“BIG IDEA”
TRANSPORTATION INITIATIVES FOR THE CAPITAL REGION

a discussion document for the New Vision 2030 Plan

Capital District Transportation Committee

July 2006
The Capital District Transportation Committee (CDTC) is the designated Metropolitan Planning Organization for the Albany and Saratoga Springs urbanized areas, and the balance of Albany County, Rensselaer County, Schenectady County and the majority of the balance of Saratoga County.

CDTC’s long-range regional plan, “New Visions” has guided transportation investment for nearly a decade and has helped with 50 joint transportation – land use planning efforts in 28 municipalities.

As part of extending its planning horizon to 2030, CDTC has revisited many subjects. In large part, the principles and priorities set in 1997 remain current and applicable. But some of the recent explorations have shown that the stakes are higher when anticipating the issues of a 2030 horizon than they were in 1997 when CDTC was planning for 2015. Among these are energy concerns, the age of the existing infrastructure, the form of development throughout the region, and the need to operate an increasingly-saturated transportation system effectively.

Budget concerns are greater today than ten years ago, for several reasons: the highway system is essentially a decade older – few major facilities have been reconstructed (instead of repaired) in the last decade; second, the cost of transportation projects has grown faster than revenues due to global competition for steel, concrete and petroleum; and third, the Capital District’s growth rate has increased in recent years with “Tech Valley” initiatives holding the potential to accelerate the growth further.

The “Big Ideas” exploration acknowledges that the time has not been ripe for big transportation projects or programs in the Capital District. Pressing needs for rehabilitation of existing facilities have a higher priority than system expansion, and more modest actions are clearly more cost-effective than construction of extensive new highway or transit systems in a region of modest size and modest growth.

At the same time, CDTC’s review of big projects and big programs in other regions reveals that these initiatives are not exclusively – perhaps not even primarily – related to cost-effectiveness. Rather they have a lot to do with the desire of elected officials, community leaders and the public to do something important with the transportation system: invest in rail service to (hopefully, but with no guarantees) affect growth patterns; widen highways to induce economic activity; create extensive technology systems to respond to users’ frustration with inexplicable traffic delays.

The following report represents the findings from review of the national case studies and the implications for the Capital District. It concludes with a list of potential “big initiatives” for the Capital District’s transportation system. The time may not have come yet for serious implementation of these initiatives which range to the billions of dollars in cost, but a sense of urgency for action could emerge quickly and unexpectedly. The region is well advised to know how it will choose to respond.
The New Visions policies remain relevant and were re-affirmed in CDTC’s adoption of the New Visions 2025 Amendment in August 2004. CDTC recognizes that the existing New Visions plan relies heavily on common sense system management, incremental improvements and increased attention to coordination of land use planning with transportation considerations to meet current and near-term transportation challenges.

Bigger initiatives such as new rail systems, major expressway widenings or construction of significant mileage of new streets and highways are not contained in the plan. CDTC’s current policies hold that such big budget items are not feasible. The need is not urgent, the benefits are not cost-effective, and the large scale resources required are not available to pursue them seriously.

At the same time, CDTC realizes that the Metropolitan Planning Organization (MPO) process is the public forum at which big ideas as well as incremental actions should have a place. Transportation is acknowledged to be a key aspect of creating a “quality region” as defined below.

A quality region develops and sustains healthy urban, suburban, and rural communities that function interdependently and readily adapt to change. A quality region creates economic, educational, social, cultural and recreational opportunities and provides safe neighborhood environments and housing choices for all; protects sensitive environmental resources; and fosters community identity and “a sense of place” in all parts of the region.¹

To this end, the New Visions 2030 effort has revisited a wide range of “big idea” and “big ticket” initiatives to determine if major, region-shaping projects and programs should be afforded status in a new 25-year transportation plan. In order to avoid simply re-hashing previous work and re-affirming previous conclusions, CDTC chose to explore the issues in a different way. It launched a different mission; namely to answer the following proposition:

Why are other metropolitan areas of the US committing to multi-billion dollar transit or highway plans? Do they see something that we don’t see that makes “big” initiatives plausible for them or are their circumstances so different from ours that there is no parallel? Where is the money coming from for these projects? Are there legitimate “big” opportunities present in our region that we have discounted or ignored to date?

