Within the twenty-one year horizon of the New Visions plan, however, a definitive course of action must be selected -- even if the course is to add no physical capacity to the corridor. While CDTC is not currently advancing a Major Investment Study (MIS) for the corridor, the appropriate time to launch such an effort will be within the next five years. By 2005, most (if not all) airport area projects will have been completed; the Thruway Authority will have ten years of experience with EZ-Pass and electronic tolling will be pervasive throughout the toll systems of the Eastern US; state policy on critical capacity questions regarding the Tappan Zee bridge and Cross-Westchester Expressway will be set; the commuter rail demonstration will be complete and the maximum potential of ITS to manage Northway will be understood. In addition, CDTC's exploratory work in the New Visions 2030 effort regarding potential changes in travel behavior due to shifts in demographics and economic process will also be complete. At that time, a MIS effort with the objective of choosing a long-range strategy for the Northway will be timely and necessary.

Adopt and Implement Recommendations of the MIS, Including Financial Plans

Upon completion of the MIS, CDTC will adopt recommendations for action in the Northway corridor as an update to its *New Visions* Regional Transportation Plan. The actions will then be considered for inclusion in Transportation Improvement Program (TIP).

It is anticipated that any major investment in the corridor (widenings, HOV or toll lanes, rail transit) will constitute an action that goes beyond the cost of actions included in the New Vision plan budget. Consequently, the MIS and CDTC's adoption will include the financial plan for actions. Financial resources will be provided either through new fund sources (such as through a toll facility), adjusting the budget to make room for the actions (and thereby reducing the budget for other actions). A combination of the two approaches may be required.

Short-range: Initiate the examination of the physical requirements of alternatives within six months of plan adoption, and complete it within twelve months from initiation. Emphasize bus service, demand management and ITS actions to manage the corridor over the next ten years. Monitor urban freeway and electronic toll actions elsewhere. Undertake a MIS within five years to provide definitive guidance and a budget plan for appropriate long-range actions.

TRANSIT

Description

At the time of the original New Visions plan adoption, CDTC asserted that public transit in the Capital District was at a crossroads. Overall transit use was declining due to changing demographics and suburbanization, while STAR system usage continues to increase. Communities look for increased levels of transit service in order to connect people with jobs, yet levels of continued governmental support were uncertain. For example, Congress cut levels of federal operating assistance to CDTA by 40% for 1996 yet the state budget restored a portion of this funding.

During the original *New Visions* effort, CDTC's task forces reaffirmed a belief that transit plays a vital role in the life of the metropolitan area. Transit provides travel options, assures essential mobility, contributes to congestion management and energy savings, and supports efficient land use patterns. A series of strategies recommended in the New Visions plan has been refined and

Transit has a vital role to play.

pursued by CDTA. The actions have enhanced the effectiveness of transit in meeting these multiple objectives. The overall financial impact of the basic strategies has been modest and has been accomplished with a modest enhancement of public transit resources while obtaining modest operating efficiencies to allow a more significant service improvement. Great strides have been made by CDTA since the New Visions adoption to implement the plan's recommendations. Among them have been expansion of shuttle services, a redesign of core routes, creation of a human service agency brokerage, provision of an entirely low-floor full size bus fleet, pursuit of transit priority signal treatment and automatic vehicle location technology, and significant station and shelter improvements.

Beyond reaffirming transit's role in the region, the orginal *New Visions* effort also explored whether a rail transit service or other forms of "fixed guideway" transit investment would provide noticeably greater benefits to the region than bus-in-mixed-traffic transit can. Obviously, if financing for modest bus improvements constitutes a challenge financially then the benefits of an expensive transit initiative would need to be compelling before any financial commitment to such a major investment is possible.

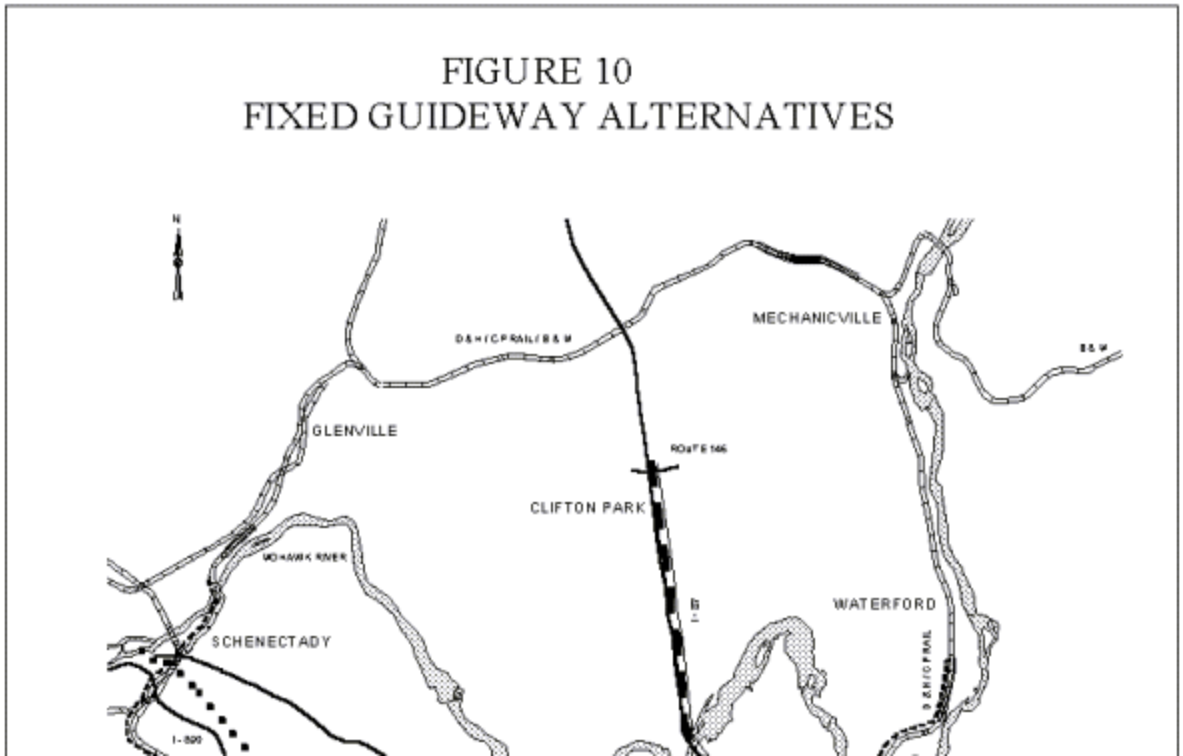
Potential Opportunities

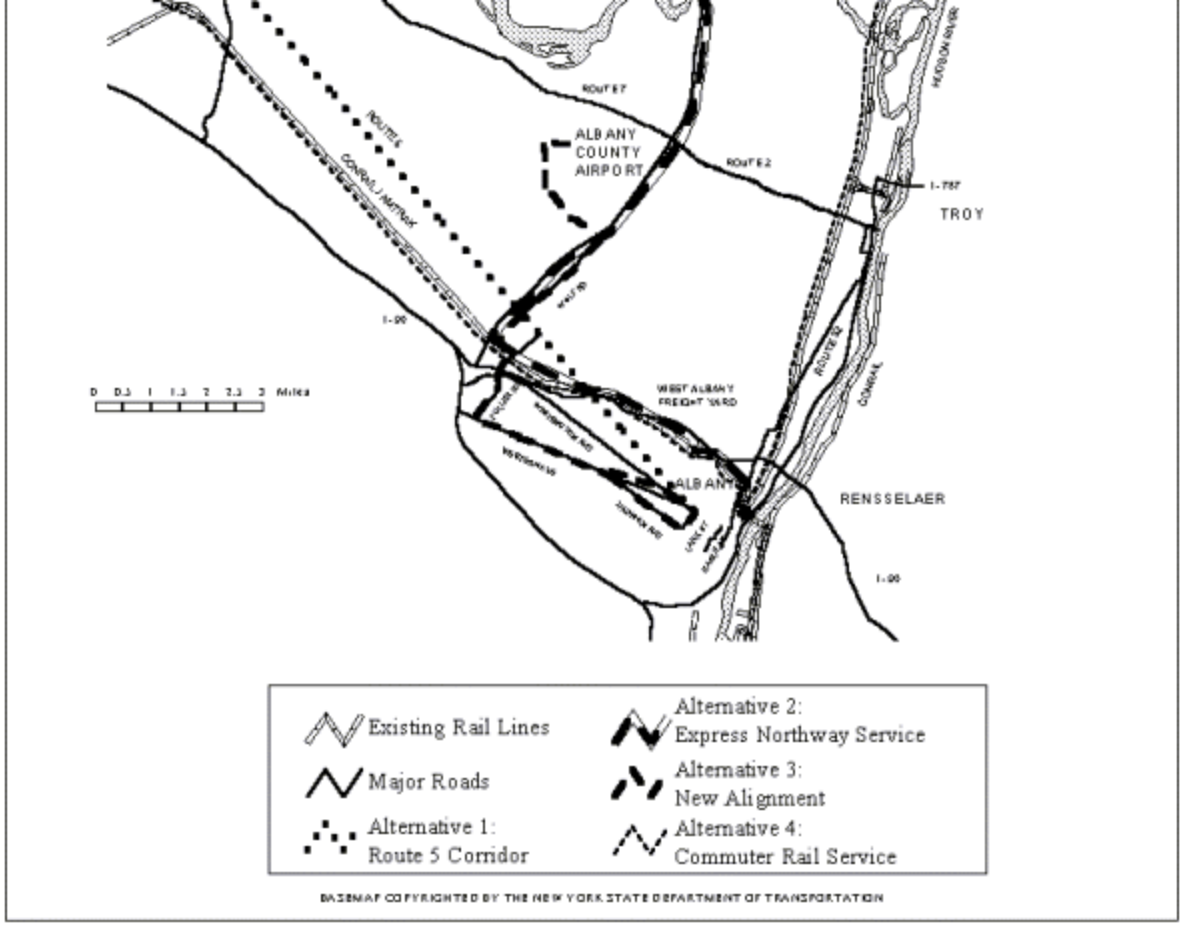
Regarding fixed guideway options, the Transit Futures Task Force worked with consultant assistance from Parsons, Brinckerhoff, Quade & Douglas, Inc. to examine fixed guideway options for the Capital District. The examination concluded by listing four feasible fixed guideway applications:

1. light rail transit or busway service along NY 5 between downtown Albany and downtown Schenectady (as a land use strategy);
2. express Northway LRT or busway service (as a congestion mitigation strategy);
3. local LRT or automated guideway connector in the urban core (as an economic development strategy); and
4. commuter rail service using existing rail lines (as a congestion mitigation and older urban area reinvestment strategy).

Each serves a very different purpose from the others and shows the potential role of fixed guideway transit in the Capital District. These are depicted in Figure 1 and described more fully in the *Fixed Guideway Transit Investigation Summary Report*, *Transit Futures Report* and the *New Visions Workbook*.

Figure 1: Fixed Guideway Alternatives





The task force's examination of fixed guideway options included consideration of costs -- which would be quite substantial and go well beyond the *New Visions* plan's budget -- and benefits in a very comprehensive manner. The task force recognized that a lot of further study would be required if any of the options prior to making a commitment to implement a major transit investment of any kind.

Public Response in the Original New Visions Effort

The question of perceived value of the identified benefits, costs and risks of fixed guideway options was posed in the *New Visions* Workbook. Responses provided the following insight:

1. Of those responding, a large majority agreed that transit's benefits are sufficiently high that the Capital District should consider additional funding.
2. A similar number agreed that further *investigation* of fixed guideway options is warranted both in general and specifically for the Northway corridor.
3. Strong cautions were voiced by many about the cost, inflexibility and weak demand for rail transit in the region.

At the public meetings held in the four counties in January of 1996, more support for transit -- both improvements to existing bus service and support for more aggressive consideration of rail options - was heard.

Follow-up Public Response

More recently, media coverage of the upcoming commuter rail demonstration has generated largely positive support for pursuit of commuter rail. Similarly, public outreach in the NY 5 Land Use and Transportation Concepts Study has documented support for high-scale transit investment.

Additionally, in 2000, the New York State Association of MPOs authorized a survey of public opinion statewide regarding support for various transportation goals. In this survey, over 80% of the respondents in the Capital District's sample group reported that expanding bus or rail service is "important" or "very important".

This high level of interest confirms CDTC's and CDTC's members' actions to explore substantial transit investments.

Plan of Action

In keeping with the technical analysis, public response and the nature and budget for other actions, the plan of action for major investments in fixed guideway transit is as follows:

Continue to Pursue Near-Term Efforts to Maximize Transit's Effectiveness

The *New Visions* plan calls for significant realignment of the region's transit system to meet the demands of the 21st century. These include extensive demand management and employer involvement in transit services, carpooling, telecommuting and work schedule adjustments. They also include further use of private service delivery, more flexible labor rules and a revised mix of fixed route and feeder services. The actions also include "land-side" improvements to pedestrian connections, waiting areas and ITS-based traveler information systems.

These actions are being implemented by CDTA and others and must be continued, and success monitored, as a precursor to any major transit investment.

Monitor Technology Developments and Applications Elsewhere

Transit technology is changing rapidly. Self-propelled diesel commuter vehicles, some with a life-cycle per-seat cost similar to that for a bus, are available today that were not available during CDTC's Fixed Guideway Transit Investigation. Automated Guideway and Personal Rapid Transit (AGT, PRT) systems were set aside in CDTC's study because of cost. Yet, many new applications are being advanced worldwide. Even in CDTC's back yard, a firm is seeking resources to develop a low-cost AGT system. The experience from these may allow CDTC to reconsider this technology in the future.

CDTC will monitor the development of technology and the success of new services elsewhere for insight into Capital District applicability.

Conduct the Commuter Rail Demonstration Program

In the original New Visions plan, CDTC cited that, "should low-risk opportunities arise to test services such as commuter rail in the Capital District, CDTC will work with CDTA, NYSDOT and others to aggressively pursue them." Such an opportunity presented itself in 1998 with Congressman Solomon's efforts to secure federal funds in TEA-21 for a commuter rail demo. True to the New Visions plan, CDTC, CDTA, NYSDOT and others have worked aggressively to make this opportunity a reality. CDTA volunteered to serve as lead agency and has worked hard to sort out a service design with the railroads and affected communities. Additional funds are required to allow the demo to proceed, but CDTC and CDTA are hopeful that a meaningful "field test" of commuter rail will help refine CDTC's previous estimates of market potential and capital requirements for a potential permanent system.

Pursue the NY 5 Land Use and Transportation Concept

The transit actions listed in the *New Visions* plan include service redesign and redevelopment of CDTA's primary transit corridor -- NY 5 between downtown Albany and Schenectady. Actions include greater use of feeder services focussing on explicit transfer stations, pursuit of preferential signal treatment for buses, improved pedestrian connections and site design, and various ITS traveler information services along the corridor. This commits CDTA to implementing "best bus" service in this corridor.

Consideration of a more intensive transit investment in the corridor depends on the potential for more dense development in the corridor. In accordance with the original New Visions plan, CDTC has carried out the examination of land use options and development potential in the NY 5 corridor. The study has explored the interest in and feasibility of developing the NY 5 corridor in ways that generate transit development hubs and produce a sufficient market to warrant fixed guideway transit consideration in the corridor.

As the technical evaluation and public involvement played out in the corridor study, a "preferred future" clearly emerged. The preferred future combines new streetscapes, improved site design, mixed use developments, better pedestrian and bike accommodations, ITS and transit improvements. The evaluation and public reaction has led CDTC's Study Advisory Committee to envision Bus Rapid Transit (BRT) as the appropriate high-end transit system in the corridor. BRT can actually produce a higher level of service and faster speeds than light rail can on this physically-

constrained corridor. BRT in the NY5 corridor would include transit priority signal treatment, extensive real-time electronic schedule information, advanced-design shelters and stations (with consideration of off-line fare payment), use of articulated buses, creation of multiple transfer nodes with connecting shuttle service, and dedicated lanes where possible. The BRT system could possibly lead to an eventual LRT implementation, but the physical constraints in the corridor point more to eventual augmentation of BRT features including partial guided busway implementation and/or BRT expansion in other corridors.

The plan of action to implement the BRT improvements would be to see the BRT improvements as an integral component of the overall NY 5 corridor concept. Full implementation requires highway reconstruction and redesign over time along the 16-mile corridor to incorporate many of the concept's features. Certain features, such as utility undergrounding, boulevard construction in limited areas, and BRT lanes and stations can be implemented along with road reconstruction or could be advanced separately. The full implementation budget provides for the vast majority of the funds needed for implementation of the concept; supplemental funding would be necessary particularly for utility and boulevard pieces and to cover every segment of the corridor. Supplemental funding would also be required to speed up the implementation from the steady, incremental pace provided in both the steady-state and full implementation budgets.

The NY 5 Land Use and Transportation Concept financial plan summary is as follows:

1. Full Implementation Budget for Highway Rehabilitation, Reconstruction and Redesign -- share to NY 5 corridor: $75 M
2. Full Implementation Budget for Transit Infrastructure -- approximate NY 5 BRT share (2/3 of region's budget): $21 M
3. Full Implementation Budget for ITS Infrastructure -- NY 5 and BRT share (current TIP project plus portion of future investment): $15 M
4. Full Implementation Budget for Economic Development / Community Compatibility Projects -- approximate NY 5 share: $10 M
5. Other Resources Not Included in Full Implementation Budget -- needed for utility work, boulevard creation and completion of reconstruction and redesign of *entire* 16-mile length *within 21 years*: $82 M

Pursue the balance of a MIS for the NY 5 Corridor if Warranted

The Fixed Guideway Transit Investigation and the *New Visions* outreach covered many aspects of a Major Investment Study (MIS). In many ways, work performed to date can be considered phase one of a MIS. For the NY 5 corridor, the land use examination can be considered phase two.

In the original New Visions plan, CDTC indicated that "phase three" of a NY 5 corridor MIS would be carried out if the land use investigation (and success with other transit initiatives and experience elsewhere) indicated that a major transit investment in that corridor may be feasible. The MIS would have refined the examination of the full range of options (including the best bus), examine corollary highway impacts and environmental and community impacts more fully, and produce recommendations for action.

After conducting the NY 5 Land Use and Transportation Concept Study, CDTC believes that pursuit of BRT, highway redesign and site and access redesign is called for without a MIS. The physical challenges faced in trying to "shoe-horn" an LRT system onto the constrained NY 5 corridor has been sufficiently documented in the NY 5 concept study to avoid the need for a full-fledged MIS to choose between BRT and LRT.

The concept study also determined that management actions will be sufficient to accommodate vehicular traffic in the corridor at congestion levels about equivalent to today's. Public response to the NY 5 newsletter's question, "Would you be willing to accept traffic levels and congestion levels comparable to today's if we could improve transit, safety, pedestrian and bike accommodations and landscaping?" was overwhelmingly positive.

As a result, no MIS for the NY 5 corridor appears necessary.

Incorporate Major Transit Investment Considerations into the Northway Corridor Study

As noted in the discussion of major investments in the Northway corridor, transit options will be examined in the conduct of a Northway MIS. These options include commuter rail along existing rail lines, dedicated bus lanes, or light rail within the Northway right-of-way. These options include commuter rail along existing rail lines, dedicated bus lanes, or light rail within the Northway right-of-way.

Adopt and Pursue the Recommendations of the MIS

Upon completion of the Northway MIS, CDTC will adopt recommendations for action in the Northway corridor as a refinement to its *New Visions* Regional Transportation Plan. The actions will then be considered for inclusion in Transportation Improvement Program (TIP).

The MIS and CDTC's adoption will commit to a financial plan for actions. Financial resources will be provided either through new fund sources, adjusting the budget to make room for the actions (and thereby reducing the budget for other actions), or through a combination of the two approaches.

[10] SECURE ADEQUATE FUNDING TO FULLY IMPLEMENT THE PLAN

This strategy makes all of the other strategies happen. The Budget Chapter outlines different scenarios from basic system preservation to full implementation, but emphasizes the desirability of full implementation. Securing adequate funding is clearly going to require cooperative efforts, innovative thinking, and a lot of public support.

Expected Benefits

The full implementation budget included in this plan reflects an aggressive, but plausible pace of implementing the nine strategies discussed above. These desired improvements make the region's transportation system function better, reduce user and environmental costs, complement the community and meet the economic and travel challenges of the 21st century.

Implications

Full implementation of New Visions will require an additional $40M/year.

To fully implement *New Visions*, new financial resources will need to be brought to bear - on the order of $40 million per year -- without any commitment to major Northway and transit actions. This implication, and options on how to address the "funding gap", is more fully discussed in the budget chapter.

Part of this strategy leverages public resources through partnerships with the private sector. Institutional changes often result as both the public and private sectors adjust to new operating realities. Actions to build public/private relationships become more urgent and necessary as government shrinks. Mutually beneficial arrangements -- win/win situations, if you will -- can often be worked out.

Actions

38) Build a coalition to lobby for regional transportation projects.

Because the Capital District has four central cities instead of a single central city, a unified lobbying position is necessary to be competitive in securing local, state and federal legislative support for regional transportation projects. The importance of regional transportation projects recommended in *New Visions* will be promoted by building upon efforts by the Center for Economic Growth to create a local legislative coalition. This coalition can generate political support for projects that would benefit the Capital District.

Financial partnerships will fund plan implementation.

CDTC and its members must also communicate regularly with the region's representatives to Congress and USDOT regarding the federal role in Capital District system preservation and improvement. The proper functioning of the Capital District's transportation system is important to both state and national goals of a strong economy, public safety, access to jobs, housing, and social and recreational activities. A strengthened commitment to financial partnerships from the federal government as well as the state is paramount to achieving the goals set for the *New Visions* plan.

Communication has increased in recent years. New York's Congressional delegation was quite successful in protecting the state's and the region's interests in the passage of TEA-21 in 1998. Further, Congressional action to provide earmarked funds for commuter rail, the Saratoga Springs Amtrak station, the Rensselaer Rail Station and the I-90 Exit 8 Phase 2 Connector and ITS components are remarkable -- not only for the level of financing, but also because of their solid connection to the New Visions Plan. Continued communication will be critical in coming years as TEA-21 comes up for reauthorization.

The REVEST initiative was a formal approach to documenting local projects as an integrated regional set for the purposes of establishing a regional coalition to seek funding. This initiative has been very successful.

Similarly, the Champlain-Hudson International Trade Corridor coalition is a strong example of this kind of effort. First fruits are being reaped in the form of the federal government's elevation of the Champlain international border crossing to its #1 infrastructure priority in the country.

39) Explore local funding mechanisms for implementation of the plan.

Local funding will insure plan implementation.

If the Capital District truly desires implementation of *New Visions*, local funding will need to be brought to bear. Working together to get the region's "fair share" of state and federal transportation funding will not be enough. Local funds leverage other funding sources (both public and private) and provide money for programs that truly advance the regional interest. Implementing this action will reduce the Capital Region's dependence on limited state and federal transportation fund sources, making us more regionally self-sufficient.

The metropolitan planning organizations in New York State have jointly funded a statewide financing study for 1997. CDTC will use this study to work with the local and state officials and the local legislative delegation regarding local funding mechanisms, particularly where enabling legislation will be required.

Transit Fares

Identifying the appropriate role of passenger fares in the mix of transit revenues is a challenge. Financial pressures argue for steady and steep fare increases in order to maintain adequate revenues for operation. On the other hand, fare increases are generally regressive in nature (hitting lower income individuals to a greater degree than higher income individuals) and drive away customers -- thereby reducing the overall value to society of the transit service.

Traditionally, most innovative fare policies have sought ways of *reducing* the out-of-pocket cost of transit travel. Fare policy can be used to complement programs that encourage transit, carpooling, walking and bike trips to downtown work locations. For example, in the early 1980's CDTA enjoyed success with a downtown Albany free fare demonstration program that allowed free travel midday within a broad downtown zone. Other fare policies described above (such as the Ecopass program) are designed to reduce fares.

Income-sensitive transit fares would not achieve the desired objective.

CDTC's examination of fixed guideway and bus options included an exercise to test an alternative approach: income-sensitive fares. In such a fare program, fares for lower income individuals would be lowered while fares for higher income individuals would be increased. The purpose of the program would be to obtain adequate operating revenues while maintaining a concern for "social equity." Demand estimates indicate that such a program would likely be counter-productive to the transit system's ridership and revenue objectives. Few additional lower income riders would be attracted by lower fares because they are often "captive" riders already. Many existing higher income individuals would be driven away from the system because they have the choice of driving if transit appears too costly.

The implication of the exercise is that any fare policy that appears to "choice" riders as a significant fare hike will be counter-productive. Significantly higher fares can be pursued without losing the "choice" rider market only for premium service that compares favorably to the auto in terms of comfort, convenience and travel time. This finding reinforces the need for adequate non-user financing of transit services -- users receive only part of the system's benefit and would be unwilling to support a significantly-increased part of its cost.

Therefore, a joint effort to define an effective fare policy is recommended. CDTC and CDTA should work with NYSDOT and private transit providers to articulate the appropriate role for passenger fares in the mix of transit revenues and engage in a dialogue with federal, state and local legislative bodies on the issue. Further, any initiative on demand management, parking management, congestion pricing, park-and-ride development or restructuring of transit service must recognize the significant effect that fare policy has on ridership success. These initiatives must seek ways to contain or reduce fares to maximize the potential for success.

Conversely, CDTA and other transit providers should refrain from developing any serious service expansion or entry into new markets if fiscal reality requires a significant fare increase. Outside of established markets, it is unlikely that customers will perceive sufficient personal benefit of new transit services to tolerate fares that are perceived as high.