This is a critical mission for CDTC and requires careful thought and discussion with all interested parties in the region.

CDTC selected seventeen representative “big” initiatives in other metro areas as case studies of circumstance and process. The list is by no means comprehensive. Rather, it is intended to be representative. A summary of key characteristics is shown in Table 1.

There is considerable variety of project types and settings within the list. The set of case studies ranges from a one-mile freeway elimination project to a statewide initiative measured in the tens of billions of dollars of construction. They cover transit, highway, land use, urban redevelopment, trail, freight and roadway pricing subjects. What they have in common is that each one is bigger in

¹ From “Pursuing Quality in the Capital Region”, April 2003, (http://www.cdtcmpo.org/rtp2030/qualreg.htm)
WHAT THE CASE STUDY INITIATIVES HAVE IN COMMON IS THAT EACH ONE IS BIGGER IN SCOPE OR BOLDER IN COMMITMENT TO ADDRESSING AN ISSUE THAN ANY CURRENT EFFORT TO ADDRESS THAT ISSUE. The set of case studies ranges from a one-mile freeway elimination project to a statewide initiative measured in the tens of billions of dollars of construction. They cover transit, highway, land use, urban redevelopment, trail, freight and roadway pricing subjects. What they have in common is that each one is bigger in scope or bolder in commitment to addressing an issue than any current effort to address that issue in the Capital District.