Other Locally Generated Fund Sources

Certain local fund sources, particularly for local road and bridge maintenance operations, are assumed in the *New Visions* budgets. These represent a base line for preserving the function of the existing transportation system. New transportation initiatives in this region will require exploration of additional locally generated revenues.

Nationwide, it is typical for major local transportation initiatives to include partial or primary financing through dedicating a portion of a broad-based tax, such as the sales tax. Few metropolitan areas in the nation undertake a major highway upgrade or fixed guideway system without new local funding. Generally these actions are offered to the public on a referendum basis and often are part of a broad package of both highway and transit initiatives. In California, the metropolitan TIPs include projects funded through a local option supplemental sales tax. Boulder, Colorado's initiatives are funded with a ¼ cent dedicated local sales tax. The entire budget requirement for full implementation of the plan of $40M (not including any major Northway or transit projects) is approximately equal to a half-cent region-wide sales tax.

Local option sales taxes are a common transportation finance tool nation-wide.

40) Actively pursue public/private partnerships that leverage use of public funds.

Public/private partnerships can leverage transportation funds for economic development. Existing examples of such partnerships include the Industrial Access Program, the Capital Region rail clearance project, the new cargo facilities at the Albany International Airport, and the "Capitalize Albany" campaign. Future opportunities include partnerships with privately owned transportation firms to carry out the Rensselaer Amtrak station upgrades, Glenridge Road improvements and other projects. Maintaining recreational options should the Old Albany Main be sold to another private rail operator; maintaining Upstate transit service; and keeping commuter rail options open are additional examples. Extending the ITS project to explore access to currently-proprietary information regarding traffic speeds and flows collected by shipping firms and others is another partnership opportunity.

Contractors

Partnering between governments and highway contractors is important to pursue. With this type of partnering, varying degrees of decision-making authority are granted to contractors, usually with financial consequences linked to the results of those decisions. Frequently partnering allows governments to buy better infrastructure repairs for less money. Two common components of partnering with contractors are:

- *Specifying Performance Standards:* Standard government bid documents specify pavement thickness, materials to be used, and other construction details. Alternatively, the European approach specifies performance -- quality and life expectancy -- and allows contractors to use innovative technology while requiring them to guarantee results.

- *Incentives for Project Acceleration:* Penalties are often used to keep contract work timely. A useful complement is the provision of financial incentives to contractors for project acceleration to minimize the amount of travel disruption caused by a project.

Partnering is gaining acceptance locally.

Partnering is gaining acceptance in the Capital Region. NYSDOT Region 1, for example, used a partnership approach to several recent reconstruction projects -- most notably the Patroon Island Bridge reconstruction during 1993 and 1994. Contracts specified the results required -- without dictating the process. This provided the contractor with greater flexibility to adhere to schedules and budgets, while providing NYSDOT with a satisfactory product. Both parties benefited. Another recent local example of successful implementation of a partnership approach is the New York State Thruway Authority's rest stop renovation program. A joint venture between the private sector and the Thruway has led to system-wide rest stop reconstruction and renovation program that addressed the Thruway's requirements for traffic flow and safety and the plaza operators' commercial goals. The traveling public benefited.

Transit Service Delivery

Combining public control with private operation deserves consideration.

Combining *public control* with *private operation* of public services is an increasing phenomenon in Europe and North America. There are potential applications in transportation, including transit. As CDTA reviews and redefines its role in coming years, it is encouraged to recommit to its role in overall transit service design, in establishing service standards, in identifying markets and in administering public resources. At the same time, it is encouraged to explore greater use of private firms operating under competitive contract for delivery of service. Greater reliance on private operation may be necessary to provide expanded services cost-effectively in a difficult market environment.

It should be recognized that increased private operation is not a simple answer to cost control, however. Private firms providing service under contract should be required to meet CDTA's high standards for driver training, safety, drug compliance, service reliability and performance. Cost savings from private operation of service of comparable quality to CDTA-operated service may be modest rather than dramatic.

Competitive procurement of service also highlights the need to *review state rules regarding private service delivery, formula-based operating assistance and market entry*. Unfair competition may result from pitting a publicly sponsored firm (Upstate Transit, for example) against an unsponsored firm (Wade Tours, for example) in bidding for a part of CDTA's new or existing service. A mixed bag of free market transit operations, directly subsidized private commuter services, privately operated contract services and publicly operated services presents the possibility of inequitable treatment of private firms.

Building partnerships is an activity that extends far beyond road or rest stop construction. The same ideas -- performance-based goals, flexibility, and continuous communication -- can be applied throughout the transportation planning, programming, and implementation process. Partnering helps in living within the budget.

41) Increase the use of mitigation fees to finance transportation improvements.

Local governments in areas where development is occurring are encouraged to assess traffic impact in accordance with CDTC's public/private financing guidelines. This encouragement includes:

- distribution to and education of municipal staff and planning boards of the guidelines;
- technical assistance in implementation (on contract basis, as with the current arrangement with the Town of Colonie in the Airport Area);
- technical assistance in the creation of assessment districts for parking or other improvements; and
- additional legislation (if needed) to aid in the formation of transportation development districts.

Traffic impact fees provide local revenue and mitigate negative effects of development.

Traffic impact fees on development can mitigate the negative local impacts of increased activity, while providing a revenue source for needed transportation improvements. Standard large-lot residential subdivision development has documented costs associated with it, including traffic congestion, land consumption, water pollution, air pollution, and impacts on environmentally sensitive areas.[1] Publicly born costs include schools, public facilities (sewer, solid waste, water) and parks, the provision of public services, the construction and maintenance of roads, and public administration. "Put simply, it costs more to run school buses and emergency vehicles, to repair roads, and to collect garbage when homes are spread out over more miles of roads than when houses are located more closely together."[2] These fiscal impacts occur over the long term regardless of whether mitigation to the initial development is collected. An initial assessment of impact provides at least some recompense to local governments trying to balance budgets over the long term.

42) Include demand management and transit support in developer-financed traffic mitigation programs.

Broadening the definition of eligible activities in mitigation programs will have positive effects.

Travel demand management, including reliance upon transit use, can reduce the traffic mitigation costs of individual developments. Mitigation fees and other exactions and contributions from developers to offset traffic impacts should be routinely made available not only for highway construction activities but also for ridesharing and transit services that serve as traffic mitigation. This is a small but significant change from current practice. It will not only assist transit and ridesharing activities but also is generally a less-expensive mitigation effort than contributing to the costs of new highway capacity.

The private sector can also assist in improving the transportation system in many ways that are not capital-intensive and do not require assessment districts. Examples include:

- Cooperation in the provision of increased shuttle bus or feeder bus services through the provision of shelters or waiting areas. The Liberty Park bus shelter project in Schenectady, or the Lark Street awnings are good examples of the benefits of private sector involvement in planning and improving transit.

- Support for ridesharing efforts by providing designated parking for carpools in convenient locations; and

- Spot improvements to the road network, such as turn lanes, connecting of parking lots to services roads, or sharing driveways to reduce arterial conflicts, are low-cost circulation changes that cumulatively can have a large positive impact on arterial function.

Overall, this strategy will increase the resources available for transportation projects. The amount of the increase depends upon the number of localities adopting such policies, among other factors. Even small amounts of private investment can serve as seed money to leverage additional public financial support.

Initial success has been achieved, with the first payments for transit service coming in 2000 from mitigation fees in the Albany Airport GEIS area to support CDTA services.

43) Explore changes in funding rules to better align funding with function.

Existing funding rules don't always allow for the proper treatment of road function.

The alternative to changing ownership is to alter funding arrangements to provide for the necessary repair work on all facilities, regardless of ownership. This would be helped by the creation of direct revenue streams, such as user-based fees and tolls. Technological advances will permit time-based (higher for congested times) and impact-based (higher for heavy vehicles) fee structures. Legal authority would be required to extend these structures beyond current toll roads. These fees would finance the system-wide provision of safe facilities in a state of good repair.

As a first step toward aligning funding with function, CDTC can ensure that state touring routes and other facilities serving regional needs within city limits have equitable access to federal, state and county funding. Greater use of federal-aid money for local repair strategies would be required as part of this action.

Currently, the design of highways and bridges are determined primarily by fund source. Federal or state funded capital projects use higher design standards than projects funded by local governments. However, design is more appropriately determined by the function of the facility than by fund source. Lower-volume roads function acceptably well at lower geometric standards, even when federal-aid money is used. Federal-aid funding for projects on low-volume facilities would go much further if funds could be spent on appropriate repairs. On such low volume roads, improved pavement condition can be achieved without the geometric, drainage, or other improvements normally associated with federal-aid projects. This can and should be done without compromising safety. The other side of this approach is the need to recognize that the standards for higher volume, higher function roads should be maintained at a higher level. Sufficient funds should be directed to that work regardless of facility ownership.

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[1] See *The Costs of Sprawl* by the Real Estate Research Corporation, 1974, U.S. Government Printing Office; and James E. Frank, 1989, *The Costs of Alternative Development Patterns: A Review of the Literature* by the Urban Land Institute.

[2] Elizabeth Brabec, The Economics of Preserving Open Space in *Rural by Design.* American Planning Association Press. 1994. Page 282.

[9] ENHANCE DEMAND MANAGEMENT

Support economic health by decreasing drive-alone, rush-hour trips.

Expected Benefits

Demonstrable service benefits accrue from a demand management approach. Accident costs, emissions, and energy consumption are reduced, together with congestion.

Implications

Demand management is an integral part of transportation system management. Budget implications are minor. There are significant institutional challenges to implementation, however.

Actions

35) Continue and expand demand management initiatives.

Demand management is key to leveling off travel growth in the region.

Commuter Register and Guaranteed Ride Home

CDTC staff has operated its *Commuter Register* program since 1988. The program included the circulation of a 30,000-copy, bimonthly newsprint publication for its first ten years that contained transportation articles, transit information and listings of individuals seeking carpool partners. In 1999, CDTC shifted the register to an Internet-based service with on-line registry and matching. CDTC's continuous monitoring of the program has documented its success in matching carpoolers, with a steady 33% success rate among listers. Annual fuel usage reductions are estimated at 150,000 gallons; over 3,700,000 vehicle miles are eliminated annually.

The Commuter Register fills a market niche.

The program has also proven to be a strong complement to, rather than a competitor to regular transit service. The Register serves a different market from that of regular transit service. CDTC's follow-up monitoring of carpool matching success indicates that the average one-way commute trip length of successful carpoolers matched through the Register is almost 30 miles -- in contrast to the typical transit trip of less than five miles.

CDTC extended a "Guaranteed Ride Home" program to carpoolers, walk, bike and non-CDTA transit travelers in January 1996. This complements CDTA's program for monthly pass holders. If as successful as similar programs in other parts of the country, it is expected that both programs will be continued indefinitely.

In coming years, CDTC will continue the Commuter Register program and seek ways of increasing its visibility and effectiveness. The Register program is an integral part of the regional transit package.

Finally, CDTC and CDTA are willing to support vanpools should markets develop. To date, markets have not appeared. With average Commuter Register carpools at 30 one-way miles in length, it can be anticipated that any vanpool markets are a minimum of 40 miles in length. In the Capital District, commuter densities for point-to-point trips for distances beyond 40 miles are quite low. Those that do exist are reasonably well served by cost-efficient private bus operations.

Park-and-Ride

Expected suburban development calls for continued creation of park-and-ride facilities, both for transit and carpool use. CDTC's *Saratoga County Park-and-Ride Lot Plan* identifies short and long-range park-and-ride lot locations along the Northway. Recent TIP projects include new lots at Northway Exits 8 and 9 as well as in Schodack. A setaside in the TIP reserves funds for additional lots in Cohoes, Rotterdam and other locations. These projects will provide for an increase of about 2,000 spaces in the Capital District.

More park-and-ride lots are needed.

Over the next twenty years further park-and-ride lot development at a pace similar to that shown in the 1994-99 TIP is required in order to give travelers the opportunity to conveniently form carpools or access express bus service. Locations should include the outlying areas along the Northway cited in *the*

Saratoga County Park-and-Ride Lot Plan and additional outlying areas near interchanges along I-88 in Schenectady County, I-90 in Rensselaer County and the NYS Thruway.

Additionally, development activities within the urbanized area will provide opportunities to negotiate agreements to allow park-and-ride use of parking space at retail and office locations. Both remote and peripheral lots can be of value in reducing vehicular travel in congested corridors. Prime locations for these remote or peripheral lots are those within the major transit corridors identified in the market assessment performed for the fixed guideway study. In addition to the Interstate Highway corridors listed above, the prime arterial corridors contained in the major transit markets include:

- The US 20 corridor from Albany west
- The NY 5 corridor between Albany and Schenectady
- The US 4 corridor in Rensselaer County
- The NY 7 corridor in Rensselaer County

Employer participation in transit promotion and financing

CDTA has been successful in promoting the SWIPER pass program to employers, resulting in an increase in monthly pass holders. The future of transit may depend heavily on achieving even greater success. Support by employers for transit removes or reduces the customer's out-of-pocket cost for transit use. Tax laws now allow employers to subsidize transit passes as a tax-free employee benefit on an equal footing with employer-provided parking. However, few employers currently provide this benefit.

Exciting new models of employer pass programs can be explored.

In addition to continuing promotion and outreach efforts, new models of employer pass programs can be explored. The most promising model may be one that has been developed in Denver. Denver's "Ecopass" program involves providing passes to employees on what could be considered a "site license" rather than on a per-pass basis. In this process, an employer that agrees to provide passes to all of its employees receives a heavily discounted rate. This approach increases transit revenue and usage while providing a significant discount to users. (A 50% discount for 50 passes per month produces more income than a full-rate price for 10 per month.) The high discount also serves as a strong enticement to employer participation. Even if some of the costs were passed along to employees, employer participation would represent a tangible benefit to the employees through access to the discounted pass rate. The "Travel Demand Management" project on CDTC's 1997-2002 Transportation Improvement Program (TIP) can provide federal Congestion Mitigation/Air Quality (CMAQ) funds for CDTA to initiate an Ecopass program in the Capital District.

Further, CDTA is encouraged to work with employers to negotiate **direct employer subsidy of new transit service** that is necessary to meet the employer's need for access to workers. Shuttle and other feeder services that link low-density suburban work locations to trunk transit routes are prime candidates for direct employer participation in funding. Candidate locations include the RPI Tech Park in North Greenbush; office locations along NY-146 in Clifton Park and Halfmoon; Corporate Woods; the Wolf Road / Airport area and Pine Bush area of Albany County; and the Balltown Road area of Niskayuna.

Travel Demand Management Initiative

In 1993, CDTC committed to what it perceived to be the most substantial financial commitment to a voluntary demand management program in the nation, with plans to accelerate current efforts to reach a $2.5 million annual budget by 1998. Such an effort was estimated to reduce peak-hour vehicle demand sufficiently to eliminate over 1,100 excess vehicle-hours of delay (5-10% of the region's total) at a cost/benefit ratio of 11 to 1.

Much of that progress remains to be achieved. Prohibitions on the use of federal funds for many proposed components of the program were only recently repealed as part of updated federal guidance on extended eligibility in the Congestion Mitigation and Air Quality (CMAQ) funding program. This TIP project has been scaled back, but some initial successes have been achieved in 1999 -- with CDTA using the TIP funds to enroll Albany County into a substantially-reduced transit pass program in lieu of offering free employee parking in downtown Albany.

Technology as a Travel Substitute

To date, the ability of communication to substitute for travel has been limited. Nationwide, the number of persons working at home remains generally at modest levels. Over the long term, however, it may be possible to make large strides away from the industrial model of nine-to-five five-day workweeks. Flexible hours may allow commuters to avoid the peak hours. The concept of telecommuting -- working at home at least part of the week -- could allow workers to physically commute only a few days a week.

Improvements in communications technology also have the potential to reduce the number of shopping trips, banking trips, education trips, and medical trips by allowing these functions to take place at home. Each vehicle trip reduced results in less traffic congestion, fuel consumption, safety costs, and pollutant emissions. The impacts of telecommuting on travel reduction will contribute to addressing transportation needs, as well as providing other benefits for employers and employees.

Technology will increasingly substitute for travel.

36) Engage New York State as a full partner in parking management and transit promotion.

New York State is in a unique position with regard to its responsibilities in the Capital District. First, it is the region's primary employer. Second, it is the owner and operator of the highest function, most heavily traveled highways. Third, it provides significant financial assistance to CDTA and other transit providers and is responsible for overseeing its effective use. Fourth, it is responsible under federal law together with CDTC and CDTA for providing a long-range transportation plan that meets the needs of the region. Fifth, it holds primary responsibility for meeting federal Clean Air Act requirements. Sixth, it is under obligation by the state Clean Air Act to implement employer trip reduction actions at all large state employment sites throughout the state.

Because of this unique position, New York State historically has developed programs like its peripheral park-and-ride parking system. Albany is rare in having a formal employer-based program of over 2,000 peripheral parking spaces and employer-provided transit shuttle service to reduce downtown vehicular traffic and to reduce downtown parking requirements.

New York State is a major employer, the highway provider and transit financier.

In coming years, New York State has an opportunity to help fulfill its multiple roles in the Capital District with similar innovations. The State's can act *as an employer* to spread peak traffic loads; encourage ridesharing; walk, bike or transit use; or increase telecommuting. These actions all benefit its role *as highway provider and transit financier*, and *as the primary agent responsible for an effective transportation plan and air quality attainment.*

Among the most significant transit-supporting actions that New York State could take as an employer are to:

- Better integrate the OGS peripheral park-and-ride service (and the SUNYA shuttle service) with CDTA's regional transit system to ensure effective use of all transit resources;
- Work with CDTA and other providers to expand peripheral park-and-ride service to other markets;
- Include transit passes, increased parking permit costs and a "transportation allowance" in contract negotiations with employee bargaining units.

Adoption of increased permit costs and a transportation allowance has been identified by CDTC as the *most effective demand management strategy that could be achieved with little negative impact in the Capital District*. As an example, in exchange for an increase of perhaps $30 per month in the cost of State Office Campus and downtown state parking permits, the state would provide a $30 per month parking allowance to each employee. Those employees wishing to continue parking would have no net gain or loss; those employees wishing to walk, bike, carpool or take transit would gain financially over the present situation. Based on experience in other areas, a subsidy as small as $1 per day can be expected to reduce vehicular trips by 5% or more.[1]

It is in the State's interest to improve transportation system efficiency through parking policies.

This is essentially a "cash out" program implemented in a situation in which the employer owns and operates the parking system through a permit program. Because the State is among the primary beneficiaries of the increased transportation system efficiency, the minor net cost to the state as employer can be viewed as being offset by savings to the state as transportation provider. Ideally, the program would be included in the package of employee compensation. Benefits negotiated with bargaining units could be offered in place of other employee benefits with less transportation impact.[2] If pursued, this program would be similar to Cornell University's, reflecting the university's commitment to the Ithaca community.

The State's involvement in such a program would also serve as a model in the Capital District. It would open the door to similar programs by other private and public employers who own their own parking facilities or receive parking as part of commercial office leases.

37) Consider highway pricing (particularly congestion pricing) and broad parking policies (including cashing out).

CDTC's report entitled *Estimated Marginal Monetary Costs of Travel in the Capital District* (April 1995) includes estimates of the change in travel costs in the Capital District between 1990 and 2015. The monetary user, governmental and societal costs of Capital District travel are expected to increase by $1.3 billion per year over 1990 levels. In addition, travel time increases are valued at $450 million per year. In the face of these significant costs, it is reasonable to consider pricing mechanisms that have the effect of lowering user, governmental and societal costs of travel.

In the context of examining fixed guideway options, CDTC tested the impacts of a large-scale pricing program that would effectively double the out-of-pocket cost of driving and parking. This pricing program, combined with pervasive bus service, was estimated to reduce total monetary costs by $450 million and save $150 million in travel time value annually by the year 2015 because

of reduced vehicular usage. These savings would be net savings *after accounting for the increased out-of-pocket cost of auto travel.*

Modest pricing schemes deserve further exploration.

While there does not appear to be popular support for pricing programs of the scale described above, programs that are more modest may be achievable and have some of the benefits of a more ambitious program. **Congestion pricing** on major facilities is one feasible option. As the Thruway's electronic toll collection technology matures, it is a relatively small step to vary the toll by time of day or by carpool status, or to extend tolls to other facilities (such as the Northway). By adding a surcharge for peak hour usage, customers are encouraged to either shift mode or shift the time of travel, resulting in reduced congestion, reduced emissions, and lower overall costs of travel.

Peak period pricing is a concept already widely used in the private sector. Perhaps the most familiar example is long distance telephone usage, where it is more expensive to call during periods of highest usage. If it costs more to travel during congested peak periods, discretionary trips would be encouraged to shift to off-peak periods. Congestion pricing would also encourage flextime (shifting work hours so that commuting takes place before or after the peak period) and shifts to transit or carpooling. The primary benefit of congestion pricing is better management of existing highway resources and reduced need for highway widening. However, the modest shift in demand to transit service warrants a recommendation for consideration of pricing strategies from the transit perspective alone.

There is a direct relationship between parking policy and transit use.

Broad **parking policies** incorporate employer cash out and transportation allowance programs described under other actions, but go beyond. All of the fixed guideway options evaluated by CDTC, for example, include an assumption of increased parking costs in downtown Albany through a parking surcharge or other means. *Transit usage for work trips is highly correlated with the availability and cost of parking. Transit's share of the commuter market to downtown Albany exceeded 13% of total commuters in 1990, compared to only 4.5% of the commuter market region-wide.* Much of that difference can be attributed to the cost and supply of parking in downtown Albany.

Further, should the City of Albany, the City of Troy or other urban communities successfully obtain authority to create residential parking permit programs, the free on-street parking supply for commuters may drop significantly. Demand for, and market prices for commercial space would then rise. Residential parking programs adopted to meet residents' needs should be folded into a parking management program. Such a program would accommodate the loss in downtown parking through increased peripheral and remote parking, increased employer participation in transit pass programs and other transit service actions (as described above).

The Capital District has fewer employers that rely on paid, commercial parking for employees than most metropolitan areas. This is largely due to the presence of state government as the primary downtown employer and the fact that it provides for its own parking facilities. Even so, there would be value in adoption of parking "cash out" legislation such as that in place in California and other areas. Cash out legislation requires any employer that purchases commercial parking spaces for employees to offer the cash value of the parking space directly to the employee as an alternative. This allows the employee the option of foregoing the parking space and applying the cash towards transit. Alternatively, the cost of a parking space could be shared with a carpool partner and the savings pocketed. The entire cash allowance could be retained by walking or biking to work. Cash out programs do not increase employer costs or prevent employer-subsidized parking.

"Cash out" programs are promising.

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[1] Source: Comsis Corporation, *Evaluation of Travel Demand Management (TDM) Measures to Relieve Congestion.* February 1990.

[2] The State's multiple roles are very apparent in the Capital District. Willingness to pursue the transportation allowance concept might be easier if labor contracts could treat the Capital District as a "demonstration area" for the program, rather than to attempt implementation at all work sites across the state. Even so, there is a strong argument for statewide application due to the State's multiple responsibilities in all metropolitan areas.

[8] TREAT ALL MODES FAIRLY IN THE CAPITAL PROGRAM

The original New Visions Plan called on CDTC to review and revise project evaluation criteria for capital projects as necessary to ensure that all transportation projects reflect *New Visions* principles, strategies and budgets.

Expected Benefits

New Visions policies need to be applied to project evaluation criteria.

A comprehensive re-examination of the project evaluation criteria used at CDTC, NYSDOT, and CDTA was identified as a necessary implementation step in making *New Visions* a reality. Benefits from so doing are seen across a variety of performance areas. The main changes that were perceived to be needed are ones that better capture the external impacts of transportation decisions -- regional quality of life, compatibility of transportation with adjacent land use, and support for the economy.

Implications

Budgetary priorities will need to be reassessed, although there will not necessarily be an increase in resource requirements. Because of this, a continuation of the consensus building approach of *New Visions* will be very important. The Budget chapter includes more detail on priorities -- this strategy makes the connection directly to the capital program.

Actions

32) Direct transportation improvements and services to support *New Visions* concepts.

The TIP is CDTC's primary implementation mechanism for New Visions.

Flexible federal funding is expected to continue in coming years. The challenge of assigning priority to competing uses of scarce resources may become greater in the future. Future federal programs may offer greater flexibility (through block grants and expanded project eligibility) at the same time that overall federal funding levels are lowered to meet deficit reduction targets. CDTC's Transportation Improvement Program (TIP) is the vehicle through which federal highway and transit funds are assigned to particular projects. Since adoption of the New Visions plan, CDTC has reviewed its TIP project selection procedures, including its project *screening*, "fact sheet" *evaluation*, and *program development* to ensure consistency with *New Visions* concepts.

New evaluation and program development approaches resulted from the review, tying the TIP strongly to the New Visions Plan and resulting in a far different set of projects than would have been the case prior to the plan's adoption. CDTC will continue this linkage in the future.

33) Provide funding for implementation of small, cost-effective improvements.

Regional "set-asides" are currently used to provide traffic signals, pavement markings, bridge inspections, and other programs where specific locations are not determined at the time of programming. There are several other areas where such an approach may facilitate the implementation of small, cost-effective improvements.

Spot Bicycle and Pedestrian Improvements

The 1997-2002 TIP programmed this project and CDTC earmarked funds to multiple small projects in 2000.

Quick-turnaround identification and mitigation of small-scale obstacles to cycling and walking is desirable. The City of Seattle has a program that accomplishes this. Its Bike Spot Improvement Program uses postcards, made available to the public at bike shops, libraries and other locations, which people can send in to request anything from pavement sweeping to pothole repairs, bike racks and trail extensions. A comparable program was established cost-effectively by CDTC.

Replace Street and Highway Signs to Accommodate Older Drivers

Older people, because of the aging process, experience visual problems related to depth perception, visual field, visual acuity and glare sensitivity. Many of these people could continue to drive safely as they age with improvements in sign letter heights, sign reflectivity and improvements in stopping site distances.

A sign letter height standard of 40 feet to 1 inch (i.e. for every 40 feet of visibility distance needed to detect, read and react to a freeway guide sign, provide one inch of letter height) is needed. The current AASHTO standard is 50 feet to one inch. In addition, signs should be made of high performance retroreflective sheeting. Adopting a 3.5-second perception-to-reaction time in favor of the current 2.5-second standard in determining stopping sight distances would better accommodate older drivers.

In 1999, CDTC programmed two projects -- one in Albany County and one in the city of Albany -- to replace all regulatory signs with those that meet these criteria.

Safety Concerns at High Conflict Locations

The regional highway inventory identifies roads with poor "Level of Compatibility". While some of these locations will require corridor-wide planning and improvements, others could experience significant improvements with small projects. Examples include small-scale traffic calming devices (speed tables or the like) on a residential street, turning prohibitions, and signal modifications.

34) Develop Class I bicycle facilities in major travel corridors of the region.

There is a need to complement on-street bicycle accommodations with bike paths in major travel corridors to support recreational bike/hike activities -- and remove those trips from the road completely. Development of such facilities should follow an examination of potential use and collection of public input. Depending on the areas selected and the lengths of the project, there might be needs for separate ("Class 1") bike paths, shared bike/pedestrian paths, sidewalks and/or other facilities. In addition, accommodations "along the way," such as crosswalk markings, pedestrian signal phases and bike racks would be included. Development of completely separate facilities improves the regional bicycle and pedestrian travel environments. The long-term goal is to have such facilities in every county in the region.

[7] PROVIDE APPROPRIATE TRANSIT SERVICE

Adapt transit service to meet 21st century needs. Identified needs include reduced auto dependence, provision of essential mobility to those without cars (including those with special needs), management of congestion, and support of local development policy.

Expected Benefits

Provision of appropriate transit service provides multiple benefits.

There are multiple benefits from providing appropriate transit service to the Capital District. These benefits are seen not only in transportation service measures, although these are important, but also in resource requirements and the reduction of external effects from transportation. Adapting transit service to meet 21st century needs makes the region more accessible. Congestion is reduced and the system is better able to respond to disruptions. Accidents and energy consumption go down. Relative to many measures, the Capital Region becomes a better place to live, because quality of life and the region's economy benefit.

Implications

Supporting transit costs money. Trying new approaches will require experimentation with different techniques -- and not all of the experiments will work. What will be important, though, is a strong regional commitment to continuous improvement of the transit system. In the long term, traditional federal and state fund sources, especially for operating costs, may require supplementation.

Actions

30) Restructure transit service to meet 21st century needs.

During the 1970's, CDTA "regionalized" the transit services in the Capital District by integrating the previously separate transit services of Albany, Schenectady and Troy into a single system. Part of that effort included adjustment of service design and service frequency to bring about consistency.

In recent years, CDTA has improved passenger counts to allow for careful examination of route-specific operating performance. Census journey-to-work information and CDTC's STEP model trip origin and destination forecasts can be used to explore existing and potential transit markets. Geographic Information System (GIS) technology will assist analysis of specific markets.

Use Service Standards

Service standards improve service delivery.

CDTA has committed to working with CDTC in 2000-01 on a study to develop service standards or guidelines that indicate the type and frequency of service that can be provided to various markets consistently across the region at various funding levels. These standards or guidelines will be valuable both during times of service expansion and during periods of service contraction. Such standards or guidelines should include performance thresholds for cost per passenger that account for the multiple objectives of transit. (For example, different cost-per-passenger thresholds may be appropriate for commuter services and neighborhood routes.) In cooperation with CDTC, these guidelines should be extended to also cover publicly supported private transit operations in the Capital District.

Route Restructuring/Transfer Centers/Improved Transfer Processes

The current route structure is largely based on the radial and loop routes that have been in place for many years. The demands of 21st century travel require restructuring to serve a wider array of trip locations.

Feeder service increases access.

The fixed guideway investigation revealed that transit demand is very responsive to feeder service. Feeder service has its greatest impact on measures of *access* -- the measure of the percentage of trips that can be served by transit. This is of particular value to those without access to autos and to their employers. It also increases the travel choices available to those who normally use autos. If implemented in conjunction with improved "trunk line" route service and an efficient transfer process, it holds the potential of providing competitive transit travel times to a significantly expanded portion of the market area. The demand investigation indicated that the prime markets for feeder or circulator service are in the central suburban areas of the region. These include the Wolf Road/Airport area and the State Office Campus/State

University to New Karner Road/Pine Bush area. This type of service can be initiated and has been initiated as a short term action whose success will help implement longer term transit service development. CDTA's "ShuttleBug" service in the Pine Bush was an initial effort in this arena, followed by ShuttleBee and ShuttleFly services in North Greenbush and the Wolf Road Airport areas.

Many trip combinations that transit can *theoretically* serve are lost to the transit market because of the need to transfer between buses and the waiting time at the transfer point. Techniques to improve transfer processes include:

- advanced technology that improves the information base and allows communication between drivers and customers about expected arrivals of buses at transfer points (and allow for holding buses at transfer points to ensure connections);
- greater use of feeder service in combination with trunk lines;
- development of formal transfer stations and conversion of most fixed route service into a "timed transfer" or "pulse" system design.

Timed transfers can improve efficiency and coverage.

Conversion to a timed transfer or pulse system design would be parallel to the airline industry's conversion to its "hub and spoke" service design. The approach would move away from the traditional radial route pattern characterized by multiple, linear, parallel and sometimes-intersecting routes of varying frequency. Instead, service would be designed around a smaller number of high frequency routes on main corridors and a series of supplemental routes that efficiently connect with the high frequency service. The tradeoffs in this service conversion are much the same as the tradeoffs seen in conversion to the hub-and-spoke airline service design. While the number of trips requiring a transfer increases somewhat, the total number of trip origins and destinations that are adequately served by the system increases noticeably. With careful timing of bus arrivals at transfer points, the length of the average transfer wait can decline.

The pulse system would require CDTA to develop a number of transfer stations. Each would be designed to include adequate layover space for buses, a safe and comfortable waiting area for customers and accurate displays of expected bus arrival times. Ideally, such stations would be located at major trip generators (such as the Empire State Plaza) or built at the junction of major transit corridors (such as downtown Albany, Schenectady and Troy or Wolf Rd/Central Ave.).

The overall benefit from improving the transfer process is measured in increased transit use. CDTC's modeling efforts indicate that one could expect a 20% system ridership difference between a system with an average transfer time of ten minutes and an ideal system with seamless transfers. For this reason, efforts to redesign the transfer process hold great potential for ridership gains.

Serve the Mobility Impaired

One of transit's public objectives is to provide access to those without vehicles, including those with impaired mobility. CDTA's vehicle purchases and service design will include special consideration of transportation of the disabled both on the regular route system and through STAR paratransit service for those who cannot use the regular route system.

There is a growing demand for paratransit.

Over time, the continued/expanded provision of appropriate equipment and service to meet the needs of special populations will require increased financial resources. STAR service usage continues to climb at a healthy pace. CDTA enlisted three times as many new STAR clients in 1996 as in 1992. The number of people in this special population group will continue to increase as the "baby boom" ages. Further, the expected success in serving this population group will argue for expanded STAR service, a broader service area and additional customer amenities. There is mounting pressure to expand the geographic coverage of the existing paratransit system (i.e. STAR) so that heavily populated suburban areas (such as Clifton Park) are served.

New vehicles for fixed route service will be fully equipped to handle disabled travelers. CDTA's upcoming vehicle purchases will be low-floor buses that meet all Americans with Disabilities Act (ADA) requirements. Non-CDTA service, including NYS Office of General Services peripheral park-and-ride service and all private services, will also require additional investment to fully meet the letter and spirit of the ADA.

Mobility training programs targeted at mobility impaired persons who currently use STAR or rely on family members and friends for transportation will maximize the use of investments in making the bus fleet accessible. Many mobility-impaired persons could use accessible bus transit for most of their transportation needs, *if* they were trained regarding how the fixed route system works and how it can be accessed. Such training aids in the transition from dependence on paratransit service to accessible fixed route service. CDTA previously sponsored mobility-training programs, which are being continued by the Capital District Center for Independence as a fee for service program.

Integrate Special Service Transportation

Efficiency, improved service quality and lower unit costs are gained by service integration. A prime opportunity for such integration is in the realm of human service transportation; a wide range of providers and service arrangements exist for delivery of client-oriented and special transportation. Many dozens of public and private, non-profit organizations use a combination of volunteer, paid and contract transportation services.

Coordination of human service agency transportation will allow more trips to be made.

Coordination of all agency operated special transportation vehicles is one way to improve service integration. Vehicles operated and maintained by the agencies in the coordinated group can provide trips to and from day treatment programs and adult day care centers. Savings are realized by having one vehicle deliver service to participants of several individual programs, rather than each agency sending out their "own" vehicle to provide these trips. Trip requests for accessible demand responsive transportation can also be coordinated (particularly for long-distance and rural trips). This will greatly improve the efficiency of agency provided specialized transportation and ultimately increase the number of trips provided to the elderly and disabled population.

Another approach is to improve the interface of demand responsive trips provided by vans owned by senior centers, churches, and other like organizations with fixed route transit service. For example, a church van could pick up elderly persons in a suburban neighborhood and drop them off at a transfer facility, such as Crossgates Mall. At the Mall, they could access the "Four mall" bus or a bus travelling to the medical center area.

Limited success has been achieved in the past in coordinating and consolidating human service transportation. CDTA's current "SCOTS" (Statewide Coordination of Transportation Services) grant has successfully enlisted area human service transportation providers in cooperative service delivery with CDTA. With the assistance of the Community Transportation Association of America, support for a brokerage arrangement has grown among county and local officials responsible for client transportation. The CDTA board volunteered to take the lead in implementing a regional brokerage through a new CDTA subsidiary. It began in September 1998 using CDTC TIP financial support with the Medicaid programs operated by Albany, Schenectady, and Rensselaer counties. The broker arranges transportation for Medicaid clients by using the lowest cost, most appropriate transportation provider. This reduces total costs, improves quality and eliminates the duplication of service (and duplication of vehicle travel). In Phase Two, the brokerage will extend the operation to the health care sector by contracting with hospitals and HMO's. Phase Three will tackle the challenge of transitioning citizens from welfare to work by transporting residents of municipal housing authorities to employment opportunities. The brokerage will become an integral part of the region's ability to cope the initiatives of managed care, block grants, and welfare reform.

In coming years, funding pressures on human service agencies as well as CDTA and continued growth in demand for expanded CDTA STAR service make it imperative that the region achieve more significant successes in service integration.

Beyond human service agency transportation, there are other opportunities and needs for service integration. Among these are the State University of New York at Albany (SUNYA) bus service; the OGS peripheral park-and-ride service and major private transit operations such as Upstate Transit's commuter services. Integration does not necessarily imply CDTA operation of these services. It does imply improved coordination of schedules, fares, transfers and service quality. It also implies exploring ways of eliminating service duplication (such as between uptown and downtown Albany) at every opportunity. The jointly-funded "Urban Corridor" study of 1998-99 has led to first steps in such a coordinated approach.

Secure More Flexible Labor Rules

Public transit authorities nationwide have been working for some time to avoid the double bind of public expectations of extensive, innovative and cost-effective service on the one hand and a strong bargaining position of labor unions on the other.[1] Success has varied from transit property to transit property in the extent to which flexible labor rules have been negotiated to allow implementation of new services in a cost-effective manner.

Labor and management cooperation is essential to improving transit service.

The service recommendations listed above, ranging from developing new, circulator feeder services to conversion of the entire route structure into a time-based pulse transfer system require cooperation between management and labor on work rules. Greater flexibility in the use of part-time workers and private contracting of certain services may be necessary in order to both deliver cost-effective services and protect transit workers' jobs.

31) Support transit through design of the built environment and use of technology.

Travel time differences strongly influence mode choice.

Transit ridership is highly dependent upon travel time in comparison to auto travel. Bus transit in mixed traffic cannot compete head-to-head with auto based on travel time for the vast majority of trips. At present, only 19% of peak hour trips can be made by transit in a reasonable amount of time (relative to the auto) when walk, wait and transfer times are considered in the total travel time. Less than one-half of one percent of trips can be made *faster* by transit.

In the future, buses in mixed traffic will serve even a smaller fraction of trips well. The combination of increased congestion (from which the bus cannot escape) and continued scattering of development (which is more difficult for the bus to serve with frequent service) significantly reduces the measures of access described above. Under trend forecasts, the percentage of trips which can be made in a reasonable amount of time drops to less than 14%; only 0.3% will be able to be completed in less time by bus than by auto.

Preferential Treatment

A major feature of fixed guideway transit is the ability of the transit service to bypass congestion and provide a travel time advantage to transit users. Some portion of that advantage can be provided to bus transit through preferential treatment in important corridors and service areas. Preferential bus treatment includes:

- *traffic signal priority* that allows early or extended green time when a bus approaches a traffic signal;
- *slip ramps* between Interstate Highways and park-and-ride lots that can be used only by buses (or carpools); and
- limited *congestion bypasses* or more extended *bus lanes* that allow the bus to avoid recurring highway delay.

Preferential bus treatment shows promise.

The fixed guideway market assessment identified significant market potential for priority bus treatment on the Northway from Exit 9 south. Bus lanes, an "O-bahn" bus guideway or express buses on "High Occupancy Vehicle" (HOV) lanes are all preferential bus transit alternatives to light rail service or commuter rail service.[2] While bus lanes are commonly associated with freeways as a restrictive version of "High Occupancy Vehicle" (HOV) lanes, they have applications on other facilities. For example, the BRT system examined in the NY 5 Land Use and Transportation Concepts Study includes median or curb bus lanes with frequent service. This service would be supported by stations at regular intervals, supplemental feeder service and traffic signal preemption to assure reliable and competitive operating speeds. Because of its potential to provide competitive travel times for transit, preferential bus treatment is being fully explored in the primary transit markets suggested for fixed guideway transit if fixed guideway options are not pursued in those markets.

Bus Rapid Transit

Bus Rapid Transit (BRT) describes an approach to transit service that focuses on integrated information, passenger amenities, technology, expedited fare collection, vehicle design and roadway treatment to improve transit reliability and speed. The New Visions 2021 Plan supports implementation of BRT in the NY 5 corridor, per the anticipated NY 5 Land Use and Transportation Concepts Study recommendations, as well as further extensions of the service as appropriate.

Intensify Transit Corridors

As noted earlier, an important opportunity present in the Capital District is the opportunity to build upon a strong base of walkable, mixed land use development in the cities and along transit corridors linking these cities. Private sector initiatives supported by public policies should be encouraged to invest in development along traditionally-strong and potentially-strong transit corridors, such as NY 5, NY 32, US 20, US 4, NY 7, US 9 and others. The opportunity to constrain the growth in vehicle travel associated with new economic activity is maximized when development is located within walking distance of transit routes. Opportunities for large-scale, new mixed-use development exist within the strong transit service area.

This action effectively increases the size of the transit market without requiring increases in overall levels of activity or overall development densities. The number of trips that can safely and conveniently use the transit is increased.

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[1] For 30 years, federal law has required that federal funds not be used in a way that negatively affects organized labor. This "13(c)" provision requires labor signoff before each federal transit grant is approved.

[2] CDTC's market assessment indicates that HOV lanes would serve a greater number of travelers (in carpools and buses) than exclusive bus lanes would. Because of this, there are few exclusive bus lanes in operation in the United States; many former busways have been converted to HOV lanes in the last fifteen years. As a result, HOV lanes are viewed differently from different perspectives. Many transportation professionals view HOV lanes as good management tools, encouraging efficient use of highway resources. Others view HOV lanes as a "drastic degradation of bus transit services" (*The Bus Transit System: Its Underutilized Potential*, Federal Transit Administration, May 1994). This view sees HOV lanes as encouraging less-efficient modes of travel and lost opportunities to provide a travel time advantage to bus riders.

[6] SUPPORT INTERMODAL TRANSPORTATION

Integrate transportation modes into a "seamless" and efficient system.

Expected Benefits

Intermodal transport is an important component of the overall transportation system. Improving connections between modes -- both for freight and for people -- helps the whole system work better and provides economic benefits.

Implications

Direct budgetary consequences of implementing this strategy will come in the form of specific capital projects aimed at improving intermodal connections. Policy encouragement will require actions by other levels of government, in addition to continued CDTC attention.

Actions

1) Improve intermodal passenger connections throughout the region.

Easy passenger connections allow entire trips to be taken using transit.

Tailoring transit service to meet the overall transportation needs of the 21st century includes improved intermodal passenger connections. Efficient transfer between private operator transit service and CDTA service is one component. Effective connections of local transit and taxi service with inter-regional bus, rail and airline services is another. The idea of transportation hubs is worthy of further exploration (see action 30 on page **Error! Bookmark not defined.**). Transit investment should grow to reflect easier, more convenient service with better linkages. Among the initiatives available for efficient transfer between local services is CDTA's "Link" program that allows free transfer between private services and CDTA service. This successful service should be continued. Further, steps should be taken to coordinate schedules and identify effective transfer locations for private-to-CDTA and CDTA-to-private passenger transfers. This should be a consideration in efforts to improve transfer processes and restructure the CDTA route system.

For connections to the inter-regional passenger system, the Rennselaer Rail Station improvements will provide better connection to downtown Albany, improved circulation and layover areas for CDTA buses and better accommodations for taxis at the station. The project also supports a long-range game plan for increased mixed-use development near the station

There is an immediate opportunity to improve transit connections to the Albany Airport.

Connections between local and interstate transit service and the Albany International Airport present a challenge. The airport's central location in the region is one aspect of that challenge: local trip origins and destinations radiate in all directions from the airport and are generally shorter in length than in most airports.. Consequently, it is difficult to identify transit markets that are clearly better served by full-size buses than by the existing combination of taxis and shuttle vans. In recent years, the airport has been redesigned and expanded; circulation and parking patterns changed in anticipation of steady growth in commercial air traffic. As the air traffic grows, CDTA should explore growth in potential transit markets. Among the market areas are express service to/from the airport and downtown Albany. CDTA's ShuttleFly service has proven quite useful for connecting workers along Wolf Road and in the Airport area with the fixed route system.

2) Support intermodal transport of goods in and through the Capital District.

Several areas of public policy can support the intermodal transport of goods in upstate New York: tax relief, labor issues, regulatory simplification, and the location of freight-intensive industry.

Tax Relief

Tax policies impact NYS competitiveness.

State tax policy has had a significant impact on the New York freight industry -- both trucking and rail -- and its competitiveness relative to other states.

The trucking industry supports the shift in tax treatment of transportation corporations from the present Article 9 (Gross Receipts) to Article 9-A (Net Income), as included in the 1996 state budget agreement. The budget agreement also reduced the petroleum business tax on diesel fuel used by trucking companies and eliminated mileage taxes on the New York State Thruway. Continued attention to New York State truck tax issues will be required in order maintain a competitive position relative to nearby states.

The property tax burden on railroad right-of-ways in New York State is significant. It has contributed to many decisions by railroads to discontinue service and abandon rail lines. Rail lines - by their nature - traverse multiple jurisdictions. Many other states, acknowledging the public purpose provided by private rail service, exempt the rail lines themselves from property taxes. Ancillary properties, such as yards and maintenance facilities or railroad-owned industrial properties often continue to be taxed. Further documentation of New York State rail right-of-way property tax issues should occur. An issue paper that can be shared with other MPOs around the state and with appropriate state officials could influence state policy in this arena, possibly resulting in legislation that would provide relief. There is a long history of the need for such legislation -- a cooperative effort may achieve greater success than previous attempts at reform.

Much progress has been made since adoption of the original New Visions plan, including reduction in the ton mile tax and gross receipts tax. Legislation reducing property taxes for railroads was introduced by Governor Pataki in 2000 but has not yet been passed by the Legislature. The momentum is positive, however, for these actions.

Regulatory Simplification

Trucking and railroads have been significantly deregulated over the past ten years -- helping the freight industry in general. The sentiment expressed through the Freight Roundtable forum is that the remaining regulations concerning safety should be simplified. Trucking companies and railroads *want* to comply with safety rules, but they are impeded by their complexity. More time and resources should be spent on education in the spirit of the Paperwork Reduction Act. This will ultimately reduce enforcement costs and increase compliance. NYSDOT's Freight Transport Division and the Department of Motor Vehicles would be responsible for implementing regulatory simplification with statewide application.

Location of Freight-intensive Industries

A viable intermodal freight industry needs customers. Attainment of regional goals regarding compact development and optimal use of existing industrial land would be fostered by public policies encouraging the location of freight-intensive industries near existing rail lines and intermodal terminals.

3) Improve surface access to the Port of Albany.

On the Albany side, the Port of Albany is adjacent to I-787, but access is circuitous and hampered by the presence of at-grade railroad crossings. Two of the three access points to the Port of Albany (at Church Street and from South Pearl Street) have at-grade crossings that can cause major delays for egress and ingress, particularly with heavy rail traffic at the Kenwood Yards. Within the Port proper, signage and pavement condition is poor. Direct ship/rail, ship/truck, and rail/truck connections do exist, but would benefit from road and track improvements.

A two-pronged approach to improving surface access is proposed. In the long term, a direct access ramp from I-787 to the Port, eliminating the Green Street grade crossing and providing tandem facilities is desirable. In the short term, pavement, grade crossing, and signage improvements to the existing road network are desirable. Improvements to dockside rails should also be considered. A focused circulation study may aid in the advancement of these projects.

4) Implement improved surface access to the Albany International Airport.

Improving surface access to the Albany Airport is a high regional priority.

Surface access to the Albany International Airport has been identified as a long-standing regional priority. The 1994-99 TIP includes a commitment to a $47 M project to build a new Exit 3 (or redesigned Exit 4) specifically to provide direct access to the Airport from I-87. Concurrent improvements to Albany Shaker Road and Watervliet Shaker Road are jointly funded with $20 M local/private revenues. These projects are advancing through the project development process. Construction is anticipated in 2000 for Albany-Shaker and 2001 for Watervliet-Shaker projects. Full construction of I-87 Exit 3 will require between $20 and $41 M including right-of-way costs. Major environmental issues involving historic sites and wetlands must be resolved. Lower cost alternatives that minimize environmental impacts are being explored in the current (2000-01) scoping effort.

Further, new air cargo facilities in the northeast quadrant of the Airport warranted a re-examination of access to the Airport from Route 7. A specific project for access to the cargo facilities was funded in the 1997-02 TIP and is currently under design.

5) Eliminate at-grade railroad crossings at every opportunity.

Public at-grade crossings are generally adequately protected in the Capital District.

Grade crossings are considered a constraint to rail movement because of safety and liability considerations, particularly for high-speed train operation. An inventory of railroad grade crossings in the Capital District is included in *Goods Movement in the Capital District: A Performance Report*, a *New Visions* technical report.

In general, basic protection at public railroad grade crossings in the Capital District has been achieved through previous efforts. The major locations where this is not the case are where local land use is impacting road traffic volumes significantly, or where a major change in rail service, namely high-speed operation, is planned. An example of intensifying local land use would be on Burdeck Street in Rotterdam, where commercial and residential development has increased traffic volume on Conrail's busy Selkirk Branch line (50 trains per day). This is an instance where a grade separation may now be warranted.

Private crossings present a particular difficulty. Because of railroad law, public jurisdiction is limited to public crossings. Public funding is generally not available for improvements at private crossings. The one exception to this, made possible by the passage of Senate Bill 7147 by the New York State Senate in 1994, is intercity passenger rail corridors. In order to insure public safety, NYSDOT is allowed to fund improvements or consolidation of private crossings along intercity passenger rail corridors, and is required to promulgate standards and specifications for design and protection at such crossings[1]. However, this permissive legislation did not carry with it a funding source to implement private grade crossing consolidations or safety upgrades.

The priority for grade crossing improvement and consolidation projects in the Capital District is:

a) *High Speed Amtrak Corridor* -- Eliminate all at-grade crossings. This is consistent with proposed national policy for the Northeast corridor, recent state legislation giving NYSDOT jurisdiction over private crossings on this route, and NYSDOT goals. At-grade crossings can be closed, consolidated, or grade separated in various cases. In determining the best action at a given crossing, no net loss of public access to the Hudson Riverfront should occur. Crossing consolidations and closings should be sensitive to the goals of the Hudson River Greenway and the needs of public safety agencies for access to Riverfront properties.

b) *Freight Main lines* -- Eliminate crossings wherever possible, with a minimum standard of allowing no net increase in the number of crossings. There is an established Federal Railroad Administration goal of eliminating 25% of all railroad grade crossings nation-wide by the year 2000, and the Goods Movement task force recommends adoption of this goal by the CDTC.

c) *Other Rail lines* -- Consistent with state policy, priority will be given to closures on the main line. In general, public grade crossings in the Capital District have been brought up to acceptable safety standards, and those that have not are, in general, places where closure, consolidation, or separation should be considered. Therefore, secondary and tertiary rail line crossing closures will be addressed on a case-by-case basis, where safety or other considerations warrant. Opportunities to address private crossings may be best pursued at the corridor level, such as the case of Railroad Avenue in Colonie.