Table 1
Summary of Key Characteristics of Case Studies

<table>
<thead>
<tr>
<th>Title</th>
<th>Location</th>
<th>Big Idea</th>
<th>Magnitude</th>
<th>Cost</th>
<th>Status</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional Rail</td>
<td>Raleigh-Durham</td>
<td>Self-propelled diesel cars on urban freight corridor</td>
<td>20 miles in Phase 1</td>
<td>$832 M construction for Phase 1</td>
<td>Beginning construction</td>
<td>Rapid growth; commitment to modal choice, urban focus</td>
</tr>
<tr>
<td>Central Artery</td>
<td>Boston</td>
<td>Depressing urban freeway</td>
<td>161 lane miles, ½ in tunnels</td>
<td>$15 Billion construction</td>
<td>Largely complete</td>
<td>Congestion, safety, urban benefit</td>
</tr>
<tr>
<td>Congestion Pricing</td>
<td>London</td>
<td>$9 daily charge to drive in central London</td>
<td>Entire central zone of city</td>
<td>$922 M implementation; $184 M annual cost; $125 M annual surplus</td>
<td>In place</td>
<td>Congestion management</td>
</tr>
<tr>
<td>Removal of Freeway</td>
<td>Milwaukee</td>
<td>Substitute arterial for elevated freeway</td>
<td>One mile</td>
<td>$25 M</td>
<td>Complete</td>
<td>Interstate funds available; stub freeway</td>
</tr>
<tr>
<td>Transitway</td>
<td>Ottawa</td>
<td>Dedicated expressway for buses</td>
<td>19.25 miles, 220,000 daily riders</td>
<td>$420 M</td>
<td>Complete</td>
<td>Commitment to land use control, public transit</td>
</tr>
<tr>
<td>Maglev</td>
<td>Baltimore-Washington</td>
<td>300 mph technology</td>
<td>38 miles, 3 stations</td>
<td>$3.74 B construction</td>
<td>In environmental analysis</td>
<td>Technology demonstration</td>
</tr>
<tr>
<td>Greenways Program</td>
<td>Vancouver</td>
<td>City-wide trail / park system</td>
<td>87 miles, 14 routes</td>
<td>Not available</td>
<td>Incremental construction underway</td>
<td>Committment to “green” city</td>
</tr>
<tr>
<td>Noise Abatement Program</td>
<td>Minneapolis</td>
<td>Address all warranted noise locations</td>
<td>48 locations</td>
<td>$25 M</td>
<td>Incremental construction underway</td>
<td>Commitment to quality of life</td>
</tr>
<tr>
<td>High Speed Rail</td>
<td>Portland OR</td>
<td>Focused development through rail</td>
<td>38 mile rail system</td>
<td>$13.5 B construction; $3 B in private development near stations</td>
<td>Complete</td>
<td>Air quality and traffic issues</td>
</tr>
<tr>
<td>Automated Traffic Control</td>
<td>Los Angeles</td>
<td>Automatic system operation</td>
<td>3000 signals</td>
<td>$182 million construction; $1.3 M annual operation</td>
<td>Complete</td>
<td>Growth management policy, parking control</td>
</tr>
<tr>
<td>Light Rail / Land Use</td>
<td>Orange and Riverside Counties, CA</td>
<td>Manage capacity through variable facilities</td>
<td>4 lanes for 10 paralling free lanes</td>
<td>$134 M in private funds</td>
<td>Complete</td>
<td>Relief for significant congestion</td>
</tr>
<tr>
<td>SR91 Congestion Pricing</td>
<td>New York City</td>
<td>Automated Transit</td>
<td>6 miles, 10 stations</td>
<td>$1.9 B construction</td>
<td>Complete</td>
<td>Relief for significant congestion</td>
</tr>
<tr>
<td>AirTrain JFK</td>
<td>Milwaukee</td>
<td>Rebuild, expand freeways</td>
<td>127 miles;</td>
<td>$6.23 B, including $710 million for widening</td>
<td>Complete</td>
<td>Modernization</td>
</tr>
<tr>
<td>Freeway System Reconstruction</td>
<td>Seattle-Tacoma</td>
<td>Freight safety and capacity</td>
<td>25 coordinated projects</td>
<td>$170 million</td>
<td>Incremental construction underway</td>
<td>Respond to global freight growth, foster downtown activity</td>
</tr>
<tr>
<td>FAST corridor</td>
<td>Miami</td>
<td>Automated transit</td>
<td>4.4 miles, 22 stations</td>
<td>$387 M</td>
<td>Complete</td>
<td>Foster downtown activity</td>
</tr>
<tr>
<td>Inner Harbor</td>
<td>Baltimore</td>
<td>Harbor redevelopment</td>
<td>240 acres</td>
<td>$2 B in total public and private investment</td>
<td>Complete</td>
<td>Foster downtown activity</td>
</tr>
</tbody>
</table>

The set of case studies ranges from a one-mile freeway elimination project to a statewide initiative measured in the tens of billions of dollars of construction. They cover transit, highway, land use, urban redevelopment, trail, freight and roadway pricing subjects. What they have in common is that each one is bigger in scope or bolder in commitment to addressing an issue than any current effort to address that issue in the Capital District.

To understand the general nature of how these “big” initiatives developed, the working group selected six of the case studies for more in-depth examination by staff. Expanded fact sheets were compiled. (See http://www.cdtcmpo.org/rtp2030/c-factsheetsexp.pdf)
The expanded research addressed the following questions, in addition to the material previously covered:

- How and why did the project come to be?
- How long did it take to become a reality?
- Did the concept come through the process or as the result of a champion?
- What controversies and struggles did the concept face?
- What is the public attitude toward the concept?
- Why does the region believe the concept will work?
- What are the expectations of the concept?
- What agency is implementing the concept?

Findings from the Case Studies

While there is great variety among the case studies in terms of budget, subject and geographic location of the initiatives, there are some common themes to bringing “big initiatives” to a point of regional commitment and implementation. These themes or conditions are listed below. Details are available at http://www.cdtcdeo.org/rtp2030/c-materials.htm.

1. **A sense of urgency is typically present.** This sense of urgency may be related to long-standing issues of great magnitude (such as the congestion present in London prior to areawide pricing) or to an experience and atmosphere of rapid growth. Congestion pricing on SR91 in California is justified on the basis of rapid declines in service quality and projections of gridlock. Raleigh’s rail initiative is justified not on the basis of current development but on the basis of the region’s #6 rank in population growth in the nation.