Grade crossing elimination has multiple transportation system benefits:

- improved railroad and highway safety,
- improved efficiency of freight movement, and
- allowance for technological advances that would otherwise be impeded.

This is a change from the historic approach, where railroad safety has been the primary determining factor in setting priorities. This approach recognizes the importance of the railroads in the overall transportation system (for both passengers and freight) and takes into account as legitimate concerns the integration of rail operations with adjacent communities. This results in a de-emphasis on equipment upgrades and a priority for crossing consolidation, especially on the main lines.

Funding Implications

Improved safety devices for railroad at-grade crossings cost $100,000 - $150,000 each. Grade separation of rails and roads costs $3 - $7 Million at each location, depending on design and the extent of the approach work and right-of-way needed. Structures also require maintenance and periodic replacement once built. Encouraging closures and consolidations will therefore have significant financial implications. However, the long-term liability of at-grade crossings - in terms of both safety problems and railroad maintenance responsibilities -- is eliminated.

Historic obstacles to at-grade crossing elimination can be overcome -- but project costs will increase.

The historic obstacle to railroad grade crossing closure has been community opposition based on resulting access restrictions, particularly for emergency services, and inconvenience. This obstacle can be overcome if sufficient provisions are made for access at other points (such as adjacent roadway widening, pedestrian bridges, or intersection improvements) or the provision of emergency substations. As an MPO, CDTC can facilitate bringing affected parties to consensus on mutually beneficial solutions. However, such "community accommodation" will cause incremental project cost increases.

The current federally funded (Section 130) grade crossing program can not be expected to fully fund all grade crossing closures and consolidations in the Capital District. Railroad at-grade crossing consolidations and adjacent highway related work are clearly eligible projects under TEA-21 funding for the flexible fund sources. Relatively few "intermodal" projects are eligible for these "highway" funds, although vertical clearance changes and specific railroad relocations are allowed. A grade crossing consolidation policy is one way for the CDTC to demonstrate its commitment to the improvement of freight transportation in the region. However, the flexible fund sources within the TEA-21 are highly competitive. The projects that fare best in the programming process are those that achieve multiple objectives. For example, the Lincoln Avenue grade crossing elimination was programmed during the 1993 TIP cycle. This project will:

- eliminate a crossing along the Amtrak high-speed line;
- remove commercial traffic from a residential neighborhood;
- create a new north south through arterial in an area where current arterial spacing is insufficient; and
- promote economic development in a commercial area.

One difficulty with the funding of grade crossing elimination projects with TEA-21 flexible fund sources is the provision of match. In the Section 130 program, the state pays the 20% non-federal match. With the flexible fund sources, this is not necessarily the case. State provision of the match for the portion of the project that is directly eliminating the grade crossing would be more equitable. It is appropriate for the local jurisdictions to match the portion of the project related to local circulation improvements funded with flexible funds, but the crossing portion of project cost should have uniform treatment across funding programs.

A large unanswered question is the funding situation for the implementation of high speed Amtrak service. Several federal funding demonstration programs have committed small amounts of funding ($1M and $3M) to advancing the Northeast Corridor proposal. However, detailed cost estimates show a total price tag in the hundreds of millions, more than half of which is for crossing consolidations. It is this "sleeping giant" where the majority of the future funding issues are anticipated. The public funding draw for grade crossing consolidation and elimination could be quite large. In addition, the criteria for specific crossing consolidations require more thought. Guidelines on traffic volumes, train frequencies, available detour routes, and reasonable community accommodation procedures are required.

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[1] NYS Railroad Law, Section 97, Parts 3 and 4.

[5] DEVELOP INTELLIGENT TRANSPORTATION SYSTEMS AND MANAGE TRAFFIC INCIDENTS EFFECTIVELY

ITS technology helps meet congestion relief, air quality, and accessibility goals.

The use of highway, transit, toll/fare and communications technology improves the safety, reliability and efficiency of the entire transportation system. Grouped together under the Intelligent Transportation Systems (ITS) umbrella, these technologies can help meet congestion relief, air quality, and accessibility goals. Coordination of public safety agency efforts will create a unified, effective system that responds to accidents and other traffic tie-ups quickly on all major highways.

Expected Benefits

Intelligent Transportation Systems implementation relieves some congestion and makes the existing transportation system more flexible. While increasing governmental costs of transportation, other resource utilization is made more efficient. Implementation will help CDTC to maintain its "Clean Air" status and provide support for the local economy.

Incident management is critical to reducing regional congestion levels. Congestion is directly tied to air quality, the cost of accidents, energy consumption, and user costs.

Implications

There are both budgetary and institutional implications of ITS implementation. Budgetary investment will depend upon the benefits that are perceived or proven from pilot uses of new technology. The degree of benefit is linked to the degree of implementation. The use of some ITS technology has significant "human factor" implications, often leading to changes in the way agencies do business.

Incident management programs are not capital-intensive -- but they do require an ongoing source of operating funds to be effective in the long-term. Work of the Incident Management Subcommittee of the Expressway Management Task Force has also shown that there is much to be gained by increased inter-agency communication.

Actions

1) Implement Intelligent Transportation Systems (ITS) on the priority network.

ITS America defines *Intelligent Transportation Systems* as "(the application of) advanced and emerging technologies in such fields as information processing, communications, control and electronics to multimodal surface transportation needs."[1] Beyond applying advanced technology to transportation management, ITS uses a system approach to transportation management which interconnects and coordinates various functions, services and emergency response and transportation agencies. It is multimodal and integrates public transit and demand management. ITS services such as electronic payment services allow for the integration of electronic transit fare, parking and toll collection, and the consideration of demand management through congestion pricing. In the Capital Region, transit technology is an explicit and important component of the overall ITS strategy.

ITS can help manage travel demand and improve operating efficiencies.

Intelligent Transportation System (ITS) technology offers much promise in managing travel demand and the operation of facilities in coming years. CDTC's five-year Transportation Improvement Program (TIP) includes a multi-year commitment to develop and implement an Advanced Traffic Management System (ATMS) for the Capital District. Examples of already implemented ITS in the Capital District include the New York State Thruway Authority Electronic Toll Collection system (E-Z Pass) and the joint NYSDOT/State Police Transportation Management Center.

One facet of the Capital Region's ITS initiative is advanced technology for transit. Advanced technology initially assists transit operations through real-time information on vehicle location. This information can then be combined with real-time highway condition information and made available to customers. Fully-developed transit technology in the Capital District will allow customers to use the telephone, computer, cable TV or video displays within buildings or bus shelters to determine bus routes, fares, schedules and travel times. They will also be able to find the expected arrival of the next bus or to arrange for a STAR trip. Advanced communications technology will also allow transit vehicles to serve as roving monitors of traffic conditions. Dispatchers will be able to alter STAR schedules and routes (or in some cases other bus routes) to avoid major traffic incidents. Real-time coordination of human service agency transport will also be possible.

Further, new technologies will allow CDTA to build upon its electronic fare collection system. In the future, "smart" bus passes will allow bus travel to be largely cash-less, operating in a manner similar to the Thruway Authority's E-Z PASS with automatic debiting of accounts and automatic credit card billing. All of these advances will help make transit use more convenient and reliable. They are also necessary to keep pace with technological improvements that will be provided to the auto driver that make auto travel more convenient and reliable.

The ITS initiative includes a major effort to coordinate signal timing on major city and suburban arterials. Transit-friendly application of that technology will include designing the operation of the signal system to achieve multiple objectives. Rather than optimizing signal timing for maximum traffic flow, signal system design can be developed that allows for efficient traffic progression at travel speeds that are compatible with pedestrian, bike and transit movements. This may provide for a win/win outcome.[2] Even modest improvements in basic signal timing will show important results.

Improved signal equipment and timing is basic to the ITS initiative.

The Capital District ITS Strategic Plan was prepared by the Expressway Management Task Force, and strongly supported by the Goods Movement Task Force. The Strategic Plan frames a staged development of an expanded ATMS and other ITS services and functions on a network which includes priority expressways and arterials and secondary alternate arterials. Through partnerships with the private sector and among public agencies, significant strides in managing mobility can be made. Continued emphasis on technological methods of addressing mobility concerns could significantly reduce the need for physical system expansions.

2) Implement the Expressway Incident Management System Development Plan.

Incident management is the planned, coordinated process of detecting and removing incidents to restore normal traffic operations as quickly as possible. With an estimated 60 percent of all expressway system delay caused by incidents -- ranging from vehicles with flat tires on shoulders to major accidents -- quick detection and removal are critical to maintaining traffic flows, particularly during peak travel periods.

Interagency cooperation and training are key components of this strategy.

Expressway incident management requires both human resources -- emergency response and transportation professionals trained in the unique nature of dealing with expressway incidents -- and the availability of those supplies and equipment needed to properly manage incident scenes. The region's incident removal capabilities will be enhanced through improved interagency coordination and the provision of appropriate training and equipment.

The input of the region's emergency response community was sought to prioritize the important investment areas that will improve incident management capabilities. Investments in five areas are necessary:

1) interagency coordination
2) specialized training
3) provision (through "pre-spotting" along the expressway system) of both ordinary and specialized incident management supplies
4) advance planning for incident management, and
5) resolution of institutional issues.

The *Expressway Incident Management System Development Plan,* drafted by the Expressway Management Task Force, will guide development of regional expressway incident management capabilities.

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[1] ITS America, *National Program Plan for IVHS, Draft #2,* May 1994, Page I-1.

[2] For example, assume PM peak hour travel speeds on Central Avenue between Wolf Rd. and New Karner Rd. (including stops) average 10-15 mph. Perhaps efficiencies gained through intelligent signal interconnection could be used to improve traffic speeds for through traffic to close to 30 mph. Alternatively, technology could be used to provide through traffic with a 20 mph progression pattern -- still a clear improvement -- while providing a certain "comfort level" for pedestrians, bikes, turning vehicles and bus movements into and out of turnouts.

[4] DESIGN EFFECTIVE FACILITIES

The New Visions definition of effective facilities changes project design parameters.

CDTC's existing commitments make a substantial contribution to pavement and bridge conditions, preservation of transit services, intermodal connections and strategic transportation improvements linked to land use plans. Honoring CDTC's commitments to strategic transit and highway projects can best be accomplished by refining project scopes and designs to fit with the *New Visions* principles. Effective transportation facilities accommodate bicyclists and pedestrians where appropriate, address the needs of an aging society, provide for goods movement and delivery, and reduce conflicts between local and through traffic. Community compatibility is as important as moving traffic under this definition of effectiveness. Multiple objectives are embraced in **major** projects, rather than primary focus on physical condition or traffic capacity in the design process.

Expected Benefits

Being more creative -- trying new approaches using the principles developed from *New Visions* -- will make existing resources go further. Modest, but noticeable benefits will accrue to almost every aspect of transportation system performance, most notably the condition of the region's infrastructure, and improved user and societal costs.

Implications

Significant institutional changes will be required from all levels of government to successfully implement this strategy. The budgetary implications assume a degree of making better use of existing revenues. Full implementation of this strategy goes beyond "system preservation" and will likely require dedicated transportation fund sources over those projected from existing sources. Please refer to the Budget chapter for further information.

Actions

19) Improve continuity between the planning, programming and design.

Highway project design has historically been conducted in a step-wise fashion -- after planning but before construction. Connections to both involved "hand-offs" between departments, agencies, or contractors. A systems approach uses a team of planners, designers, and construction personnel to develop projects. Project-specific decisions are put in the context of overall transportation system policy, goals, and budget constraints. Consistency in treatment between projects is improved. Implementing actions include:

- Revise NYSDOT's project scoping and development procedures manual to allow increased flexibility in the application of AASHTO standards on non-NHS routes;
- Increase involvement of NYSDOT design personnel and city engineering departments in planning processes;
- Increase inter-agency communication; and
- Provide more effective (earlier, more frequent) public participation in project design.

More resources need to be devoted to early and inclusive project development.

Existing staff resources at CDTC, NYSDOT, and other affected agencies can be reallocated to allow more project development to occur prior to "engineering". The time allotted to developing alternative treatments is increased at the conceptual stage -- but many fewer alternatives are advanced to detailed study. This approach reduces delays resulting from litigation and unfavorable public reaction by reaching agreement at the conceptual stage -- before a lot of engineering resources have been invested. Support for the project alternative builds in the process. Both project development time and costs are reduced in the end because mistakes are avoided. Essentially, more project design happens "up front" thus extending the planning process, but smoothing implementation.

20) Mitigate congestion only when such improvements are consistent with the adopted principles.

New Visions represents a fundamental change from "business as usual" at the same time that it builds on a strong foundation of regional cooperation, sound planning and participatory decision-making. Throughout the work of the task forces (Phase 2) and the outreach period (Phase 3), continued support for existing commitments was heard. People generally agreed with the priority

Existing commitments will be delivered.

assigned to infrastructure maintenance, the congestion management approach, and supported specific projects like Albany International Airport access and the Selkirk Bypass. While this strategy stresses a creative approach to these projects, the fact that a fundamental commitment to delivering on promises made in the past should not be lost.

Through trips should avoid residential corridors.

Arterial spacing is inadequate in the Capital District because of suburban development unaccompanied by highway investment. Currently programmed infrastructure and capacity improvements can help restore mobility function to major arterials by encouraging through trips to avoid residential corridors. Concurrent judicious use of traffic signals along residential corridors carrying more than 15,000 vehicles per day will improve their safety, the efficient movement of traffic and pedestrians, and overall livability. Modeled after Western and Washington Avenues in the city of Albany, actuated traffic signals can provide for progressive movement of traffic at a definite speed and interrupt traffic at regular intervals to permit pedestrians or other vehicles to cross.

Some projects on the current TIP are appropriate candidates for the incorporation of bicycle and pedestrian accommodations. The Bicycle and Pedestrian Issues task force's Technical Report identifies 52 TIP (1994-99 TIP) projects that have this potential. The ensuing discussion in this report is not intended to put the responsible agencies "on the spot", but rather to offer examples of what *might* be done within existing project scopes to more fully incorporate bicycle and pedestrian travel.

Beyond projects listed in the current TIP, this action anticipates further strategic intersection improvements and limited road widening when consistent with *New Visions* principles. The magnitude of these future projects is expected to be considerably less than that of the 1994-99 TIP however.

21) Routinely make road projects bicycle, pedestrian and transit friendly.

Priority networks (Action 6 on page 84) state the region's important facilities for upgrades for non-auto modes. Beyond these priority facilities, improving the "friendliness" of the transportation system to people who want to walk, bike and take transit also requires attention. This does not mean that sidewalks should be put along rural roads or bike lanes striped where they are not warranted. It does mean, however, that on the priority network, lack of inclusion of bicycle and pedestrian design features must be justified, and off the priority network, these features should be considered and included where it makes sense to do so.

Enhancements are not extras -- they are integral design features.

Transportation system enhancements, such as improved lighting, bicycle and pedestrian accommodation, and transit amenities (bus shelters, park and ride lots, and pullouts) help remedy past and prevent future disruptions caused by transportation infrastructure. In addition to enhancing community appearance, incorporating generous amounts of green space and mature plantings can partially mitigate existing and worsening traffic/land use conflict. When employed effectively, landscape features can also help slow traffic through residential corridors, which increases safety, particularly for pedestrians and bicyclists. Native landscaping materials further minimize disruption to the ecosystem, and are particularly important to use in environmentally sensitive areas such as the Albany Pine Bush.

Transit trips are essentially extensions of walk trips. Both within existing developed areas and in newly developing areas, the safety, ease and convenience of pedestrian and bike access to transit is a significant factor influencing the potential success of bus or rail service. Transit amenities can make a big difference in transit ridership. There is strong evidence that time spent waiting for a bus is perceived more negatively than time spent traveling. Minimizing the negative connotations of waiting can be accomplished by the incorporation of bus shelters into the design of new or redeveloped sites. The addition of adequately sized, architecturally compatible shelters in major transit corridors and provision of additional, smaller shelters throughout the service area will also help. All bus stops should have a minimum of a paved waiting surface and safe access. Sidewalks along bus routes and leading to bus stops, crosswalks, lighting, shelters and benches, bike racks on buses, and better snow removal and street maintenance practices are also needed.

As TIP projects are designed, bicycle, pedestrian, and transit accommodations should be aggressively considered. Sidewalks, pedestrian actuated traffic signals, and mid-block pedestrian crossings need to be present along a much greater percentage of streets and highways than is the case today for noticeable effects to be seen. Furthermore, these accommodations must serve mobility-impaired people and wheelchair users. Well-marked crosswalks across eight lanes of traffic don't do much good if signal timing is not sufficient to cross safely and/or a median refuge is not provided. In some cases, looking beyond the project limits will be required in order to accommodate bicycle and pedestrian travel. A classic example of this concern is found in areas where developers are required to install sidewalks along roads in front of their projects. The sidewalks end at the property limits, and pedestrians walk in the road for at least part of their journey. In some cases, bicyclist accommodation on a parallel or separate facility may be preferable to a wide shoulder on a busy state highway.

Design practice should lead to a major improvement in the region's walkability, bikeability, and transit-friendliness.

Traffic calming is an umbrella term for a variety of actions ranging from allowing on-street parking to installing speed bumps or speed tables to street closures. Traffic calming reduces dangerous conflicts between cyclists/pedestrians and motor vehicles and creates a comfortable balance between motor vehicle and non-motor vehicle activity. These actions make a street or area less attractive to cars, although only the most aggressive applications actually prohibit car use. When traffic calming occurs, motorists determine new "best routes" and traffic works towards a new equilibrium. Communities can advance traffic calming plans at modest cost, and if properly designed, at limited impact on regional mobility.

Traffic calming can improve vehicle circulation if carefully planned.

Traffic calming steps can be included in road projects where appropriate and justified by conflict indices. This will not necessarily result in more traffic congestion; CDTC investigations have suggested that a carefully planned traffic calming effort can maintain or even *improve* the efficiency of motor vehicle circulation in an area. Residential and mixed-use corridors and neighborhoods are the most appropriate places to apply traffic calming techniques.

Providing additional travel choices connects communities in new ways. Children will significantly benefit from this approach. Instead of being chauffeured, they will be able to be more self-sufficient, as long as the alternatives provided are safe, affordable, and convenient.

22) Expand the regional road network to include greater use of service roads and collector streets.

Service roads improve access and mobility.

Frontage or service roads are currently located along Wolf Road, Washington Avenue Extension, NY 146 in Clifton Park, parts of New Scotland Road, and other places in the region. They provide access to residential and commercial properties in these heavily traveled corridors. Additional use of this arterial management technique will make the entire transportation system more effective. It should be pursued aggressively in corridors where land is available for cost-effective implementation.

[3] REACH OUT FOR FULL PARTICIPATION

Reach out to local communities, policy makers, businesses and individuals with information, technical assistance and on-going opportunities to assist CDTC and its members in making transportation-related decisions. Build partnerships among all transportation stakeholders so that transportation investments achieve multiple community objectives.

Expected Benefits

An open public process makes transportation responsive. If the parameters of performance that have been chosen are indeed important to people, then a more responsive process will show benefits across the board. The benefits of an inclusive process will be seen in implementation successes that are not possible otherwise.

Implications

The implications of a transportation-planning process driven by public involvement are potentially far-reaching. Increases in funding to transportation will not occur without public support. Adapting the capital program and planning process to be more flexible -- to change in response to feedback -- will involve institutional adjustments that present the largest barriers to success.

Actions

1) Emphasize public participation in transportation planning, programming and implementation.

> *"The planning and design process will not bear fruit if we cannot bring people -- municipal officials and developers, engineers and planners, the community at large and the body politic -- together to effect real choice."*[1]

Meaningful participation changes outcomes.

Transportation planning, programming, and project implementation must have a high level of *meaningful* public participation. A public involvement orientation leads one away from "engineering" solutions and towards problem-solving that integrates community values, goals, and desires. An ongoing, inclusive dialogue about fundamental transportation decisions that impact everyone's lives is required. Traditionally underrepresented communities, such as the mobility-impaired, low income, minorities and senior citizens, deserve special outreach efforts.

Success has been redefined.

The use of innovative public participation techniques, such as focus groups, visual preference surveys, and model building early on in the process are important components of redefining a successful project in the eyes of developers, designers, and the affected public. In essence, "we must change the instructions given to traffic engineers. We must give traffic engineers and the other technicians involved in the shaping of our communities better guidance as to what their goals should be. Their objective should be the creation of an acceptable environment."[2] Integration with community desires, "human scale" engineering (as opposed to design for auto accommodation), and customer satisfaction should be measures of success.

The Capital Region's transportation planning process has benefited from the participation by business, developers, and freight service providers in *New Visions* to date. The practice must be continued and expanded as the *New Visions* Regional Transportation Plan is implemented. The exchange of ideas between different stakeholders in task force settings has been very valuable, and that dialogue must continue through other forums and mechanisms. Effective public participation is the backbone of effective planning. Public participation is effective when it is frequent, informed, early in the process (before decisions are final), and constructive. This is accomplished by having regular opportunities for participation, coupled with educational materials and funding structures that allow "non-professionals" to participate as full partners.

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[1] Anton Clarence Nelessen. Visions for A New American Dream: Process, Principles, and an Ordinance to Plan and Design Small Communities. Planners Press, American Planning Association, Chicago, IL. 1993. Page 81.

[2] Philip Langdon, A Better Place to Live: Reshaping the American Suburb, The University of Massachusetts Press, 1994. Page 59.

[2] PRO-ACTIVELY PLAN VIBRANT COMMUNITIES

While recognizing that land use decisions are made locally, provide a regional framework to achieve regional goals. Maintain and increase proactive regional and local land use and transportation planning efforts. Emphasize consideration of potential impacts of development *before* specific projects are proposed so developers know what is expected. Use planning to focus growth to reinforce existing and create new mixed use, vibrant neighborhoods that are efficient to serve with transportation. Recognize and address situations where transportation design or use is incompatible with the surrounding neighborhood. Design projects that are sensitive to the communities through which they traverse. Improve site and access design practice to better accommodate pedestrians, bicycles, goods movement, transit, and auto access.

Expected Benefits

Improvements are most noticeable in overall quality of life. Proactive planning results in improvements in compatibility between traffic and development and more sensitive placement of development (avoidance of agricultural and open space areas, and minimal disruption of adjoining houses and businesses. Continuing and expanding these efforts will be essential for protection of transportation investments.

There are many benefits to making the Capital District a vibrant place. There is a growing body of evidence that regions that are "special" places -- where visitors and residents alike feel community pride and activity -- are more likely to be strong economic regions as well. The nature of work is changing away from manufacturing towards technology and service intensive industries. Information-intensive businesses can locate anywhere. Regions that attract such businesses will do so because people want to live there.

> *"For an increasingly large share of the economy, a particular business does not have to be anywhere in particular. Among other things, this means that today, more than in the past, jobs can follow people rather than the reverse. In the most rapidly growing sectors, in fact, the critical factors are human intelligence and skill in the form of technical innovators and entrepreneurs. Therefore, businesses are more likely to locate where these people want to live. Thus, the changes in the nation's economy have made it much* ***more important*** *that cities link economic development and quality of life. Cities that are not livable places are not likely to perform important economic functions in the future. Enhancing livability, therefore, should be a central objective in every city's economic transition strategy, and the elements of livability should be employed as economic development tools."*[1]

Improving quality of life enhances our economic position.

Furthermore, the kinds of things that are done to increase liveliness -- such as increased pedestrian activity using mixed land uses -- provide direct benefits to the overall transportation system. These benefits are improved access, accessibility, congestion relief and flexibility from improving the "fit" between transportation and adjoining land uses. Positive impacts to resource requirements and external effects are also evident. This is primarily because many of the specific actions that implement this strategy are aimed at improving the availability and desirability of non-auto modes. Correspondingly, making the Capital Region a more bicycle- and pedestrian-friendly place improves overall quality of life, which has positive spillover benefits for the economy.

Improving site and access design reduces accident occurrence and severity, total transportation system costs, and energy consumption. The transportation system *works* better if all modes are accommodated, and transportation is less disruptive to communities.

Implications

There are both budgetary and institutional implications of a more integrated land use and transportation planning process. Much of this strategy is a change in approach or philosophy. As such, institutional barriers can be expected. A regional land use plan that provides a framework for local decision-makers is a cornerstone of implementing this strategy. Getting it done will require a substantial cooperative process involving CDRPC, the State Commission on the Capital Region, local governments, and extensive outreach to the business community and citizenry.

More comprehensive land-use planning will be required.

Budgetary impacts primarily involve a shift in priorities, not necessarily an increase in funding levels. However, an increase in funding for planning would make success more likely. CDTC has integrated land use and transportation planning in a number of corridor studies completed or now underway. Comprehensive land use planning at the local level can be further encouraged and integrated with transportation planning through cooperation with local communities. Funding for comprehensive planning at both the regional and local level are addressed in the Budget chapter.

Actions

1) Prepare and maintain a comprehensive Regional Development Plan (RDP).

Local governments make land use and development decisions in the Capital Region, often showing little concern about long-term regional impacts. Municipalities weigh the costs of development and supporting infrastructure against the benefits of the taxes generated. Where public opposition to development exists, developers seek locations with the least barriers, which may not be the most desirable locations from a regional perspective. The result can be that development threatens the community character of suburban and rural areas, while cities decline. Further, that lack of predictability in the development process can discourage economic development.

It will be difficult to alter regional development patterns.