2. **The initiative reflects the sensibilities and community values of the region, producing a strong community consensus.** For example, Portland’s and Vancouver’s initiatives in the areas of growth management, environmental stewardship and livability both draw from and reflect the personal priorities of the local residents and business leaders. Big initiatives today are not likely to succeed simply because they fall within the purview of a powerful government agency; they require broad public support.

3. **A champion is typically a critical element as catalyst and sustainer of the initiative.** Elected officials or, occasionally, planning professionals are often directly associated with marshalling the support and forging the necessary partnerships to make an initiative a reality. In many cases, the initiative does not emerge from a planning process, it is brought to the process for examination, validation and legitimacy.

   - From the expanded fact sheet on the regional rail system in North Carolina: “[This concept began with a political push from the Mayors of Chapel Hill, Durham, and Raleigh.”
   - From the expanded fact sheet on the greenways initiative: “Vancouver’s mayor in the late 1980s was personally concerned that the natural areas of the city were in danger of being lost.”
   - From the expanded fact sheet on the Transitway: “The leadership skills of John Bonsall were also critical to the selection of bus rapid transit as the future transportation system in Ottawa. He worked for the RMOC as Director of Transportation Planning and later was general manager of OC Transpo and oversaw the construction and operation of the Transitway.”
   - From the expanded fact sheet on the Freeway Stub End Removal: “The key champion for the removal of the freeway stub was former Mayor John Norquist. He was and remains a big supporter of the New Urbanism and generally dislikes freeways.”

The champion puts a human face on the initiative and his or her conviction that the initiative is of high importance goes much farther in generating attention and support than would a compelling technical study alone. The champion is also often essential to shepherding the initiative through difficult implementation phases of environmental analysis, NIMBY opposition and cost increases. Without a visible champion, an initiative could die easily in the face of such obstacles.

4. **Commitment to a major initiative is as much related to a subjective rationale as to objective analysis.** This does not mean that a decision to reconstruct the Central Artery in Boston or a regional rail system in Raleigh-Durban is unfounded. Rather, it means that regions pursue major initiatives as much because they want to as because they believe the initiative is economically efficient in achieving results. The “look and feel” of the completed project; the desire to make a public statement of the region’s priorities; the hope of lasting positive benefits are at least equal to calculations of user savings, transit Ridership, emissions reductions or cost effectiveness in the decision process.
5. Funding is achieved through a combination of local sources and state or federal funds – reflecting a willingness to pay. The funding paradox (“We can’t plan something big because we don’t have money and we can’t get money because we haven’t planned anything big”) is resolved in successful initiatives by (1) securing local financial support for a popular initiative with public support by promising external funds to vastly subsidize the local cost; and (2) leveraging the local enthusiasm and local funding commitment to obtain external (state or federal) funds from discretionary pots.

6. In the absence of the conditions to support big initiatives, it is difficult to attain comparable impact through incremental changes. Incremental actions, such as those contained in CDTC’s existing New Visions plan and funded in the 2005-10 Transportation Improvement Program, are different in kind as well as in scale from big initiatives that derive from a sense of urgency. For example, in the absence of expectations of rapid growth in the region, in 2000 CDTC chose a Bus Rapid Transit (BRT) option for the NY 5 corridor and full implementation will not be completed until 2015. Over that same timeframe, other metropolitan areas will have built substantial regional rail systems, undertaking the difficult and expensive actions because of urgency caused by growth. The substantial commitment to rail transit in those metropolitan areas will produce a land use impact (with development more oriented to station locations) that the slow rollout of BRT in the Capital District cannot. Forty years from now Capital District residents may wonder why their region lacks the transportation infrastructure evident in other areas and conclude that planners and elected officials at the beginning of the 21st century lacked foresight. For that reason, it is important to at least consider big initiatives for the Capital District.