All four counties of the region have been suburbanizing -- measured by both households and employment. Saratoga has been the fastest growing County. These trends have led to increasing traffic congestion in the suburbs, and notably in the Northway corridor. The CDTC Land Use Model examined alternative land use and development scenarios in the Capital District and the results show that it will be difficult to change regional patterns dramatically. For example, it is highly likely that Saratoga County will continue to experience the fastest growth under any scenario. The analysis of the impacts of different development scenarios is further described in the Growth Futures task force report *Evaluation of the Transportation Impacts of Land Use and Development Scenarios*.

With this in mind, the RDP should be updated in a cooperative fashion that builds on the *New Visions Plan* and process. CDRPC would be the lead agency. The RDP will guide continuing public and private investment and transportation policy.

Key Transportation-related Components of a RDP

Regional Development Vision

The RDP must take the *New Visions* discussion and advance it to a clearer definition of a broad regional vision. This includes work to confirm the interconnections and interdependence of the four counties and work to clarify how mutual benefits will be derived from growing as a region, rather that as 70+ municipalities. From a transportation perspective, the interdependence is indisputable and cooperation is essential.

A win-win vision would present unprecedented opportunities for growth.

The RDP must also build a win-win vision for all communities. This vision should recognize the region's unique geographic arrangement of four central cities with suburban development *between* them. The region's high quality of life, educated work force, many livable neighborhoods, availability of under-used industrial land, strategic location, and high-quality transportation system are other positive attributes. The opportunities that a cohesive vision and development strategy would present to the region by are nearly unlimited.

Economic Development and Urban Reinvestment

Transportation investment can play a significant role in facilitating economic health and growth in the region. The RDP must identify a cohesive regional economic policy that leverages the strengths of the region in competing in a global marketplace. At the same time, the historic strengths of this region -- its cities -- are at risk. The RDP must also incorporate a clear message regarding how these communities can survive and prosper in the 21st Century. The *New Visions* effort positions CDTC to use transportation investment as a tool both for regional economic development and for urban revitalization.

Transportation benefits would accrue from more intense urban development. However, transportation policies alone will not stimulate urban reinvestment -- many other policies would be necessary. Many factors can be brought to bear to support the community quality of life in the central cities, inner suburbs, outer suburbs, small cities and villages, and rural towns of the Capital District. Strategies to reinvest in the region's cities and urban areas preserve community quality of life not only for the cities, but for the suburbs and rural towns as well. Transportation strategies are essential to pursue, but must be coordinated with other regional development policies to be most effective. Regional goals of compact development and optimal use of existing industrial land can be fostered by encouraging freight-intensive industries to locate along active rail lines.

Transit as a Tool

There is an important relationship between land use patterns and transit. Investigation into the feasibility of fixed guideway transit options for the Capital District pointed to the paramount importance of a coordinated approach. Major transit investments can be a tool to encourage reinvestment in urban areas, but only if a regional land use and development vision includes

> *"The simple fact of the matter is that the Capital District cannot be a legitimate, growing urban area without a strong public transit system."*
>
> Dennis Fitzgerald, Capital District Business Review, 6/3/96

additional supporting policies. The development of a comprehensive RDP will allow the Capital District to preserve and enhance its existing urban form, quality of place, and economic competitiveness.

Understanding Location Decisions

Multimodal transportation investments can support the location of high tech and service industry firms in the Capital District, but only if a better understanding of decision-making factors is cultivated. A survey that identifies the requirements of firms regarding proximity to urban and suburban centers and industrial parks, arterial access needs, and transit needs should be part of updating the Regional Development Plan. Knowledge of the importance to firms of future investments in the Albany International Airport, Amtrak stations, high speed rail and/or Maglev, the Port of Albany, Selkirk Yards, and other intermodal facilities will help guide regional investment priorities. Knowledge of private sector requirements for technological innovations such as telecommuting and satellite office facilities is also important. The relative importance of non-transportation factors such as housing, education, and corporate and personal taxes need to be brought into the equation. Armed with this information, projects and strategies can be identified that best support and attract the location of high tech and service industry firms in the region.

Benefit Sharing

Mechanisms to share the economic benefits (and costs) of regionally significant development projects regionally would encourage cooperation between local governments for "the good of the region". The State Commission on the Capital Region explored methods to "regionalize" various functions -- ranging from solid waste disposal to medical services to land use planning. A number of mechanisms have been implemented in other regions, including regional property tax sharing, shared-cost arrangements for consolidated purchasing, and corridor impact fees or assessment districts. Use of federal transportation funds for projects of regional significance can be viewed as a form of cost sharing and can be explored as a basis for benefit sharing. Further dialogue regarding these (and other) mechanisms will help the Capital Region function more as a region. A simple first step would be a policy to locate civic functions and buildings within the urban service area.

> *"In place of destructive competition between cities, suburbs, and rural areas for private investment, the United States must establish a coordinated regional approach to economic development. The goal is to make sure that regional infrastructure is provided in the most efficient and timely manner. Decisions to grant private land development rights must be made at the regional level in order to tie them to planned infrastructure improvements and environmental concerns. Only a planned metropolitan development effort is capable of avoiding inter-jurisdictional tax competition, thereby strengthening the hand of local governments to collect tax revenues for critical public investments. A regional approach will maximize the efficiency of this public investment, thereby lowering the costs of living and the costs of doing business."*[2]

There was a consensus within the *New Visions* Growth Futures task force that a Regional Development Plan (RDP) will require cooperation and dialogue among municipalities, as well as respect for community goals and values. Public support for a RDP is essential. Both the *New Visions* and State Commission on the Capital Region processes have demonstrated that there is positive support from the public for such a plan.

Impacts

> *A regional approach to land use has significant benefits -- but will be very hard to implement.*

The impacts of the regional land use vision are positive across a variety of performance measures, including economic cost. Although the benefits are very high, implementation of the regional land use vision will be difficult, and the task of building public support and cooperation among municipalities will be a challenge. Access to transit and other modes would be supported by encouraging development to occur in urbanized areas near arterials with transit service. The urban reinvestment scenario tested by the Growth Futures task force resulted in an 8 percent increase in trips considered transit accessible in the afternoon peak hour in year 2015. The scenario would also increase the number of trips that can be made by walking and cycling by virtue of locating more development in closer proximity to complementary uses. Accessibility in the region would increase by modest amounts. The largest travel-time savings under the urban reinvestment scenario were found in the Northway corridor, where travel-time savings of 5 minutes would be achieved in the afternoon peak direction. Infill and redevelopment of urban areas and compact development would moderately relieve regional congestion. The urban reinvestment strategy decreased PM vehicle hours of excess delay by 10 percent. The benefits would be most noticeable in suburban towns and the Northway corridor.

A regional land use vision provides significant support for economic growth by making this region attractive to developers. The protection and strengthening of community "livability" of the Capital District will enhance this region's competitive position into the 21st century. A regional land use vision would have traffic safety and energy benefits. Economic cost would include modest planning and implementation costs that would be offset by benefits to governments: user and societal cost savings could exceed those in the transportation sector. Air quality impacts would be moderately positive. Open space outside of the Urban Service Area (see below) would be protected through infill and redevelopment. Areas with insufficient water and sewer infrastructure would be protected from development that threatens groundwater resources.

Resource requirements are lower and open space is protected where urban areas are healthy.

In combination with other CDTC transportation - land use policies and arterial management actions, a regional development vision would have dramatic benefits to the highway and land use compatibility index. Residential land use conflict and arterial land access conflict in developing corridors would be minimized.

There is evidence from other areas, such as the Connecticut River Valley and Portland, Oregon, that regional solutions to regional problems provide regional benefits. Working together, regions ***can*** improve economic competitiveness by improving quality of life, using transportation improvements as a lever. It can be done here, too.

Efforts to define the form of the RDP began with CDRPC's 1999 interpretation of satellite imagery to identify suburban land use changes over the period 1986-1997. Current work to examine parallel changes in the established urban areas will provide a basis for regional discussions regarding the most effective product for CDRPC to provide to local communities.

2) Establish an Urban Service Area.

Urban reinvestment makes the entire region work better.

An Urban Service Area encourages new commercial and residential development to locate in areas with adequate water, sewer, and transportation infrastructure. Increased activity can be absorbed there due to the extensive street network and public services, including transit. A starting point in drawing Urban Service Area boundaries in the Capital Region would be those adopted in the 1978 RDP, updated with information from the 1990 Census and the Saratoga Sewer District in Saratoga County. The Urban Service Area can be extended to include areas that already have infrastructure in place; but further study and extensive collaboration with local government is necessary to specifically map the boundaries.

Future economic competitiveness will derive from quality of life considerations.

The Urban Service Area with urban reinvestment scenario provides significant protection for community quality of life. It keeps the central cities vital; protects suburban character and prevents the suburbs from being overwhelmed by development. Rural character is protected by preventing suburbs from expanding. Reducing the cost and increasing the efficiency of development by using existing infrastructure encourages economic development. However, restricting development locations may increase the cost of new houses incrementally by increasing land value and mitigation costs.

We have a strong foundation of walkable mixed-use communities.

The Capital Region is presented with an opportunity to build upon a strong base of walkable, mixed land use development in the cities and along transit corridors linking these cities. Private sector investment (supported by public policies) in development along traditionally strong transit corridors and potentially strong corridors would help constrain the growth in travel associated with new economic activity. This effectively increases the size of the transit market (the number of trips that can safely and conveniently use the transit system) without requiring increases in overall development densities. There are opportunities for new large-scale mixed-use development along strong transit corridors.

Use of an Urban Service Area does not mean that safety, pavement, and bridge conditions *outside* the area are ignored or given low priority. It simply means that public funding for transportation projects that encourage or accommodate development is focussed on areas within the agreed boundary. Rural areas depend on small local industries (farming, mining, lumber mills and logging, cottage businesses) which in turn depend on goods pick-ups and deliveries (milk trucks, UPS, etc.). Poor roads can create problems for these small businesses and increase the likelihood of their failure. Farm failures increase suburbanization of rural areas by making land available for subdivisions. Lack of local employment means that residents must travel to the cities and inner suburbs to find jobs, further exacerbating traffic congestion.

Rural needs are distinct and require their own guidelines.

It is important to provide for basic rural transportation needs while preserving rural features such as hamlets, villages, farmland and open space. Transportation improvements appropriate for rural areas will be identified as part of defining an Urban Service Area, including appropriate design standards for rural roads. Guidelines will be developed for the creation of roadway plans for rural towns, villages or hamlets. Driveway distances, speed limits, roadway maintenance and improvements, pavement widths, and customized design guidelines can be designated in such plans. These designations would be specific to the different classifications of roadways included in the rural town, including principal and minor arterials, major and minor collectors and local roads. Many localities have required developers to build new subdivision roadways to design standards that raise expectations for widening and paving of other town roads, threatening the rural character of the town.

Rural areas have traditionally been well served by a network of "farm-to-market" roads in the Capital District. If growth is successfully concentrated in already dense areas through transportation investment policy, these roads will be able to continue to function at acceptable levels of service.

3) Provide funding for and staff participation in community-based planning.

For CDTC's plans and programs to be successfully implemented, a cooperative relationship with local government and operating agencies is required.

A coordinated land use/transportation planning process at the community and corridor levels provides a framework for predictable development consistent with community goals. Cooperative studies with local governments are the backbone of CDTC's previous planning efforts and an essential part of future efforts to develop a regional vision. CDTC is not an implementing agency -- it has no land use powers, operates no transit service, and is not responsible for maintaining the roads or bridges. For CDTC's plans and programs to be successfully implemented, a cooperative relationship with local government and operating agencies is required. The *New Visions* Principles call for a land use management program or agreement to exist for any highway capacity expansion. Consideration of a transportation project's consistency with local, corridor and regional comprehensive plans has historically been and will continue to be an important part of the TIP project selection process.

Contractual arrangements for cooperative planning efforts are either underway or completed in

- Clifton Park (Master Plan)
- Rotterdam (Burdeck Street)
- Bethlehem (Master Plan)
- Niskayuna (Balltown Road)
- Glenville (Route 50)
- Colonie (Albany International Airport/Wolf Road area)
- Halfmoon (East-west corridor)
- West Avenue in Saratoga Springs (corridor management initiative)
- the Albany Pinebush (environmental studies)
- Washington Avenue (corridor management initiative), and
- Brunswick (Route 7)

CDTC is committed to these studies and plans, and participating in community-based, corridor-level land use and transportation plans in other corridors.

The following components of transportation and land use planning will be encouraged:

- Adoption by local municipalities of a transportation element in their local comprehensive plans that is consistent with the *New Visions* Regional Transportation Plan.

- Use of official maps by local municipalities to show present and proposed future roads within their boundaries that are consistent with their comprehensive plans. These maps could also identify

    - the functional class of existing roadways and proposed improvements;
    - conflicts between the functional classification of roads and adjacent land uses; and
    - transportation mitigations, including alternative land uses that minimize traffic conflicts.

  These maps would be incorporated into a regional transportation map that would reflect local, corridor and regional considerations. Appropriate arterial corridor management plan map elements (such as the location of future service roads and road expansions) can also be incorporated into the local official map.

- Use of existing state enabling legislation encourages municipalities to join to adopt a comprehensive plan and land use regulation.

- Use of comprehensive plans to relate the effect of growth-inducing capital improvements for water and sewer in the public facilities component of the comprehensive plan to their impact on existing and future road capacities.

- Incorporation of arterial management strategies into corridor plans and in local site plans to mitigate land use/road function conflicts. Corridor management plans identify and implement corridor-specific conflict reducing measures such as installation of service or frontage roads, sidewalks, bike lanes or paths, driveway consolidation, and transit accommodation.

- Securing easements for conflict reducing measures, such as service roads and shared driveways, as part of development mitigation for traffic impacts.

- Incorporation of the findings of the transportation element of the comprehensive plan into local regulations which

  - allow a greater mix of complementary residential and commercial uses along arterials;
  - encourage street layout and site design that supports a pedestrian scale and transit access;
  - avoid arterial conflict; and
  - promote arterial access management.

  Mixed-use development, in which shopping or office development is located adjacent to or interspersed with homes, creates many short trips that can be completed by foot or by bike.

- Use of such innovative planning tools as residential density bonuses, pre-platting, and land readjustment to create desirable development patterns. A density bonus could be provided for development that is close enough to arterials for transit and pedestrian access, and provides amenities such as sidewalks and transit accommodation.

- Encouraging mixed use development within the urban service area. Mixed-use development can be encouraged by zoning that allows commercial activity in or near residential areas. Greater use of planned unit development processes allows and encourages combinations of retail, office and residential development within a single development. Use of planned unit development procedures allows careful treatment of site design and protection of open space in the development of large tracts of land.

- Requiring pedestrian linkages between adjacent parcels and shared parking lots, particularly when the uses are complementary in terms of time-of-day use. Such linkages have been shown to encourage walking in place of driving. For example, the service road connection between Windsor Plaza and Computer Park West in the Wolf Road corridor provides access to nearly 100 walkers during the lunch hour that would otherwise have made the trip by car. The linked parking lots between the *Barnes and Noble* bookstore and *Bed Bath and Beyond* work well and encourage patrons to visit both stores in a single trip.

- In rural towns, development that is in harmony with the town's rural character is fostered by community-supported comprehensive plans. Comprehensive plans created with broad-based community input ensure that the entire community recognizes and uses the plan. Rural development must be focused in hamlets and villages in order to prevent suburban sprawl. Villages and hamlets with adequate community water and/or sewers will encourage denser development and allow cost-effective provision of services. Locating small essential businesses such as service stations, post offices, small groceries, and medical offices in hamlets and villages provides local employment and services while reducing driving distances. Some people may even be able to walk to these places, if sidewalks are provided.

CDTC's cooperative planning and Regional Corridor Management Initiative (an 80/20 challenge grant program) will be continued indefinitely. In 2000, CDTC established a new Community and Transportation Linkage Program, funding nearly $500,000 of coordinated local-regional transportation-land use planning across the region.

4) Develop access management plans for all priority network arterials.

A common approach to address corridor traffic circulation and safety concerns is to resolve driveway access issues on a case-by case basis. The result allows proposed development and lot widths to essentially dictate the spacing of driveways along a roadway. Ideally, such issues should be addressed within the context of a corridor-wide access management that integrates land use and transportation planning objectives along the entire route.

Corridor planning is not a new concept - many local examples exist.

During 1990, CDTC carried out a pilot study on one arterial corridor - NY 7 through Colonie and Niskayuna - to define methods for maintaining through traffic functions on major highways challenged by local development. After completing traffic and land use inventories, traffic forecasts were prepared and alternative management actions, including signal coordination and/or consolidation, provision of transit and pedestrian accommodations, and mixed land use design were examined for applicability and effect. An access management strategy for Route 7 was developed in conjunction with the Albany County Airport Area FGEIS and has the support of both NYSDOT and town officials. Similar plans have been prepared for the Wolf Road corridor in the town of Colonie and the West Avenue corridor in the City of Saratoga Springs. The West Avenue plan is more comprehensive because it also recommended zoning changes, established parking standards, and set site design guidelines. Several communities in the region have completed fully integrated transportation-land use plans, which include objectives for access control. A few communities routinely consider the impacts of driveway access in site plan review.

Similar studies should be completed for other critical corridors. Central Avenue/Route 5 has been elevated to a high priority for study because of freight service issues, numerous driveways, accidents and travel delay, as well as the fact that this corridor is a candidate for major transit investment. Special attention should also be given to former "farm-to-market" roads that are low to moderate density and residential in nature (although they may be zoned for higher densities than existing infrastructure can support).

Implementing this action will strengthen the relationship between transportation and land use planning and create a set of strategies and guidelines that will influence both land development and highway design, and protect previous highway system investments. Compatibility of the transportation investment with the community is elevated to a priority equivalent to moving traffic. Because of the uniqueness of each of the region's communities, arterial strategies are best examined on a case-by-case basis. The arterial management plans will be developed in cooperation with municipalities, the New York State Department of Transportation and county highway and planning departments

5) Support local planning boards' consideration of the regional transportation impacts of development decisions.

> *"Traditionally, most American development decisions have been made at the community level, and many of the places that most of us know best are a product of thousands of local choices made for hundreds of personal and local reasons-- such as Let's buy a house and Let's start a business and Let's put up a new office center and Let's bring in some more tax dollars into the area. What is new about conventional post-interstate development is that a national decision to switch transportation systems has spread these same makes-sense-to-me-personally and makes-sense-to-us-locally development decisions across huge regional expanses, on the optimistic assumption that, whatever happened next, they would inevitably continue to produce the things that all people need, such as stable communities, cherished surroundings, and opportunities for full and fulfilling lives."*[3]

This has not always been the case. Local planning boards, through education, increased proactive land use planning, and the adoption of a regional "vision", must increase the consideration the regional impacts of local development decisions. These local decisions impact not only the transportation system, but many other aspects of regional quality of life as well. The normal development review process, which follows the environmental review process, does not easily facilitate a meaningful examination of the potential regional impacts of projects being locally reviewed. Even when state agencies are involved in such review, or coordinated review occurs, it is not guaranteed that a broader look will be taken.

Local agencies need tools to enhance their ability to think regionally.

CDTC, NYSDOT, CDTA, CDRPC, the Albany County Airport Authority and other state and regional agencies need to focus on providing local agencies with tools that will enable such consideration. An outreach program that promotes access management principles and concepts and the routine incorporation of transit, bicycle, and pedestrian accommodation will be developed. An educational program will demonstrate the public safety and capacity linkages of arterial corridor land use decisions and promote greater consideration of *New Visions* principles. The program would be aimed at neighborhood and community groups, planning boards, public works and safety officials, the development and business community, and other interested groups. The following components are suggested:

- Ideas on "what can be done" can be found in CDTC's *Make Your Community More Bicycle- and Pedestrian-Friendly* brochure, the Federal Highway Administration's *Selecting Roadway Design Treatments to Accommodate Bicycles* report, and the Florida Department of Transportation's *Walkable Communities* report. The Arterial Corridor Management task force assembled a similar library of materials. These easy-to-use materials can be distributed to local planning boards, highway agencies, community groups, developers, and others to promote use of access management techniques.

- Sponsor periodic workshops similar to the one sponsored by the Arterial Management task force in May 1996. Such workshops provide a forum to disseminate information about tools and techniques, while encouraging a continuing dialogue between the local planning and development community, and regional and state transportation officials regarding access, multimodal issues, and community compatibility.

- Foster continued communication and coordination between local and state transportation officials in addressing corridor and site-specific access issues to facilitate development of workable solutions. Such communication will serve to elevate community compatibility concerns in the project development process.

- Form a working group to build upon and advance the technical review of arterial management guidelines and sidewalk warrants initiated by the *New Visions* task forces. Many areas requiring further detailed consideration have been identified, including the need to develop a set of guidelines that can adequately accommodate the differences in land use character encountered in various parts of the region. This group should also track progress on access management research and suggested standards currently being developed by the Transportation Research Board (TRB) at the federal level.

- Create an awards program to recognize exemplary regional projects and plans, perhaps in conjunction with established professional groups in the region.

6) Improve site design practices.

Municipal land use and zoning policies strongly influence the efficiency of the region's arterials and highways. Each community should embrace site designs that creates a coordinated pattern of land use that limits access to major roadways, is transit friendly, and supports pedestrian circulation. A well-planned corridor will have concentrations of development at specific centers and areas of free-flowing traffic between these centers. A coordinated pattern of land use and transportation can minimize turning movement conflict, improve automobile, transit, and pedestrian access to activity centers, and help prolong the life of the roadway.

Developers need early input.

Building on good planning process, a review process that begins with an informal meeting and concept review allows planners to advise the developer regarding information needed to process the application. This may include state and local permit requirements and special aspects of the site. The concept review provides the developer with early feedback on a proposal, before the site plan has been drafted. The development review process is often segregated between the community (site plan process) and the highway agency (driveway permit). Issues are often identified too late in the process, frustrating technicians, public officials, and developers. A coordinated land use transportation planning process includes issues not traditionally considered, such as transit, pedestrian safety, and access management, and ensures that all pertinent issues are considered, thus avoiding unnecessary analyses, costs, and delays.

Prior to approval of residential subdivisions or commercial developments along arterial highways and major collector roads, NYSDOT, CDTC, and local governments should cooperatively analyze the traffic impact of each proposal. The objective of the analysis would be to:

1) limit the number of vehicle conflict points;
2) separate vehicle conflict areas;
3) reduce vehicle deceleration requirements; and
4) remove turning vehicles and queues from the travel lanes.

Access control that accomplishes these objectives at each new land development would minimize traffic conflict, crashes, and delay.

Furthermore, in transit corridors, the development proposal should afford or enhance access to the transit system. If there is no existing transit service, but the site is zoned for high intensity uses, then the site plan should not preclude the potential for future transit access. In general, transit service works best when it is considered as an integral part of the design and site plan. Post-development modifications are more costly, less effective, and in some cases, impossible to implement. Specifically, transit's effectiveness can be improved significantly by:

- Locating buildings closer to the street and the majority of the parking in the back;
- Providing turning radii that meet bus requirements;
- Locating bus stops and shelters in locations that are convenient to customers and integrating them into the architectural design of the development;
- Providing for bike racks or lockers at shelters on site, allowing for bike "park-and-ride" at these locations;
- Incorporating park-and-ride parking spaces that allow the site's use as a transit and carpool terminal;
- Providing safe and effective pedestrian movement from the street to the site and from building to building on site;
- Where needed, providing service roads or other connections to allow pedestrians, bikes, buses and other vehicles to visit adjacent sites without using the arterial; and
- Designing subdivisions and shopping centers to facilitate pedestrian access to transit stops.

Retrofit of existing sites is as important as new design.

While these actions are particularly suited to new retail locations, they are also applicable to commercial development and large residential development. It is also clear from recent activity in the Capital District that there will be frequent opportunities to redesign existing sites as they expand or change use.[4] Incremental costs for transit, bike, and pedestrian accommodations are minimal if addressed during site development or highway project development. Some costs to the business community will be offset by additional development opportunities created by increased land and transportation efficiency. Retrofitting existing developed corridors will be more difficult and costly, but can be accomplished either in conjunction with site redevelopment or as part of routine public highway reconstruction projects.

Cooperation among all parties, including attention to these issues by permitting agencies such as NYSDOT and the local municipality is critical to the success of this action. This can be facilitated if municipalities require formal site review of all major projects and provide for input from CDTA, CDTC, NYSDOT and others during the review process.

7) Elevate consideration of transportation alternatives in siting facilities that primarily serve elderly and handicapped populations.

Facilities that primarily serve the elderly and handicapped, if located in places where fixed route accessible bus service is available and usable, provide essential mobility to these populations at the least public cost. Currently, special use facilities are frequently constructed in places where land is inexpensive, with no forethought regarding the availability of transit service or the ability of residents to independently access basic services. Even if bus service is available, logistics like providing ample space for bus turn-arounds, allowing for pedestrian access, and providing pedestrian amenities are often ignored.

Facilities serving special populations need to locate in areas providing mobility at least public cost.

Local governments can dissuade agencies that primarily serve the mobility impaired population from locating their facilities in places where bus and paratransit service does not operate by requiring those agencies to provide their own transportation for their clients. Local governments can also require developers to use site designs for special use facilities that are transit and pedestrian friendly. As a means toward this end, municipal staff and planning boards can be educated with regard to special use site location guidelines, workshops on site design can be offered and outreach to the development community can take place.

CDTC has committed resources for completing a Site Design Handbook, but has repeatedly deferred development of this due to other pressing planning efforts. For significant changes in site design practices to occur in the Capital District, additional commitment, outreach and education must occur. Local governments will also need to invest staff time for education of their policy boards with regard to land use and transportation integration issues. New York State's site selection hearing criteria under the Padavan Law sets minimum spacing of group homes of one-half mile. One consequence of the application of this law is the siting of group facilities in areas that are very hard to serve with transit. This Law should be reviewed and possibly amended.

8) Improve delivery access for commercial vehicles.

Delivery access is crucial to goods movement. At new developments, consideration starts with basic site design. CDTC's Site Design Handbook will provide guidance on preferred delivery access. All outreach to and education of Planning Boards and elected officials will include delivery access considerations.

Local business benefits when deliveries are accommodated properly.

Commercial parking programs in urban areas resolve persistent double parking violations and allow timely local deliveries. Painted "yellow zones", coupled with increased enforcement, provision of designated employee parking areas, and signs noting commercial delivery hours and limits have been successfully implemented in other areas -- benefiting shopkeepers, customers, and truck drivers. Implementation of commercial parking programs will require education through documentation of successful programs and the formulation of Capital District guidelines.

Targeted infrastructure improvements to improve delivery access include service roads in commercial areas, removal of clearance or other barriers on access routes, and implementation of arterial corridor management in areas with growing congestion. Targeted infrastructure improvements can be funded through the existing TIP process, through public/private partnerships, and through local infrastructure programs.

9) Maintain a program for transportation projects directed explicitly at community enhancement or regional economic development.

There has been considerable community support and creative thinking on transportation projects as catalysts for urban revitalization and economic development. In preparation for this outcome, the *New Visions* budget established a category for these types of projects.

Transportation projects are tools that advance other goals.

Community enhancement and economic development can be fostered both by advancing new transportation projects and through sensitive execution of routine maintenance and reconstruction. A serious investment in pedestrian accommodation will have tremendous spillover benefits in urban revitalization and suburban livability. Coupled with sensible design policy that limits the width and speeds on urban thoroughfares, selective transportation infrastructure investments can make the Capital District a better place to live. Projects that promote economic development in places where supportive infrastructure exists help the region as a whole.

Reconnecting with the waterfront along the Hudson and Mohawk Rivers is one big area where transportation projects can act as a catalyst for further enhancements. The Hudson River Valley Greenway Communities Council exists specifically to aid local communities in this effort. Continued partnership activities by municipalities with the Council will be integral to successful implementation of the *New Visions* Regional Transportation Plan. Specifically, transportation investments that provide access to and enhance urban waterfronts in the Capital District are needed. There are a number of existing plans that provide ideas for such projects including Capitalize Albany, the Eastern Gateway Canal Corridor Plan, Schenectady 2000 and the Schenectady Master Plan effort and the South Troy Waterfront effort.

New highways, particularly bypasses of existent activity centers, are not the thrust of this program. However, there may be instances where a bypass could enhance community cohesiveness by removing trucks from residential areas. A new road might support economic development in targeted areas. Two such examples are the Selkirk Bypass and the I-90 Phase 2 Connector to the RPI Technology Park. The criteria for future evaluation of such projects will be explicitly discussed as the program is further developed.

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[1] Robert H. McNulty. *Quality of Life and Amenities as Urban Investment* in *Interwoven Destinies: Cities and the Nation.* Henry G. Cisneros, Editor. W. W. Norton & Company, New York. 1993. Page 213.

[2] Elliott D. Sclar and Walter Hook. *The Importance of Cities to the National Economy* in *Interwoven Destinies: Cities and the Nation.* Henry G. Cisneros, Editor. W. W. Norton & Company, New York. 1993. Page 77.

[3] Tony Hiss. *The Experience of Place.* 1990. Vintage Books, A Division of Random House. Page 131.

[4] Many established urban and suburban sites in the Capital District have expanded or changed use in recent years. These include Colonie Center, Crossgates Mall, Latham Circle Mall, Westgate Plaza, downtown Albany (Knickerbocker Arena, KeyCorp Towers), downtown Schenectady (Broadway Center), downtown Saratoga Springs (new library). Each of these actions provides an opportunity to improve orientation to transit and to improve pedestrian accommodations.

[1] MAINTAIN GOOD INFRASTRUCTURE CONDITIONS

Maintain the region's highways, bridges, and transit system in a state of good repair. Focus the public's investment on identified important interconnected facilities.

Expected Benefits

Maintaining the tremendous public investment that has been made in transportation infrastructure is the smart thing to do. Not a lot of new roads are being built; therefore existing facilities must be preserved and enhanced. A performance-based management strategy paints bridges before they corrode, builds long-lasting pavements, and matches design treatment to road function (not necessarily ownership or funding category). This provides baseline support to the regional economy.

The identification of priority networks makes the most efficient and effective use of available resources. The largest impact will be seen by directing funding to the functionally most significant part of the transportation system.

Implications

Infrastructure projects have long been the priority for CDTC and NYSDOT. Strides in overall pavement and bridge condition have been made in the past decade. The continuing need to devote upwards of 70% of CDTC's TIP resources to infrastructure renewal has major budgetary consequences. Embracing a risk assessment approach to designing infrastructure projects will result in less building of reserve capacity that may or may not be needed in the future. This trade-off frees resources to address *current* needs in other areas.

Increased funding would be required to fully implement all *New Visions* recommendations. However, this strategy provides helpful guidance in constrained budget times, as well, by focusing certain types of improvements on specific systems.

Actions

1) Make the Capital District transportation system safer.

> *"Travel inevitably places us at some risk. Given the high economic, social, and personal costs of crashes and other incidents, safety must be government's highest priority in transportation."*[1]

Safety will receive continued and heightened attention during infrastructure renewal through supplemental safety projects, and in conjunction with other actions in the Capital District. Safety considerations will go beyond the traditional focus on reducing crashes and high-accident locations on state highways. Providing highly visible crosswalks at busy intersections, sidewalk snow removal so people can get to bus stops, using bicycle-safe drainage grates, and reducing the number of driveway cuts also reduce the risk of traffic-related injury and death. They are part of the safety emphasis of the *New Visions* plan. To achieve stated goals of reducing the annual cost of crashes (accidents), the plan also counts on progress by manufacturers in improving safety features in vehicles.

This action also assumes steady progress in development of a Bridge Management System for all bridges, and steady progress through capital and operating budget commitments to significantly reduce physical deficiencies on both state and non-state bridges.

2) Continue adequate highway and bridge maintenance efforts.

Highway and bridge maintenance and operations is the single largest commitment of transportation resources in the Capital Region. Essential services, such as snow removal and pothole patching are captured in this category. Significantly, this area is out of the direct purview of CDTC's decision-making. However, successful implementation of *New Visions* will require continued commitment to current levels of expenditures for maintenance, as well and increased efficiencies resulting from intergovernmental coordination, consolidation, and joint purchasing. These assumed efficiencies permit improved service over the long run, such as more frequent shoulder sweeping on bike routes.

3) Carry out an effective highway and bridge rehabilitation and reconstruction program.

Existing highway and bridge conditions and condition goals recommended by the Infrastructure task force are summarized in the following tables.

Table 5: Pavement Condition Goals

Highway Group	Lane-Miles	1994 % Poor	1994 % Fair	Goal % Poor	Goal % Fair
Interstates	554	5%	24%	0%	20%
Non-Interstate NHS Roads	272	12%	12%	5%	20%
Non-NHS Principal Arterials	679	15%	24%	10%	20%
Other Federal-Aid Roads	2534	17%	22%	15%	20%
Local (non-Federal-Aid) Roads	9442	9%	22%	<=15%	20%

Table 6: Bridge Conditions and Goals

Bridges	1995 % Deficient	1995 Rated< 3.0	Goal % Deficient	Goal Rated< 3.0
State	38%	1%	20%	0%
Non-State	42%	1%	20%	0%

An effective highway and bridge rehabilitation program is one that is adequately funded and uses life-cycle considerations and system management techniques to prolong good conditions and maximize the return on investment. Using existing revenues more effectively in this manner must proceed raising additional transportation revenues. This action calls for continued resurfacing and reconstruction of state highways at a schedule consistent with the State's Pavement Management System, using the type of repair called for in its and CDTC's pavement models. This action also calls for treatment of higher-volume, higher-function non-state roads with a similar repair and reconstruction approach. Currently, such work on non-state roads is rare. While pavement condition alone can be maintained on these non-state roads using lower scale repair treatments, the importance of these roads warrants more significant work to produce a longer repair life, safer operations, and other benefits. Continuing current local (non-state) repair practice on other local roads appears to meet pavement goals.

The use of recycled materials in pavement renewal is encouraged by TEA-21. NYSDOT and local highway agencies should use recycled materials wherever possible to minimize the environmental impact of the transportation system, the need for new gravel mines, and construction debris disposal. The substitution of glass, rubber (old tires) and even paper sludge in road base materials has been tested elsewhere, and the Capital Region should be in forefront of those using these innovative materials.

4) Maintain transit equipment and facilities in a state of good repair.

Clean, reliable buses provide dependable service.

Federal, state and local financing over the past 25 years has allowed the Capital District Transportation Authority (CDTA) and publicly-sponsored bus operations (such as Upstate Transit) to maintain equipment and facilities in a state of good repair. CDTA replaced vehicles on nearly a twelve-year cycle and updated garage facilities when needed. Clean, reliable, modern buses are required to provide dependable service, keep operating costs under control and offer an attractive product in the competitive market place. The transportation system will not be well served by equipment that suffers from deferred maintenance and lack of capital investment.

This action requires continued emphasis on effective maintenance practices, an adequate supply of spare vehicles, and a reasonable replacement schedule. A reasonable replacement schedule can be defined as either continuing past practice (routine maintenance combined with a twelve-year replacement cycle) or increasing maintenance and rehabilitation efforts to allow for an extension of replacement cycles. Both CDTA and private transit operations require fleets in good repair.

Most CDTA full-sized buses have been replaced recently with cleaner, low-floor buses. Vehicles will be replaced over coming years with even cleaner "Clean Air" vehicles -- diesels which have significantly reduced emissions from previous vehicles or perhaps even hybrid electric vehicles. CDTA will examine experiences and acquire technology that is appropriate based on:

- Air quality needs of the Capital District and beyond;
- Purchase price, reliability and operating costs; and
- Opportunities for economies of scale in purchasing (in conjunction with other New York transit properties or public/private partnerships).

Vehicle replacement has permitted a steady increase in coming years in the percentage of the fleet and the percentage of transit service that is fully accessible to the disabled community to nearly 100%. CDTA has pioneered the use of low floor fixed route buses to accomplish its accessibility commitment.

Private operators are encouraged to work with CDTA and the New York State Department of Transportation to understand and select an appropriate clean air technology for vehicle replacement.

5) Embrace a "risk assessment" approach for capacity considerations in infrastructure project design.

Rather than routinely designing bridge structures and roads to meet traffic projections of 25 or 35 years in the future, a risk assessment approach examines the costs and benefits of alternative designs and makes capacity treatment an explicit choice. A risk assessment approach to bridge reconstruction asks questions like:

- Do 20-year traffic projections justify widening the bridge now?
- Do 30 or 40-year projections?
- What is the projected congestion risk of replacement in-kind?
- How much does it cost to widen it now?
- How much more will it cost to widen the bridge at different points in the future?
- Are the future capacity constraints on this bridge of a higher priority than addressing existing current congestion elsewhere in the region?
- Can the future capacity concerns be directly linked with private developments, so private sector funding, such as mitigation fees, are the more appropriate fund source?

While the concept of such analysis is slowly taking hold within the project development arean, the Travel Task Force has identified the need for further work on procedures to implement this action as a high priority for CDTC in the 2021 plan.

6) Establish priority treatment networks for improvements beyond basic infrastructure renewal.

Specific networks of facilities receive special treatment in this prioritization approach. Improvements are then made as part of necessary renewal work. *New Visions* task forces identified preliminary "priority treatment" networks for transit, bicycles and pedestrians, goods movement, intelligent transportation systems, and arterial corridor management. Further refinement, mapping and review by affected parties are required before these networks can be formally specified by CDTC.

Priority networks reflect facility function and importance.

The identification of priority networks does not imply that improvements off the defined networks are not warranted or desirable. For example, bicycle or pedestrian accommodation in a given corridor can often be provided more safely and/or cost-effectively on parallel facilities, rather than on the shoulder of a busy state highway. Flexibility is required in interpretation, so long as the basic message -- **these are important facilities** -- is not lost. The Budget chapter uses task force-identified priority networks -- regardless of the jurisdictional ownership of the roads -- in developing cost estimates and resource requirements. The full implementation budget is sufficient to allow construction of AASHTO standard facilities on the entire state system of roads with increasing sensitivity to issues beyond moving cars. It also allows significant upgrades to the non-state road system reflecting half of the federal-aid road network.

The *New Visions* task forces identified the following preliminary priority networks.

Bicycle and Pedestrian Priority Network

A bicycle and pedestrian priority treatment network provides a "backbone" for a region-wide bicycle and pedestrian travel system. The ±355 mile network contains those facilities which have high existing or potential bicycle and pedestrian travel but also present many *barriers*, including high traffic volumes/speeds, limited pavement space and busy or confusing traffic patterns. These facilities connect major activity centers, are accessible to residential areas via local roads, and have few practical alternatives nearby. The facilities included in the network are listed in the *Making the Capital District More Bicycle- and Pedestrian-Friendly: A Toolbox and Game Plan* technical report.

Over time, CDTC and local municipalities will designate Priority Network facilities as "bike routes". Appropriate signage will identify such routes. These facilities will be improved to Group B/C cyclist standards as set forth in the FHWA *Selecting Roadway Design Treatments to Accommodate Bicycles* report. Routine maintenance, such as shoulder sweeping, will be increased. Sidewalks, crosswalks and pedestrian phases at traffic signals will be added or improved. A "where to ride" map of the Network will be developed and widely distributed.

Arterial Management Priority Network

The *New Visions* report entitled *Land Use/Traffic Conflict Inventory and Measurement* contains level of compatibility ratings for over 275 roads covering nearly 850 miles of Capital District roadway. The access management priority network is defined as:

- Those road segments that show a high degree of conflict between commercial or residential land use and traffic, resulting in "poor" compatibility (Level of Compatibility D, E or F); and
- Additional road segments where either the potential for commercial development or intrusion of vehicle traffic through residential corridors is high, or significant deterioration in arterial corridor function is forecast to occur by 2015.

This priority network tentatively includes about 220 miles of roadway. The network is predominantly composed of state highways in suburban towns.

Goods Movement Priority Network

The proposed priority road network for goods movement in the Capital District includes:

- The National Highway System, including intermodal connectors (approximately 826 lane-miles); and
- State Highways that currently carry more than 10% trucks in the traffic flow (approximately 150 centerline miles).

Locations on the priority truck network where load limits, clearance restrictions, turning radii, and narrow lanes impact goods movement are documented in *Goods Movement in the Capital District: A Performance Report*, a *New Visions* technical report. The cycle of infrastructure repair on these routes will systematically remove these barriers to goods movement. This should be done regardless of any changes in jurisdiction or other policy choices made in the context of overall infrastructure renewal. The priority truck network should be built to AASHTO standards (14-foot minimum clearance, 16.5 feet on the Strategic Military Network) regardless of ownership. Resource requirements are the baseline assumptions for infrastructure repair. If this baseline were reduced, the priority truck network would require special attention.

Transit Priority Network

Traditionally-strong transit corridors such as NY 5, NY 32, US 20, US 4, and downtowns and potentially-strong corridors such as NY 7, US 9, NY 155 and Wolf Road represent priorities for improvements to transit amenities. Transit amenities include bus stops, pull outs, and park and ride facilities. However, the single most important action to improve transit accessibility is a significant increase in sidewalk and crosswalk provision and maintenance throughout the region.

Intelligent Transportation System (ITS) Network

The Expressway Management Task Force identified a network of expressway and arterial facilities as the platform for the regional ITS. There should be centrally coordinated traffic control and/or guidance along these facilities. The logic is that advising travelers of preferable alternatives *before* they enter the most congested areas and facilitating smooth flows along the alternatives can keep overall traffic conditions from worsening. The regional ITS network contains:

- priority expressways;
- arterials representing their immediate alternatives (ordinarily either parallel to or connecting the expressways);
- their secondary alternatives (which entail more surface street travel); and
- other arterials that are strategically important because they are spurs of the priority arterials and/or carry traffic across major travel gateways.

A county-by-county listing of this over 250 centerline mile network is included in the *Expressway Management Task Force Technical Report.*

7) Adopt an access management policy for the arterial priority network.

Major roadways, including all of the region's surface arterials and certain strategic collectors serve both as the primary network for moving people and goods and the focus for commercial and residential development. If access to arterial roadways is not properly designed, these roads can't accommodate development *and* retain their primary transportation function. Good access management is the single most effective element in improving safety and preserving arterial capacity. An access management policy, adopted by CDTC and endorsed by its members, will help ensure that new and existing curb cuts meet appropriate standards. Such a policy would have four components:

1. Reinforce Street Hierarchy: Access to property should reinforce the roadway hierarchy in order to maintain traffic flow, preserve roadway capacity, and enhance safety. As a rule, access to property should be from local streets or collector roads and not from the arterial itself. Traffic should flow to and from the arterial over collector roads and enter/exit the arterial at controlled intersections.

2. Guidelines for Driveway Spacing on Commercial Corridors: Driveway spacing standards limit the number of curb cuts on a roadway by stating minimum desirable distance between driveways. Proper spacing helps reduce collisions, encourages sharing of access for smaller parcels, and improves community character by discouraging haphazard placement of driveways along corridors.

   Establishing acceptable commercial driveway spacing guidelines on the regional level will require more dialogue with NYSDOT, local government, and affected stakeholders. A strict traffic operations approach may support spacing requirements of 500 feet or more based on narrow consideration of merging and weaving distances, stopping sight distances, acceleration rates, and storage distance for opposing left turns. However, such spacing may be unacceptable for economic development in some suburban environments where development pressures advocate 100 to 200 foot spacing.

   The *New Visions* Arterial Corridor Management task force recommends that environmental setting and highway design be used in conjunction with roadway speed and volume to determine desired driveway spacing. Guidelines to begin the discussion are included in the *New Visions* Technical Report, *Development of an Arterial Corridor Management Strategy for the Capital District: Planning Report*. The task force suggests that a reasonable balance between traffic engineering criteria and economic development demands can be achieved.

3. Signal Spacing Guidelines: Preserving the quality of traffic flow and safety along public streets requires spacing of traffic signals that assures continuous, progressive movement. This normally entails relatively uniform spacing of signals at sufficient distances to travel at reasonable speeds. Spacing guidelines for signalized intersections have been drafted. These guidelines should become part of further policy development.

4. Residential Street Standards: The intrusion of heavy traffic into residential neighborhoods impacts regional quality of life. Using objective criteria developed from CDTC's highway system review and current research, planning guidelines have been suggested for further discussion.

Examples of the kinds of design treatments that would help achieve the driveway and signal spacing standards described above include but are not limited to:

- Regulate the maximum number of driveways per property.
- Increase property frontage along major roadways.
- Provide opportunities for shared access with adjacent developments.
- Encourage access between developments across parking lots.
- Require adequate internal design and circulation plans in addition to a traffic study for system impacts.
- Consolidate existing access whenever separate parcels are assembled under one development plan.
- Locate driveways away from the functional area of intersections.
- Allow access to arterials only if a traffic study shows it is necessary or beneficial to overall traffic circulation.

Minimizing the number of driveways and traffic signals decreases traffic conflicts and preserves the traffic-carrying capacity of the region's arterial streets. Equally important is the maintenance/improvement of the living environment and visual character of the region's older residential arterials.

Incremental costs attendant to accommodating driveway and signal spacing, constructing local roads to complement the arterial street system, and fostering well-designed circulation systems are minimal if addressed during the development process. Some costs to the business community will be offset by additional development opportunities created by increased land and transportation efficiency. Retrofitting existing developed corridors will be more difficult and costly, but can be accomplished either in conjunction with site redevelopment or as part of routine public highway reconstruction projects.

8) Explore changes in road ownership as a way to better align infrastructure funding with function.

Jurisdiction can be a major obstacle to effective transportation systems. The state, counties, cities, towns and villages own roads. Transit, the Port of Albany, regional airports and freight rail systems operate separately from road systems. Funding available for maintenance, operation and capital improvement varies widely by community and level of government. Decision processes and design standards for highway design and traffic signal systems also vary widely. Currently, funds for highway infrastructure repair are structured primarily according to jurisdiction (ownership of the road). However, the travelling public doesn't care who owns the road. Road condition and the quality of service provided are what matters.

Actions related to infrastructure renewal and to improvements on a priority network heighten the issue of jurisdiction. If significant repairs and design upgrades are pursued on higher function roads, it is reasonable to explore options to fund the most effective way of carrying out this work.

Jurisdictional transfers are one way to align function with ownership.

One approach to aligning funding with road function is to orchestrate a region-wide ownership swap. Higher-function non-state roads would be transferred to state jurisdiction, and lower-function state roads to local jurisdiction. Guidelines for such transfers could be developed, taking into account functional classification, volume of traffic and equity considerations. Complete consistency would require transfer of major arterials within the cities to state ownership. Legislation may be required to enable such widespread jurisdictional changes.

A concept that was raised during the *New Visions* process was the transfer of ownership of regionally significant facilities to a regional authority. This option is the logical extension of "regionalization" efforts -- find an existing regional authority or create a new one with jurisdiction over at least all higher function facilities. In the long term, this approach may be worthy of further study, particularly in conjunction with congestion pricing studies. However, the experience of the State Commission on the Capital Region indicates that there is very little public support for regional service delivery of this type at this time.

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[1][1] U.S. Department of Transportation. *ISTEA Reauthorization: Policy Statement and Principles.* 1996.

STRATEGIES AND ACTIONS

INTRODUCTION

Making the vision a reality will require hard work on the part of government and the private sector. Over 100 transportation actions were proposed by the *New Visions* task forces -- public outreach provided ideas for many more. These actions have been grouped into broadly supported strategies, combined to reduce redundancy, and refined to reflect scopes appropriate to guide long range planning efforts. Major policy choices regarding major investments for the region are discussed in the next chapter.

Debate centers on relative priority in constrained budget times.

The action strategies were reviewed during a lengthy public review period (12/95 through 6/96). Based on the responses received, the number of strategies was reduced from seventeen to ten by combining common elements. Some proposed actions -- namely those dealing with CDTC institutional structure such as the creation of permanent advisory committees or changing the composition of the governing board -- have been referred to the upcoming update of the CDTC's Prospectus (1997-2002). With this exception, there appears to be little question about the desirability of implementing these strategies -- the debate centers on relative priority in constrained budget times. The questions are more about how, who, how much and where -- not whether.

Each strategy narrative describes expected benefits and institutional and budgetary implications of adopting the strategy. Then, recommended actions that would implement the strategy are listed. Further detail on the impacts of the actions can be found in the 14-volume *New Visions* technical report series.

Greatest Concerted Effort

In addition to asking for comments on the strategies and candidate actions, the *New Visions Workbook* specifically asked for opinions on where the greatest concerted effort will be required for successful implementation. Budgetary priorities when financial resources are constrained were also queried. Some of the typical responses included here provide guidance and a dose of realism to strategy development and set the stage for the budget discussions that follow.

Significantly, every strategy proposed in the *New Visions Workbook* was considered by at least one respondent to require the greatest concerted effort. This is one indication of the tremendous amount of work that implementing the strategies will require by CDTC, its member agencies, and its partners in the process. Three strategies stand out, however, as ones where it is perceived that considerable concerted effort will be required:

- Reducing jurisdictional barriers,
- Ensuring transportation/land use compatibility,
- Pro-actively planning, and
- Providing appropriate transit service.

Politically sensitive and concerted effort will be required to overcome jurisdictional barriers.

Many of the *New Visions* task forces saw jurisdiction as a significant barrier to implementing recommended actions. The goal of reducing jurisdictional and institutional barriers received considerable support during the outreach period. However, reducing jurisdictional barriers was also widely perceived to be an area where substantial, focused effort will be required for progress to be seen. CDTC's basic focus is to provide an effective transportation system to the region. Where jurisdiction, either because of historic road ownership patterns, funding eligibility restrictions, or other reasons, creates a barrier to providing an effective transportation system, it needs to be addressed. There are multiple creative ways to address these issues, as shown in the actions in this chapter. Understanding that considerable concerted effort -- delivered in a politically sensitive manner -- will be required is realistic.

Another area where substantial staff resources will be required is improving transportation and land use compatibility through proactive planning. "Perhaps the greatest concerted effort will be to get municipalities, where the power to regulate land use lies, to really consider transportation planning in their decisions." (Donald R. Odell, *New Visions Response Worksheet*) However, as Jack Reilly from CDTA put it, “This is a high staff time, high payoff effort.”

Donn Fichter, a NYSDOT retiree from the Transit Division, in citing the provision of appropriate transit service as a high-effort task, said "I foresee plenty of problems with items like labor rules, reliable funding, and coordination of agency paratransit." This opinion was shared by others, citing the American "love affair" with the automobile, the difficulty in making transit competitive, and the institutional structure of human service transportation.

Budgetary Priorities and Funding for Strategy Implementation

> "Unless we make sufficient investment for the future now, the result will be a decline in the quality of life in the region. This lack of investment will be an opportunity lost and a very costly mistake." Brian Zweig, *New Visions Response Worksheets*

> "All of the strategies are necessary to make the whole work. By eliminating any one strategy, you begin to compromise the desired goal and therefore the expected results. Either (we) must work with available budget or find alternative funding sources if we are to accomplish what *New Visions* has laid the framework for." Mary Burke, *New Visions Response Worksheets*

These two sentiments -- work within the budget, and do what is necessary to fully implement -- are reflected in the budget scenarios presented in the next chapter. The interrelatedness of the strategies is also a point well taken. The budget scenarios that follow this discussion of strategies look at preservation of the existing system, managing the system, and full implementation. Outreach efforts revealed significant, but far from universal, support for increasing transportation revenues to implement important goals among stakeholders. It is clear that raising new funding sources will require additional consensus-building, careful thought, and that success will depend on the specific mechanism chosen. These issues are considered more fully in the Budget chapter.