The case studies did not intend to focus upon unsuccessful initiatives, but it can be assumed that failure of big initiatives is frequently related to the absence of one or more of the conditions listed above. That is, if urgency is not present a good concept may wither – it is just too difficult to overcome the inevitable obstacles. Similarly, if the concept runs counter to local attitudes or fails to generate a broad consensus it will likely fall away. Further if the initiative lacks a champion it may not gain adequate public attention or secure financial support locally or at the state or federal levels.

**COMPARISON OF REGIONAL PLANS**

An additional way to compare metropolitan regions’ approaches to “big initiatives” is to look at their entire long-range regional system plans, not a single project or initiative. The nature of metropolitan transportation planning is quite parallel from region to region across the country due to its origin in federal law.

The CDTC staff examined the long range regional transportation plans of fourteen metropolitan areas (including the Capital District). Several are only slightly larger than the Capital District (Raleigh-Durham, Tucson, Nashville, Austin, Buffalo, Portland, and Columbus). The group also includes larger areas of varying growth rates: Baltimore, Pittsburgh, San Diego, Phoenix, Seattle, and Atlanta. About half of the regions contain state capitals (Atlanta, Austin, Columbus, Raleigh, and Phoenix). A handful of additional areas were examined, but could not be included in the list due to deficiencies in the documentation of their long range plans.

A summary of the analysis’ findings is listed below.
1. System expansion plans in growing areas are very substantial and expensive.

Expansion plans in many metro areas dwarf CDTC’s commitments. Atlanta expects to spend more than $1 B annually on capital projects for expansion and enhancement; Seattle is committed to nearly $1.7 B annually. Smaller but rapidly growing regions such as Nashville ($142 M per year), Austin ($326 M per year) and Raleigh-Durham ($180 M per year) are committed to a much bigger expansion program than evident in CDTC’s plan ($42 M per year for capital expansion / enhancement).

Table 2 shows annual long-term per capita budget for: expansion and enhancement (highway widenings; new highways; ITS deployment; innovative land use – transportation initiatives; demand management; additional buses; rail transit construction or expansion). CDTC’s fiscal reach is comparable to Buffalo’s; the two New York areas are the most restrained in committing to system expansion.

Table 2: Regional Transportation Plan
Expansion / Enhancement Budgets “Fiscal Reach”

<table>
<thead>
<tr>
<th>Future Population (thousands)</th>
<th>Cost per year per capita for expansion and enhancement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albany</td>
<td>832</td>
</tr>
<tr>
<td>Atlanta</td>
<td>4,814</td>
</tr>
<tr>
<td>Austin</td>
<td>2,071</td>
</tr>
<tr>
<td>Baltimore</td>
<td>2,741</td>
</tr>
<tr>
<td>Buffalo</td>
<td>1,252</td>
</tr>
<tr>
<td>Columbus</td>
<td>1,645</td>
</tr>
<tr>
<td>Nashville</td>
<td>1,471</td>
</tr>
<tr>
<td>Phoenix</td>
<td>6,140</td>
</tr>
<tr>
<td>Pittsburgh</td>
<td>2,687</td>
</tr>
<tr>
<td>Portland</td>
<td>1,667</td>
</tr>
<tr>
<td>Raleigh-Durham</td>
<td>1,534</td>
</tr>
<tr>
<td>San Diego</td>
<td>3,855</td>
</tr>
<tr>
<td>Seattle</td>
<td>4,536</td>
</tr>
<tr>
<td>Tucson</td>
<td>1,400</td>
</tr>
</tbody>
</table>

2. Major expansion plans rely on substantial revenue programs beyond federal aid.

The expansion cost per capita of some of these regional plans is daunting and requires significant new revenue. This revenue cannot be assumed to be derived primarily from the new activity, but must come in large part from existing residents. Tax increment financing, use of developer mitigation fees and similar funding schemes to place the burden of system expansion primarily on new residents or new activity is a relatively minor component of the various plans. As a result, the annual cost per resident (calculated at the eventual future population size) for some system expansion (see Seattle’s number in Table 2) runs as high as seven times that represented in CDTC’s New Visions 2021/2025 plan.

It is not certain that these budgets are fully realistic. Most of the larger budgets count on receiving substantial federal funds, generally at levels far beyond historic levels. Many assume a willingness of state and local officials and voters to support significant increases in ongoing financial support for transportation. Seattle’s plan, for example, counts on an overall doubling in financial resources over 30 years after adjusting for inflation.

3. Most rapidly growing areas expect to lose ground in terms of overall system quality and performance, despite significant system expansion.

One common denominator among performance assessments is the level of highway congestion, particularly peak hour highway congestion.

Most MPOs show a slight to significant decline in highway performance despite significant highway and transit expansions. For some metro areas, the affordable plan will offer little help in restraining the decline in system performance.
WHEN COMPARED AGAINST EXPECTED GROWTH, THE CAPITAL DISTRICT’S PACE OF PLANNED EXPANSION AND ENHANCEMENT BUDGET EXCEEDS THAT FOR AUSTIN, BUFFALO, COLUMBUS, NASHVILLE, PHOENIX, RALEIGH AND TUCSON. THE CAPITAL DISTRICT RANKS 1ST AMONG THESE COMMUNITIES IN TERMS OF NON-TRADITIONAL TRANSPORTATION EFFORTS.

Of the fourteen MPOs evaluated, only three presented a forecast that clearly showed expectations for a slight improvement in highway performance while simultaneously extending transit coverage and increasing transit ridership: San Diego, Seattle and Pittsburgh. This performance improvement comes at a steep price. San Diego and Seattle represent the most significant amounts of highway expansion (Seattle plans $35.5 B and San Diego $16 B in highway expansion alone). Pittsburgh embraces over $5 B in highway expansion (at a benefit-cost ratio of only 1.2) and over $5 B in transit expansion (for only an 11% increase in ridership.) These three metro areas also have among the most optimistic revenue assumptions.

When normalized against expected growth in travel demand, a slightly different picture emerges. Table 3 displays the average annual budget for capital expansion per unit of new travel demand. In these terms, the Capital District’s pace of its planned expansion budget is in the middle of the pack and exceeds that for Austin, Buffalo, Columbus, Nashville, Phoenix, Raleigh and Tucson.

Among the identified areas, the Capital District ranks 11th of 14 in terms of transit capital expansion per unit of new demand, 13th of 14 in terms of highway capital expansion, but 1st among the group in terms of non-traditional efforts. Non-traditional efforts include implementation of technology (Intelligent Transportation System or ITS) such as computer signal control, traffic monitoring devices, service patrols on highways, traveler information displays, GPS devices and signal priority equipment on buses, electronic schedule and bus stop information, incentives for land use planning, Travel Demand Management (TDM) activities such as fare subsidies and parking “cash out” programs, and sidewalk and trail development. These efforts constitute 42% of the expansion and enhancement budget in the Capital District. Buffalo (with 21% devoted to non-traditional efforts) is the only other metropolitan area in the group not to rely on highway expansion and transit expansion for at least 85% of their system expansion and enhancement.

Table 3
Long Range Regional Transportation Plan “Expansion / Enhancement Reach”

<table>
<thead>
<tr>
<th></th>
<th>Annual Average Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>New Demand (x 1000)*</td>
</tr>
<tr>
<td>Albany</td>
<td></td>
</tr>
<tr>
<td>Atlanta</td>
<td>1,485</td>
</tr>
<tr>
<td>Austin</td>
<td>1,158</td>
</tr>
<tr>
<td>Baltimore</td>
<td>517</td>
</tr>
<tr>
<td>Buffalo</td>
<td>199</td>
</tr>
<tr>
<td>Columbus</td>
<td>542</td>
</tr>
<tr>
<td>Nashville</td>
<td>483</td>
</tr>
<tr>
<td>Phoenix</td>
<td>3,353</td>
</tr>
<tr>
<td>Pittsburgh</td>
<td>382</td>
</tr>
<tr>
<td>Portland</td>
<td>612</td>
</tr>
<tr>
<td>Raleigh-Durham</td>
<td>787</td>
</tr>
<tr>
<td>San Diego</td>
<td>1,322</td>
</tr>
<tr>
<td>Seattle</td>
<td>1,643</td>
</tr>
<tr>
<td>Tucson</td>
<td>598</td>
</tr>
</tbody>
</table>