List of Strategies and Actions

The following list summarizes the strategies [*in brackets*] and actions included in this chapter.

[1] MAINTAIN INFRASTRUCTURE IN GOOD CONDITION AND FOCUS ON PRIORITY TREATMENT NETWORKS FOR OTHER IMPROVEMENTS

1. Make the Capital District transportation system safer. (p. 2)
2. Continue adequate highway and bridge maintenance efforts. (p. 2)
3. Carry out an effective highway and bridge rehabilitation and reconstruction program. (p. 2)
4. Maintain transit equipment and facilities in a state of good repair. (p. 2)
5. Embrace a "risk assessment" approach to capacity in infrastructure project design. (p. 2)
6. Establish priority treatment networks for improvements beyond basic infrastructure renewal. (p. 2)
7. Adopt an access management policy for the arterial priority network. (p. 2)
8. Explore changes in road ownership as a way to better align infrastructure funding with function. (p. 2)

[2] PRO-ACTIVELY PLAN VIBRANT COMMUNITIES

9. Prepare and maintain a comprehensive Regional Development Plan. (p. 2)
10. Establish an Urban Service Area. (p. 2)
11. Provide funding for and staff participation in community-based planning. (p. 2)
12. Develop access management plans for all priority network arterials. (p. 2)

13. Support local planning board consideration of the regional transportation impacts of development decisions. (p. 2)

14. Improve site design practices. (p. 2)

15. Elevate consideration of transportation alternatives in siting facilities that primarily serve elderly and handicapped populations. (p. 2)

16. Improve delivery access for commercial vehicles. (p. 2)

17. Establish a program for transportation projects directed explicitly at community enhancement or regional economic development. (p. 2)

[3] REACH OUT FOR FULL PARTICIPATION

18. Emphasize public participation in transportation planning, programming and implementation. (p. 2)

[4] DESIGN EFFECTIVE FACILITIES

19. Improve continuity between the planning, programming and design processes. (p. 2)

20. Mitigate congestion only when such improvements are consistent with adopted *New Visions* principles. (p. 2)

21. Routinely make road projects bicycle-, pedestrian- and transit-friendly. (p. 2)

22. Expand the regional road network to include greater use of service roads and collector streets. (p. 2)

[5] DEVELOP INTELLIGENT TRANSPORTATION SYSTEMS AND MANAGE TRAFFIC INCIDENTS EFFECTIVELY

23. Implement Intelligent Transportation Systems (ITS) on the priority network. (p. 2)

24. Implement the Expressway Incident Management Development Plan. (p. 2)

[6] SUPPORT INTERMODAL TRANSPORTATION

25. Improve intermodal passenger connections throughout the region. (p. 2)

26. Support intermodal transport of goods in and through the Capital District. (p. 2)

27. Improve surface access to the Port of Albany. (p. 2)

28. Implement improved surface access to the Albany County Airport. (p. 2)

29. Eliminate at-grade railroad crossings at every opportunity. (p. 2)

[7] PROVIDE APPROPRIATE TRANSIT SERVICE

30. Restructure transit service to meet 21st century needs. (p. 2)

31. Support transit through design of the built environment and use of technology. (p. 2)

[8] TREAT ALL MODES FAIRLY IN THE CAPITAL PROGRAM

32. Direct transportation improvements and services to support *New Visions* concepts. (p. 2)

33. Provide funding for implementation of small, cost-effective improvements. (p. 2)

34. Develop Class 1 bicycle facilities in major travel corridors of the region. (p. 2)

[9] ENHANCE DEMAND MANAGEMENT

35. Continue and expand demand management initiatives. (p. 2)

36. Engage New York State as a full partner in parking management and transit promotion. (p. 2)

37. Consider highway pricing (particularly congestion pricing) and broad parking policies (including cashing out). (p. 2)

[10] SECURE ADEQUATE FUNDING TO FULLY IMPLEMENT THE PLAN

38. Build a coalition to advocate for regional transportation projects. (p. 2)

39. Explore local funding mechanisms for implementation of the plan. (p. 2)

40. Actively pursue public/private partnerships that leverage use of public funds. (p. 2)

41. Increase the use of mitigation fees to finance transportation improvements. (p. 2)

42. Include demand management and transit support in developer-financed traffic mitigation programs. (p. 2)

43. Explore changes in funding rules and programs to better align funding with function. (p. 2)

PRINCIPLES

Each task force proposed principles to guide future transportation investments.

Planning and investment principles guide decision-making at CDTC. As statements of principle, they provide a framework for funding decisions, project selection criteria, and corridor-level planning. Each of the nine original *New Visions* task forces proposed planning and investment principles to guide CDTC's decisions during "Phase 2" of plan development. Some task forces found this an easy task because a great deal of agreement existed. Others discovered that careful "wordsmithing" was necessary to create a statement that all of the participants could buy into. The principles crafted by the task forces were intentionally broad in order to lead to convergence rather than divergence of opinion among *New Visions* participants, the public, and elected officials. The full set of 58 proposed principles were circulated for public comment in the *New Visions Workbook*, stating that re-organization and consolidation to better reflect overlap and points of consensus between task forces would likely occur.

Public review brought the proposed principles into sharper focus and helped identify common themes.

Public comment on the proposed principles was wide-ranging, including suggestions for specific wording changes, as well as several pleas for simplification. Overall, the general direction and emphasis of the principles received support from public reviewers. The comments blurred the distinctions of task force origin and highlighted common themes as well as some contradictions between different issues. The principles were subsequently shortened and revised to provide internal consistency. This reorganization "cuts to the chase" of what CDTC participants are able to agree upon in terms of where we should be spending our limited planning resources and transportation dollars.

Four basic themes emerged from the public review of the principles. Organizing the specific principles around these themes and eliminating redundancies allowed the substance of the hard-earned task force consensus to be preserved, while simplifying the presentation. The principles provide a framework for transportation investment in the Capital Region over the long term. After their adoption in 1997, they have quickly had significant impacts on how transportation planning is approached and where public transportation investments are made.

The principles are organized under four broad themes:

1. **Preserve and Manage**. CDTC's highest priority is preserving and managing existing investment in the region's transportation system. Capital investments will be directed by the CDTC based on function and need. The priority for improved design and condition of major facilities should **not** depend upon whether the facility is owned by the state, county, city, town or village.

2. **Develop the Region's Potential**. The Capital Region is a single economic unit containing a rich heritage, historic communities that cannot be replicated elsewhere, vibrant suburban areas, abundant open space and recreational opportunities, great natural resources and a highly educated work force. This region can grow into a uniquely attractive, vibrant and diverse metropolitan area. CDTC will consider community and economic development plans as **essential factors** in making transportation investment decisions.

3. **Link Transportation and Land Use**. Local land use decisions impact the function of the transportation system -- and vice versa. This relationship is paramount to all transportation planning and programming decisions. Achieving the plan's goals depends as much on achieving unprecedented success in the land use area as on improving the transportation system.

4. **Plan and Build for All Modes**. Transportation planning and project design need to consider and accommodate more than cars. Pedestrians, bicyclists, delivery vehicles, long-distance trucks, rail crossings and intermodal terminal access are among the modes and modal considerations elevated by the plan.

The principles state when and how CDTC believes transportation investment is warranted, and when it believes such investment is not warranted.

PRESERVE AND MANAGE

CDTC's highest priority is maintaining our investment in the existing transportation system. Strategically improving system performance, managing congestion, and balancing access concerns with safety are part of an overall principle that treats the transportation system as an asset and an investment. Continuous improvement to the planning process must be coupled with improvements to project design and delivery. Future transportation investments must be wisely and carefully chosen in a fair process that results in timely project implementation. Improving the *way* we do business provides a limitless opportunity and a daunting challenge.

Improve System Performance

CDTC's highest priority is preserving and managing our investment in the existing transportation system.

1) CDTC is committed to the maintenance, repair and renewal of the existing highway and bridge system in a cost-effective manner that protects and enhances rideability, public safety and accessibility.

Minimizing the overall costs of providing and using the system is a goal. Appropriate investment in repair and renewal of existing facilities is a higher priority than investment in expanded capacity. Appropriate investment includes balancing access and mobility needs, considering all modes, and coordinating infrastructure renewal with local land use planning efforts. Geometric standards for lane and shoulder width, provision of bike lanes and sidewalks, transit accommodations, vertical and horizontal alignment, and clearances will be based on the function of the facility, its adjacent land use, and the cost-effectiveness of the repair. Greater latitude in adjusting design parameters to local conditions is critical to providing highway and bridge infrastructure in a cost-effective manner.

The success of transit is directly tied to pedestrian accommodation.

Public transit, sidewalks, and bicycle facilities require routine consideration as part of the transportation infrastructure. Increased opportunities for public transit use and walking provide an alternative to auto travel that can reduce congestion and traffic conflict levels along Capital District arterials. Transit service works best when it is considered as an integral part of roadway design, development, and urban revitalization. Furthermore, the success of transit service is directly tied to accommodation of the pedestrian. While there are growth markets for park-and-ride services and for bike-transit connections, transit usually provides the middle leg of walking trips. Unless the pedestrian can travel quickly, safely and conveniently to and from the bus stop, there can be little success in maintaining or expanding the contribution of transit to the community. Wide, paved shoulders and/or sidewalks connecting residential areas to bus routes make bus travel more attractive. Cyclists are more inclined to bike to bus stops when there are safe shoulders or bike lanes, secure bike storage facilities, and/or bike racks on the buses. These types of improvements need to be routinely considered in project design.

Bicycle and pedestrian facilities require maintenance to a higher standard than motor vehicle facilities to insulate bicyclists and pedestrians from danger. Broken glass, snow, ice, and rough surfaces are common hazards on road shoulders. Frequent sweeping, plowing, and rehabilitation (repaving) is required. Increasing motorist awareness of cyclists and pedestrians by clearly signed and marked crosswalks and bike lanes is another requirement. Pedestrian phases at busy intersections (and near transit stops) provide additional protection. Separate bicycle stop lines at intersections increase visibility and give cyclists a chance to "pull away" ahead of turning vehicles.

2) Funding for appropriate repair and renewal will be based on the function and condition of the facility -- not ownership.

All principal arterials and other major facilities in the Capital District are vital to the economic life of the region, regardless of whether they are currently owned by a city, village, town or the state. Providing consistent and continuous systems and/or appropriate transition zones is a priority. State numbered highways and other facilities serving regional needs within city limits need equitable access to federal, state and county transportation funding.

3) Encouraging bicycle and pedestrian travel is a socially, economically and environmentally responsible approach to improving the performance of our transportation system.

Bicycling and walking should be a safe option for short trips.

Cycling and walking are legitimate components of a multimodal transportation system. According to the 1990 Census, more people commute to work by bicycle or on foot than by using transit in the Capital District. In addition, most transit trips start with a walk. Aside from sidewalks in the downtown areas and a small number of paths or bike lanes, there has been minimal direct investment in bicycle or pedestrian infrastructure in the Capital District. Investments in new bicycle and pedestrian facilities will tap the *latent* demand for travel via these modes, encouraging people who would travel these ways "if it was safe" to do so. Even conservative estimates of use which take weather into account show that making bicycling and walking feasible can make a significant difference in people's choices. Importantly, many of the trips with the greatest potential for shifts from driving to cycling or walking are the very trips that contribute the most to air pollution (short "cold starts") and to congestion (summer, non-commute trips).

Many barriers to transit, bicycle and pedestrian travel can be removed quickly and inexpensively. Whether by smoothing over a rough shoulder with some blacktop or re-timing a traffic signal to allow pedestrians (and wheelchairs) adequate time to cross a busy intersection, bicycle and pedestrian accommodations are often low cost. This is particularly true when compared to roadway projects. They can be built both as additions to planned highway projects and as free standing efforts. Design features such as bus stops/shelters, pedestrian refuge medians on major arterials, crosswalks and pedestrian-actuated signals at intersections are *central* to successful urban project design -- not extras.

It is important that pedestrian initiatives appropriately address the needs of the mobility impaired and elderly population. Creation of crosswalks and incorporating walk phases into signal timing plans at the busiest Capital District intersections will not necessarily accommodate the elderly or mobility-impaired user unless curb cuts, refuge areas, and adequate crossing times are also

provided. As more mobility impaired persons are mainstreamed with regard to public transportation (as per the Americans with Disabilities Act), and our population ages, such considerations must become the norm.

4) In addition to supporting desired land settlement patterns, transit service helps meet multiple regional objectives in the Capital District.

- Transit contributes to congestion management, air quality and energy savings;
- Transit offers an alternative travel mode, reducing auto dependence; and
- Transit provides essential mobility for those who do not operate a private vehicle.

Transit benefits non-users as well as users.

These separate roles have distinct demands on resource requirements and differing implications for service design. The value of public investment in transit facilities and services must be considered in relation to these multiple objectives. Comparison of transit investment with other alternative uses of public resources, including other transportation investments, must fairly examine costs and benefits to transit users and non-users. Congestion management benefits accrue primarily to automobile users, for example, while emissions reductions provide a broad social benefit. Alternative mobility benefits a targeted segment of the population.

The provision of essential mobility to those with few alternatives requires explicit recognition in transportation funding decisions. Cities currently shoulder an unequal proportion of the region's special needs populations, poor people, and households without cars. The drain that the provision of social services places on urban areas lessens the amount of money available in municipal budgets for basic maintenance and rehabilitation of the transportation infrastructure. Social equity argues for emphasis in those areas where the need is the greatest.

5) The needs of the older driver will be considered as transportation facilities are maintained and rehabilitated.

Older drivers require updated standards.

By 2015, over one fifth of the population will be age 60 and above. The elderly population of 2015 will have grown up in an era of automobile dependency. These older people will tend to remain in the suburbs and have high expectations about driving and mobility. At the same time, aging causes problems related to depth perception, visual field, visual acuity and glare sensitivity. Research by the federal government suggests that improving sign reflectivity, increasing letter heights, and improving stopping sight distances will help tremendously to accommodate the needs of the older driver. This allows them to maintain their independence and mobility. The New York State Department of Transportation and local transportation departments can enhance sign reflectivity and letter sizes to accommodate the needs of the older user.

6) Increased efficiency in current vehicles/programs is preferable to fleet expansion to provide for special transportation needs.

Adding more buses to the transit fleet and/or adding more STAR vehicles is not the whole answer to accommodating increased demand for special transportation service. A wealth of transportation inventory is owned and operated by human service agencies; much of it is underutilized. An "action plan" to integrate the services offered by these agencies and those offered by CDTA is required. If there is still a transportation shortfall after implementation of effective coordination, then fleet additions can be considered.

The ability of a disabled person to independently select transportation mode and time of travel is preferable to travel arranged by an agency or transit authority. The Americans with Disabilities Act (ADA) of 1990 stresses the importance of independence and mainstreaming. Mobility disabled persons are encouraged to use the fixed route transit system to the extent possible. Increased investment in mobility training will aid in the transition from dependence on paratransit transportation service to fixed route service.

Manage Congestion

7) Management of demand is preferable to accommodation of single-occupant vehicle demand.

Demand management provides multiple benefits.

All things being equal, actions that shift demand from single occupant vehicles to other modes, shift travel to uncongested periods of the day, or reduce the need for travel are preferred to actions that accommodate the desire for unconstrained travel. Demand management actions have both a spillover and a cumulative effect not present with physical actions. Demand

management actions taken to relieve congestion in one corridor spill benefits over to other corridors by simultaneously moderating demand in those corridors, as well. Over time, a cumulative benefit comes from developing a critical mass of transit use that supports more frequent transit service. Additional benefits accrue from voluntary accommodation of pedestrian and bicyclists in site design, or from establishing acceptance of innovative work schedules and telecommuting. These benefits don't accrue from actions that accommodate unconstrained single-occupant auto travel.

8) Cost-effective operational actions are preferable to capacity expansion.

Historic financial constraints and categorical funding programs have provided resources more readily for capital investment than for operating the system. In the Capital District, a third of the 400 signalized intersections analyzed by CDTC staff over a four-year period had congested conditions that would respond to low cost signal timing and lane striping changes. Where applicable, these operational actions are many times more cost-effective than physical expansion. Coupled with proactive corridor management practices, such as limiting driveway cuts, providing service roads, and coordinating development, such operational actions can stretch our arterial capacity and help avoid building new capacity.

9) Capital projects that provide significant physical highway capacity expansion are appropriate congestion management actions only under compelling conditions.

These are the following:

a. "Critical" levels of congestion are currently present or are expected to be present under short-range (no greater than ten year) forecasts;

b. Demand management (including appropriate application of non-auto actions) and operational actions are not expected to reduce congestion from "critical" levels;

c. Demand management (including appropriate application of non-auto actions) and operational actions are incorporated into the design of the physical expansion to minimize expansion requirements and maximize the service life of the improvement;

d. New development and/or existing trip generators contribute appropriately to the cost of the action (including the demand management and other non-construction aspects);

e. A land use management program or agreement exists to provide reasonable assurance that the new capacity created will be effectively managed and preserved;[1] and,

f. The expansion is considered consistent with regional, county and local land use and development plans.

g. The project is designed to have the least possible environmental impact and appropriate mitigations are included.

Projects primarily intended to serve through traffic or designed to serve statewide purposes are not subject to these criteria.

10) Significant capacity additions carried out in the context of major infrastructure renewal are appropriate only under compelling conditions.

A compelling case for adding capacity must be made.

In bridge replacement cases, long-lasting decisions about capacity expansion often must be reached long before critical congestion levels are reached and before local demand management actions are in place. Traditional design policies and procedures require revision in order to assure consistency of these decisions with CDTC's Congestion Management System (CMS). Traditionally, facilities have been designed sufficient to accommodate projected demand at acceptable levels-of-service throughout the physical design life of the facility. For a bridge structure, for example, this involves designing to accommodate traffic projections for a date thirty or forty years beyond the expected date of completion of the project. Variance from this policy has been granted primarily in situations in which there are practical impediments to full accommodation of future demand.

The CMS-driven design approach reaches a determination of facility design through a risk assessment (tradeoff analysis) that focuses on the opportunity cost of selecting alternative designs. If a bridge reaches the end of its "useful life" and requires replacement in the same location, the risk assessment focuses on several factors:

a. Incremental costs and benefits of designs that add capacity to accommodate future traffic, relative to less-accommodating designs;

b. The projected amount of time that will lapse before a given design with greater capacity would be expected to have annual benefits sufficient to return an incremental benefit/cost ratio comparable to other *capacity* projects included in the TIP;

c. The additional expense involved in providing the incremental capacity at that later date, rather than during the initial project;

d. The degree of uncertainty present regarding future demand forecasts; and,

e. The compatibility of the additional capacity with regional, county and local land use plans.

In these cases, capacity expansions can be considered consistent with the Congestion Management System under the following conditions:

a. The risk assessment indicates that, even with effective operational and demand management actions, critical congestion is likely to occur at the location during the life of the facility;

b. The combination of time lapse until a competitive incremental benefit/cost ratio is reached and the additional expense of providing the capacity later points to doing the work now; and,

c. The capacity expansion is compatible with regional, county, and local land use plans.

d. The project is designed to have the least possible environmental impact and appropriate mitigations are included.

In all cases, the desirability of the expansion must be clear before the investment is made.

11) Incident management is essential to effective congestion management.

While most congestion management actions are targeted at recurring congestion, congested corridors also experience significant "non-recurring" congestion due to accidents, vehicle breakdowns and other incidents. This experience is most severely felt on limited access, high-speed facilities operating at high traffic densities. Minor incidents can generate significant delays. Effective incident detection and management can save as much time and operating cost as major investments in physical expansion.

Incident management is cost-effective.

Protect Our Investment

12) Managing traffic flows on the Capital District expressway and arterial system is critical for both economic and social reasons.

The Capital District's economic competitiveness relies on the use of its expressway system for over-the-road freight movement and for connections with air, water and rail modes. In addition, the expressway system is heavily used for commuting and general circulation within the region. It enhances the region's quality of life by providing access to a wide range of local activities and to those of other regions. Investments in traffic management, particularly related to construction and incidents, are cost-effective investments in the safety of the highway system.

Mobility is essential to our region's economic health.

The Capital District's expressway "system" includes technology and human resources that are critical to its effectiveness. The complete system includes traffic monitoring and control technologies that facilitate maintenance of traffic flows, as well as the staffs of transportation, police, fire, and medical service agencies that maintain traffic mobility or safety. The system includes the following activities or functions:

- traffic and weather condition monitoring;
- traffic control;
- inter-agency communication and coordination;

- appropriate incident response; and
- traveler information.

Proper management of the expressway system must also include management of arterial feeders and receivers that connect the expressways to the remainder of the roadway network. Expressways are not entities unto themselves, and access to and from arterials cannot be considered a "given." Making optimal use of the expressway system requires elimination of difficulties in connecting to/from local land uses. Guidelines for arterial corridor management have been developed within the existing regulatory and policy framework, and can be used in conjunction with existing land use and zoning control mechanisms such as site plan review and subdivision regulations.

Arterial Management guidelines allow for increased development.

Arterial corridor management planning also allows for and can increase economic activity. The region's economy cannot afford to allow private investments in land development to be impaired by obsolescence of the highway facilities on which they depend. Good arterial corridor management planning designs facilities that adequately serve traffic yet guide surrounding development in a sustainable manner. Development opportunities can be embraced when access, transit, and pedestrian issues are properly addressed. When proper planning occurs, the conflict with arterial function is minimized.

13) Major capital projects must have a plan for operating budgets for the life of the project.

An emphasis on congestion management requires increased budgets for operations and maintenance. To ensure that our capital investments continue to yield benefits throughout their service lives, it is important to provide for the essential "upkeep" of these installations, whether they are of a structural or technological nature. Future transportation investments should include ongoing operations and maintenance commitments.

14) Maintaining the health and improving the efficiency of the existing freight facilities in the region through public/private partnerships is a high priority.

There are four primary freight facilities in the Capital District: the Port of Albany/Kenwood Yards, the Albany International Airport, the Selkirk Rail Yards, and the Thruway/Interstate System. There are also a number of secondary facilities, both publicly and privately owned. Project eligibility under federal transportation law limits the extent of influence that the CDTC can have on internal intermodal facility efficiency. Regional public sector transportation planning activities and capital investments are therefore focused on surface access and safety issues. It is a higher regional priority to enhance our existing freight facilities than to build new facilities.

It is a higher priority to enhance existing freight facilities than to build new ones.

Freight planning activities by the public sector are partnership opportunities. Historically, the private sector has provided efficient goods movement. The privately owned rail and trucking companies will continue to do so given the right environment in which to work. Building partnerships is key to maintaining the Capital Region's transportation system as an asset to our economic health.

DEVELOP THE REGION'S POTENTIAL

The Capital Region functions as a single economy. The economic health of the suburbs is inextricably tied to the health of the cities and the rural areas. The region has made few major mistakes -- we have a strong foundation to build on. The following set of planning and investment principles builds on the region's strengths and recognizes the great potential we have to grow into a uniquely attractive, vibrant, and diverse metropolitan area.

The Capital Region is a single economic unit that can grow into a uniquely attractive, vibrant and diverse metropolitan area.

Build Upon Our Strengths

15) The transportation system of the Capital District is an important part of the region's attractiveness.

The Capital District competes with other regions. Our transportation system enhances the region's competitive position. Protecting our economic base requires that the transportation system "work", that good connections are provided between and within regional centers and between modes, and that the region has a reputation for being accessible. As congestion and transportation problems become major issues in many metropolitan areas around the nation, the Capital District can protect and strengthen its transportation system as a marketable asset.

Road design must meet multiple objectives.

The arterial street and highway system is the foundation of the area's surface transportation system. The arterial highway system primarily moves traffic; it provides local access to adjacent properties as a secondary function. Improving highways for their traffic movement function is only one objective. In order to improve the area's living environment, balance must be achieved between the rights of property owners for access and the need to protect arterial function and community safety. Sometimes the road's dual functions of local access and mobility will not be compatible. Difficult choices will have to be made. Community quality of life is an important criterion to weigh during these deliberations.

16) Transportation investments will help preserve and enhance the Capital District's existing urban form, infrastructure, and quality of place.

The Capital District already has many unique attributes that other regions strive for:

- The region is a collection of communities that work together and possess a livable, community scale.
- The region is multi-centered with the most intensive suburban development in the center of the region rather than at the fringe. Suburban and urban areas depend on each other for jobs, for housing, and for cultural activities.
- Traditional transit corridors link urban centers.
- The region's modest growth rate is a strength because it affords the time and the opportunity to put in place plans and policies that encourage growth in harmony with the region's objectives.
- The region is endowed with a diversity of parks, a relative abundance of open space and a wealth of recreation and tourism attractions.

Use Transportation Investment as a Tool

17) Transit facilities and services can be an essential element of the social, economic and cultural fabric if supportive policies and investments are in place.

Transit's role in a community is defined not only by specific transit investment decisions but also by policies and decisions related to the provision of employer parking, design and density of new development and treatment of the pedestrian environment. Actions in these areas must work in concert with transit system design to allow transit to provide a significant contribution to the metropolitan area. Transit investments can serve as a tool to support regional and local land use policies.

18) Neighborhood-based local planning efforts are important to the success of an overall regional plan that emphasizes livable communities.

Livable communities are achieved at the neighborhood level.

Transportation improvements must be designed to improve neighborhood integrity. Historically, many major transportation investments have been disruptive to neighborhoods. There is an opportunity to use transportation improvements to bring neighborhoods together -- to increase owner-occupancy, to provide increased accessibility, and to enhance community values. Regional transportation plans are implemented by other agencies -- NYSDOT, CDTA, and local governments. It is important that the principles and "paradigm shifts" that the *New Visions Plan* advances be based upon and reinforced with local participation in planning efforts and project development activities. Through a convergence of "bottom up" and "top down" shifts in emphasis towards enhancing community quality of life, mutually beneficial solutions to regional and local problems will be achievable.

LINK TRANSPORTATION AND LAND USE

Land use decisions are made at the local level. Major transportation investments are generally the result of a combination of regional policy and the availability of state and federal funding. Strengthening the relationship between these decisions is central to achieving the *New Visions* goals of protecting our infrastructure investment and developing the region's potential.

Local land use decisions profoundly impact the function of the transportation system -- and visa versa.

Encourage Local Land Use Management

19) Land use planning and management is critical to the protection of transportation system investment.

Development in the Capital District in coming years is expected to add significant traffic pressures along existing two-lane and four-lane roads. *Unconstrained* development would likely add to the number of driveways serving isolated developments. Excessive curb cuts result in poor traffic flow, aggravate existing difficulties in providing effective suburban transit, frustrate attempts to create safe travel opportunities for pedestrians and bicyclists, and impair efficient local delivery of goods. The land available for development along many arterials can support an amount of development that far exceeds the ability of these roads to handle through traffic (which is their primary function). Pro-active corridor management that fosters efficient settlement patterns protects mobility. Site design practices that limit access to highways, are transit friendly, and provide pedestrian access help avoid gridlock.

Keeping options open through corridor protection tools is recommended.

Corridor protection and official street mapping preserve options effectively. Long-range congestion management must include protection of transportation corridors for possible future use. This includes protection of options for future provision of sidewalks, bicycle paths, transit connections, service roads and/or new collector or arterial highways. Opportunities for protection are presented by development approval, transportation project design, utility right-of-way creation or revision, and proposed abandonment of transportation facilities (such as rail lines). Official action, through land acquisition or street mapping is minimal at present, and expanded use of these tools must be considered. Not all congestion management actions can be implemented immediately; so options for future action must be preserved whenever possible. Risk assessments can determine the merit of preserving particular corridors.

Coordinated transportation and land use plans provide a framework that facilitates predictable development. By engaging in coordinated land use/transportation planning, a community can weigh development decisions against its stated vision of the future. Knowledge of existing transportation facilities and their interaction with land use and other infrastructure needs lends predictability to the development process. Such predictability is important for public and private investment decisions. Transportation and land use plans must consider both local and regional impacts.

Human service facilities siting requires improved consideration of access and mobility.

One specific area where local land use planning can be improved is siting of human service facilities for the elderly and disabled population. Downtowns and major urban corridors provide transportation choices that are not available in suburban and/or rural areas. As the "baby boom" generation matures the number of facilities providing services to the elderly and mobility-impaired elderly will likely increase. In addition, the State's emphasis on de-institutionalization will create additional "day program" facilities for the mentally disabled. The provision of transportation for these groups will become a major issue. As facilities are built, it is essential that they be located in places where transit is easily accessible and walking is an option.

20) Design of street layout and location of complementary uses creates a pedestrian scale and provides increased accessibility without compromising the attractiveness of development.

The Capital District is rich in traditional, walkable neighborhoods. Pedestrian connections between land uses included in the design standards for new subdivisions and new commercial centers will have many benefits. Consistent with community design goals, pedestrian and bicycle enhancements to existing subdivisions and activity centers connect neighborhoods to each other and to commercial areas.

Link Transportation Investments to Land Use Planning

21) Transportation investments will encourage residential and commercial development to locate within an Urban Service Area defined for the Capital District.

The urban service area can be generally defined as the urbanized area in Albany, Rensselaer and Schenectady Counties and the Saratoga Sewer District in Saratoga County. This urban service area may be extended to include areas that already have infrastructure in place; but further study will be necessary to specifically define the boundaries. The Urban, Suburban, and Rural Service Areas defined in the 1978 RDP adopted by the CDRPC are a good place to start the discussion. Adequate space exists within this urban service area to accommodate the urban growth foreseen for the Capital District, especially if opportunities for infill and redevelopment are used. Once defined in the context of regional planning efforts, this Urban Service Area can direct transportation investments to benefit appropriate development within its boundaries. This policy is not intended to neglect legitimate safety and infrastructure condition needs in rural areas, nor the need for adequate connectivity between urban and rural areas for commerce and recreation.

It's cheaper to provide urban services to a defined area.

Using transportation investments as a way to support urban reinvestment and infill provides tremendous advantages. The necessary transportation, water, sewer, and other infrastructure are already present -- thus reducing the cost of development. Transportation investments geared towards creating more livable, walkable urban places provide choice in the marketplace, allowing for increased diversity to flourish and the region as a whole to prosper. Furthermore, strong central places are engines that drive regional economic growth. The economic competitiveness of the Capital Region depends upon its city centers to serve as core areas for business, government, education, health care, culture and entertainment. There are eight cities in the Capital District and various important urban corridors: these include the four central cities of Albany, Schenectady, Troy, and Saratoga Springs and urban radial arterials like Route 5 and Route 20. Failure to attract and support development in the city centers and urban corridors will contribute to further loss of activity in these areas and additional decentralization. Transportation investments supportive of growth and redevelopment in city centers and urban corridors promote the efficient use of land and existing infrastructure. They also enhance our main streets and central business districts, making them safer and more attractive for business and public activities.

In both suburban and urban centers, transportation investments can encourage community scale, mixed use development in locations with pedestrian and bicycle access and transit. When residential development occurs far from arterials or when the separation between residential and commercial development is too great, accessibility is limited to the auto only. When development occurs close to arterials with a mix of complementary uses, people are given transport choices in addition to the automobile. Transportation investments that provide pedestrian enhancements and transit centers in high-density urban and suburban corridors improve neighborhood integrity and community livability.

22) Transportation investments will not encourage development in environmentally sensitive areas and will help to preserve rural character.

Open space will be preserved. Development in environmentally sensitive areas, both within and outside the urban service area, is not desirable. Open space is a valuable resource throughout the region. Any transportation improvements proposed for known environmentally sensitive areas must be carried forth in an environmentally sensitive manner. For example, environmental issues must be resolved prior to programming of construction funds to widen New Karner Road in the Albany Pine Bush.

Rural character will be preserved by appropriate transportation investments.

Transportation investments will be sensitive to the natural and physical landscape of rural areas and discourage urban or suburban type development in those areas. Rural features such as hamlets, villages, farmland, and open space will be preserved. Transportation project design will address access and circulation issues while being sensitive to the particular characteristics of the affected area. Consideration of factors such as agricultural districts or lands, existing zoning and development patterns, and historic, scenic, and open space preservation assures that improvements are harmonious with the surrounding landscape. Transportation investments will not encourage development in areas lacking adequate provision of public water and sewer services, or at low densities outside the urban service area. Such development often renders rural roads insufficient, subsequently raising expectations for higher design standards on these roads.

23) Arterial management guidelines will be flexible enough to deal with the Capital District's various roadway types and the specific land use patterns surrounding them.

Urban areas may require the use of traffic calming for pedestrian and parking purposes, and traffic-engineering standards need to accommodate this need. For an arterial management program to be effective, different design, land use, and traffic conditions will be accommodated within its policies. To impose the same guidelines on an urban arterial that may be applicable to a high-speed rural facility may lead to loss of valuable economic development. More often, it leads to arbitrary exceptions that, in the course of time, weaken the program.

PLAN AND BUILD FOR ALL MODES

Transportation planning and projects need to consider and accommodate more than cars.

Pedestrians, bicycles, freight, transit, air, and water transport -- and the connections between these systems -- have a legitimate and important role in the healthy function of a transportation system that meets people's needs. Regional transportation planning efforts must be comprehensive enough to look beyond eligibility for specific fund sources towards an interconnected intermodal system.

24) CDTC's planning efforts will be comprehensive enough to encompass all modes, including air, water, freight, intercity and local transit, pedestrian and bicycle.

CDTC's traditional focus has been the surface transportation network -- roads, bridges and buses. To adequately plan for the 21st century, transportation planning must encompass all modes and the connections between them. While recognizing our limitations in our ability to influence the private sector contributions to the transportation system, CDTC's planning and outreach efforts must be far-reaching in order to be address the region's needs.

CDTC's Unified Work Program will continue to include the efforts made by the CDRPC and the NYS Canal Corporation on both the Regional Air System Plan and the Canal Recreationway Plan. As members of CDTC, the Albany Port District Commission's and the Albany County Airport Authority's planning efforts will receive more attention. CDTA's high-profile role in the renovation of the Rensselaer Amtrak Station and involvement in downtown Albany transit service will provide important links to intercity rail and bus service in the region.

Freight will be explicitly considered.

All transportation projects will specifically consider the impact on goods movement and economic development in their planning, design, and implementation. Goods movement is an integral part of economic well being of the Capital District. An identified priority freight network deserves attention when improvements are considered, particularly where addressing current deficiencies that will significantly impact goods movement, improve system performance, and enhance economic development.

25) Possible bicycle/pedestrian-related improvements will be considered from the perspective of *developing a system* -- not just based on whether a particular facility is currently used.

As one *New Visions* task force participant put it, "Bicyclists (and pedestrians) are not stupid." If a facility is not comfortable or safe, they will not use it. Still, the facility might be a potentially well-used bicycle/pedestrian travel route. Eliminating the *barriers* to bicycle and pedestrian use along facilities creates attractive routes for both local and regional travel, and enhances mobility for Capital District residents with the fewest travel choices. Many Capital District residents either choose not to or cannot afford to own a car. Not providing reasonable opportunities for bicycle or pedestrian travel limits mobility and creates dependence on transit schedules, transit coverage, taxis or friends. In addition, bicycle and pedestrian accommodations can eliminate the dependence on cars in suburban areas where subdivision designs and the local street network combine to effectively require car travel for all trips. Children will particularly benefit from increased travel choices.

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[1] Capacity projects primarily intended to serve statewide goals are not addressed by this land use management criterion.

Supplemental Performance Objectives

In addition to these "core" measures, task forces in the original New Visions effort developed "supplemental" performance measures to enhance the illustration of the costs and benefits of alternative strategies. Four task forces created such "supplemental" measures: Transit Futures, Goods Movement, Infrastructure, and Special Transportation Needs. These measures are briefly discussed in the Technical Appendix to the *New Visions Workbook*. Very detailed descriptions are included in the Technical Report series. Actions to achieve the desired performance values for supplemental measures are included in the *New Visions* plan.

Supplemental performance measures are facility-specific.

Supplemental performance *objectives* for the transportation system describe more specific, generally facility-related targets. Attaining these very specific objectives will assist the attainment of the broader core performance objectives. Table 4 presents selected supplemental long-range objectives for the Capital District's transportation system.

Both the objectives for the core performance measures and those for the supplemental measures are achievable, despite current trends. Achieving these objectives and delivering on the system goals will require a high degree of cooperation, innovation and commitment. With success, the Capital District's transportation system will be one of the region's strongest assets in assuring continued economic health and a high quality of life.

Table 4: Performance Objectives for Selected Supplemental Measures

		Current Condition	2021 Performance Objective	Change 1996 to 2021
INFRASTRUCTURE				
HIGHWAY	Max % of Interstate roads in poor condition	5%	0%	üüüü
	Max. % of other NHS roads in poor condition	12%	< 5%	üüüü
	Max. % of other principal arterials in poor condition	15%	< 10%	üüü
	Max. % of other federal-aid roads in poor condition	17%	< 12%	üüü
	Max. % of local (non federal-aid) roads in poor condition	9%	< 15%	See note 1
	Max % of all roads in poor or fair condition	22%	< 20%	ü
	% of busiest 400 intersections that accommodate the mobility-impaired	0-5%	80-100%	üüüü
	% of highway signs meeting visibility standards	0-5%	80-100%	üüüü
	% reduction of high speed Amtrak grade crossings		100%	üüüü
	% reduction of freight main line grade crossings		> 25%	üüü
	% reduction of vertical, horizontal and load restrictions on NHS and high-truck state routes		80-100%	üüüü
	Lane-miles of state road reconstructed for multi-modal accommodation		550	üüüü
	Lane-miles of non-state road reconstruction for multi-modal accommodation		550	üüüü
	Center-line miles with full bicycle accommodation		> 353	üüüü
	Centerline miles of system with Intelligent Transportation System features (smart signals, message signs, incident management, etc…)		260	üüüü
BRIDGE	Max. % of state bridges rated deficient	38%	<20%	üüüü
	Max. % of local bridge rated deficient	42%	<20%	üüüü
	Max. % of all bridges rate seriously deficient		0%	üüüü

	% reduction of vertical restrictions on bridges over freight main lines		80-100%	üüüü
TRANSIT	% of equipment that is over age	0%	0%	üüüü
	% of fleet that is wheelchair accessible	12%	100%	üüüü
	Number of shelters at human service facilities	12	All	üüüü
SERVICE				
TRANSIT	% of service that is wheelchair accessible	7	100%	üüüü
HUMAN SERVICE	Number of agencies coordinating service	7	all	üüüü

üüüü	Positive impact greater than 50%, 2015 relative to 1996.
üüü	Positive impact between 20% and 50%.
üü	Positive impact between 10% and 20%.
ü	Positive Impact less than 10% or not quantified.
	Negligible impact expected.

Notes:
1. While 15% poor is defined as acceptable, forecasts indicated that current conditions could generally be maintained.

Achieving the Core Performance Objectives

Travel increases must be cut in half to achieve the performance objectives.

The performance of the system shown in Table 2 is dramatically different from that described in the trend forecasts of Table 1. *The difference between these two outcomes must be recognized and underscored.* An effective transportation system and a healthy region requires innovation, a "customer" or "client" focus, significant investment and a high level of partnership and cooperation. It will not occur without hard work.

Specifically, the following outcomes must result from explicit actions and external events in order to attain the core performance objectives stated in Table 2:

1. Overall, increases in daily vehicle travel must be dampened from the trend forecast of 30% (1996-2015) *to approximately one-third to one-half that level.* This can be accomplished through a combination of actions, including the substitution of communication for travel, increased carpooling, increased non-auto travel, shorter trip lengths (due to proximity of activities) and slowing of the projected growth in the number of cars. The physical actions in the plan will not be sufficient to accommodate unconstrained travel while keeping travel times, exposure to congestion and per capita resource consumption at current levels. The Travel Task Force has determined that traffic growth has slowed down and that overall, year 2000 traffic levels are on target to meet the lower New Visions travel growth goals, rather than the trend forecasts.[1]

2. The vehicle fleet must be cleaner, smarter, more fuel efficient and safer than that of today to complement transportation system actions and help absorb the effects of the remaining travel increases. Energy, air quality, safety and other goals depend on technological improvements as well as the local actions contained in the plan.

If these outcomes are obtained by the year 2015, the stated system goals can be achieved for 2015 and maintained through 2021. Table 2 compares future year 2015 conditions with 1996, and future year 2021 conditions with both 1996 and year 2000. Note that with respect to a 1996 base year, congestion impacts are more negative in 2021 than 2015, even with the plan implementation. This is because the expected growth in travel from 2015 to 2021 will lead to an increase in congestion. However, when 2021 congestion is measured against year 2000 congestion, the comparison is more favorable than comparing congestion between 1996 and 2015. The reason is that congestion has grown from 1996 to 2000.

Although the performance measures are a mix of positive and negative, the greater emphasis on community aspects, economic development, and quality of life more than compensates for negative movement in the congestion measure between 2015 and 2021. Experience with implementation of New Visions at the project level, and public comments received have indicated a willingness of the public to make trade offs among multiple objectives. In particular, the public seems willing to accept congestion if improvements in other performance measures can be achieved. For example, although congestion has worsened between 1996 and 2000 in the Capital District, surveys cited earlier in this document indicated that the public does not view addressing congestion as the highest transportation priority.

Given current assumptions, continuation of growth in travel and congestion can be expected beyond 2021, even with full plan implementation. However, phase 2 of the plan update effort will more closely examine the assumptions used in travel forecasting and explore the possibility that emerging and expected changes in technology and demographics will change future travel behavior and what the implications of these changes should be for the plan.

CDTC's monetary transportation cost model indicates that *these two outcomes allow the region to accommodate increased population, vehicles, regional economic activity and travel while lowering the per capita private, public and social cost of the transportation system. At the same time, we can lower pollution, save energy, and lower the total societal cost of accidents (crashes) from 1996 levels*.

A system-level estimate of the monetary costs of the Capital District transportation system in 1996 and under the *New Visions* plan in 2015 is shown in Table 3.

Table 3: Annual Monetary Costs of the Capital District Transportation System[2]

	1996 Base	2015 Plan Comparable Progress Steady-state Budget	2015 Plan Full Implementation
Primary Users: vehicle ownership, vehicle	$2,100 M	$2,549 M	$2,340 M

operation, parking, user share of accident costs, commercial time in travel, commercial congestion expense, fares, tolls, and user taxes and fees for highway and transit infrastructure and operations.			
Governmental expenses: general taxes to cover the government's share of accident costs, general taxes for highway and transit infrastructure and operations, transportation-related police, fire and criminal justice systems.	$289 M	$323 M	$285 M
Societal expenses: provision of parking for work trips and commercial activity, societal share of accident costs, regional and global air pollution, vibration damage, water quality damage, waste disposal and costs related to energy supply security and trade balance effects.	$596 M	$656 M	$580 M
Total monetary costs	**$2,990 M**	**$3,528 M**	**$3,205 M**
Monetary cost per capita	**$3,730**	**$4,089**	**$3,715**

All costs shown in 1996 dollars.

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[1] A range of required change in travel behavior to meet the goals is presented because major highway or transit investments in the Northway corridor or elsewhere would have significant impacts on system performance, cost and external effects. These investments would affect the necessary mix of physical, operational, management and travel behavioral changes necessary to meet the stated goals.

[2] Estimates are based on methodology identified in CDTC's *Estimated Marginal Monetary Costs of Travel in the Capital District*, April 1995. Year 2015 calculations reflect the full cost of the *New Visions* budget. STEP model results reflect a 15% reduction in vehicle travel from the trend and partial benefits of planned actions. The effects of cleaner, safer, more fuel-efficient cars and increased vehicle costs to pay for the improved technology are also assumed.

Trend Conditions

Previous commitments are not sufficient to counter-act long-term trends.

Table 1 presents 1990 and 2000 values and future results of the original New Visions trends in a summary fashion. This impact summary is presented in terms of *change from 1990* and is based on CDTC and CDRPC's mid-1990's forecasts of stable employment, modest population growth, and further suburbanization of development. Continuing increases in travel demand were forecast, but at a slower rate of growth than in the 1980's. The challenge that the goals present can be seen by the performance forecasts of future conditions contained in Table 1. Without a high degree of success in implementing the *New Visions* plan most performance indicators were "headed south" in coming years.

Year-2015 and 2021 conditions would be even worse than shown Table 1 if previous commitments are not carried out. Overall, even *with* the previous commitments, the performance of the Capital District's transportation would decline if the demographic, land use and travel behavior forecasts proved correct. This is most dramatic for congestion, but equally alarming in terms of resource requirements and land use impacts. Ever-increasing travel would be difficult to absorb in the existing transportation system without loss of options and loss of mobility. This is true although the CDRPC forecasts indicate relatively modest population and employment growth. The impacts of the transportation system decline would be harder to ignore -- they would impact daily lives, budgets, economic vitality and quality of life.

Should the Capital District not be able to maintain a stable economy, future conditions would be much different. Vitality and quality of life in urban areas would substantially decline while suburban congestion and land consumption measures will still likely be worse than in 1990. This very undesirable future underscores the need for CDTC's transportation plan and related public and private policy to invest in ways that support a healthy economy and community vitality throughout the region.

A more detailed explanation of the original assumptions and data sources used in estimating performance measures appears in the *New Visions Workbook Technical Appendix*, available on request.

Table 1: System Performance Measures -- Summary of Existing and Trend Conditions

Selected Core Measures		1990 Conditions	1996 Conditions	2000 Conditions	2015 Trend Growth Conditions	Qualitative Summary 2015 Trend Impacts	2021 Trend Growth Conditions	Year 2021 New Visions Full Plan Implementation	
Transportation Service									
ACCESS	Percent of PM Peak Hour Trips Transit Accessible	18.60%	na	na	15.20%	××	na	na	*
	Percent of PM Peak Hour Trips With Transit Advantage	0.40%	na	na	0.33%	××	na	na	*
	Percent of PM Peak Hour Trips Accessible by Bicycle	28.9% (1995)	na	na	26.4%	×	na	na	*
ACCESSIBILITY	Travel Time between Representative Locations; see Appendix; Sample Time: Selkirk Yards to Saratoga Springs (minutes, PM Peak)	59	64	69	78	×××	83	73	*
CONGESTION	Daily Recurring Excess Person Hours of Delay	6,546	16,999	26,344	34,298	××××	52,354	22,870	*
	Excess Person Hours of Peak Hour Delay Per PMT	1.1	2.4	3.2	4.0	××××	5.4	2.9	*
	Daily Excess Vehicle Hours of Delay by Truck	125	357	553	732	××××	1,099	480	*
FLEXIBILITY	Reserve Capacity on the Urban Expressway and Arterial System (PM Peak Hour Vehicle Miles of Capacity)	855,008	772,039	696,552	628,781	×××	594,146	712,453	*
Resource Requirements									
SAFETY	Estimated Annual Societal Cost of Transportation Accidents, Millions of Dollars ($M)	$510	$685	$810	$1,053	××××	$1,179	$874	*
ENERGY	Daily Fuel Consumption (thousands of gallons)	880	na	na	1080	×××	na	na	*
ECONOMIC COST	Annual Vehicle Ownership and Operating Costs for Autos and Trucks, Millions of Dollars ($M)	$696	$815	$901	$1,066	××××	$1,129	$951	*
	Other Monetary Costs of Transport: Highway and Transit Facilities and Service, Parking Facilities, Environmental Damage, Millions of Dollars ($M)	$779 M	na	na	$1,020 M	×××	na	na	*
External Effects									

AIR QUALITY	Daily Hydrocarbon (HC) Emissions (kg)	47,632	40,840	na	18,002	✔✔✔✔	na	na	*
	Daily Nitrogen Oxide (NOx) Emissions (kg)	53,661	46,023	na	30,846	✔✔✔	na	na	*
LAND USE	Residential Use Traffic Conflict: Miles at LOC "E" or "F"	82.4	na	na	126.0	✕✕✕✕	na	na	*
	Arterial Land Access Conflict: Miles at LOC "E" or "F"	29.9	na	na	49.5	✕✕✕✕	na	na	*
	Dislocation of Existing Residences and Businesses				29	✕	29	29	*
	Community Quality of Life- Factors that reflect community quality of life in the central cities, inner suburbs, outer suburbs, small cities and villages, and rural areas.	Trends include warning signals. Proactive strategies will be required to impact trends.				✕			
ENVIRONMENTAL	Number of Major Environmental Issues to be Resolved to Implement Existing Commitments				21	✕	21	21	*
ECONOMIC	How does the transportation system support the economic health of the region?	Transportation makes possible much of the region's economic activity.				✕			

✔✔✔✔	Positive impact greater than 50%, 2015 relative to 1990.
✔✔✔	Positive impact between 20% and 50%.
✔✔	Positive impact between 10 and 20%.
✔	Positive impact less than 10% or not quantified.
	Negligible impact expected.
✕	Negative impact less than 10% or not quantified.
✕✕	Negative impact between 10 and 20%.
✕✕✕	Negative impact between 20 and 50%.
✕✕✕✕	Negative impact greater than 50%, 2015 relative to 1990.
*	Indicates impact has been quantified.

Notes:

1. Trend growth conditions correspond to trend traffic growth and only partial implementation of the New Visions plan.
2. Recurring delay refers to delay experienced under normal traffic conditions, without incidents or unusual weather conditions.
3. Non-recurring delay refers to delay that results from incidents, weather conditions, or special events.
4. Excess delay refers to the amount of delay that occurs at level of service "E" or "F".
5. Trips are considered transit accessible if the trip can be made in a reasonable time, relative to the auto travel time (door to door).
6. Trips are considered to have a transit advantage if they can be made faster by transit than by auto (door to door).
7. Trips are considered to be accessible by bicycle if they are within a reasonable distance by routes that can be travelled by bicycle.
8. Hydrocarbon and Nitrogen Oxide emissions are derived from the MOBILE5A emissions model based on levels of vehicle travel, speed and congestion.
9. Residential Traffic Conflict: Miles at Level of Compatibility (LOC) "E" or "F" refers to the number of miles of major arterials with this rating. The LOC index was developed based on an inventory of residential driveways on major arterials and traffic volumes. LOC "E" or"F" ratings occur at arterial segments with frequent residential driveways and higher traffic volumes.
10. Arterial Land Access Conflict: Miles at Level of Compatibility (LOC) "E" or "F" refers to the number of miles of major arterials with this rating. The LOC index was developed based on an inventory of commercial driveways on major arterials and traffic volumes. LOC "E" or"F" ratings occur at arterial segments with frequent commercial driveways and higher traffic volumes.