*New demand is presented in “equivalent persons” – that is each 100 existing residents are assumed to generate new demand equivalent to 10 new residents. “Non traditional” expansion investment contains supplemental ITS, TDM, growth
management, bike and pedestrian, goods movement and planning activities above and beyond those contained in transit or highway expansion projects.

4. CDTC’s New Visions 2025 plan represents a reasonable budgetary and enhancement “reach”, but system performance would be challenged by rapid growth.

CDTC’s New Visions 2025 plan puts 92% of available resources into system operations, maintenance, preservation and facility and service improvement and into intermodal facilities. The plan is cautious regarding major highway expansion, and commits to progressive bus-oriented transit projects (Bus Rapid Transit) while reserving rail for further consideration. Through this approach, the plan expects to achieve steady improvements in pavement and bridge conditions, bike and pedestrian accommodations and street/ streetscape design while enhancing traffic operations and traveler information and redesigning transit service delivery. Preliminary budget estimates for system rehabilitation indicate that the cost of maintaining the region’s highways has increased 40% in the past six years – about $35 M per year. Funding is not keeping pace.

This appears appropriate given the generally effective regional transportation system and the pace of population growth. Urgency for system expansion is not present and past events such as the local failure of the 2000 and 2005 State Transportation Bond referenda indicate that locally there is no clear willingness to pay for major highway or transit expansions.

Clearly, a shift in the pace of growth from the current 2,500 – 3,000 new residents per year to a 10,000 person per year or higher pace would overwhelm the modest system expansion plans contained in CDTC’s New Visions 2025 plan. In such a growth scenario, the Capital District would be faced with the very difficult challenges of (1) identifying the appropriate transportation expansion projects; (2) implementing these in a mature area that has witnessed little physical change over the past generation; and (3) finding the resources to fund the expansions. This would compound the challenge presented by the sizeable funding gap for maintaining the existing transportation system.

**IMPLICATIONS FOR THE CAPITAL DISTRICT**

The comparative analysis of regional system plans supports the findings of the big initiative case studies. Large system plans reflect a sense of urgency, either due to large population growth (Atlanta, for example) or economic desperation (Pittsburgh).

Figure 1 represents the conditions that appear to be prerequisites – the puzzle pieces that need to be in place – for “big idea” and “big budget” initiatives to hold the potential for regional commitment and implementation.

**Figure 1**
Conditions Required for Successful Implementation of “Big Initiatives”

- Urgency
- Community Consensus
- Willingness to pay
- Subjective rationale
- Champion
- External funding

A SHIFT IN THE PACE OF GROWTH TO A 10,000 PERSON PER YEAR REGIONAL POPULATION INCREASE WOULD OVERWHELM THE MODEST SYSTEM EXPANSION PLANS IN CDTC’S NEW VISIONS 2025 PLAN.

THIS WOULD COMPOUND THE CHALLENGE PRESENTED BY THE SIZEABLE FUNDING GAP FOR MAINTAINING THE EXISTING TRANSPORTATION SYSTEM.
Objectively, there is no basis for those in the Capital District to feel a sense of urgency with regard to transportation service on a par with the sense of urgency present in rapidly growing urban areas. Transportation conditions in the Capital District generally range from acceptable to better-than-average and existing regional growth forecasts already assume success with high-tech initiatives. Consider the following:

- Mode choice to work by transit in 2000 ranked this region #24 out of the 100 largest metro areas in the US.
- Mode choice to work by walk mode ranked this region #13 of the 100 largest.
- Highway congestion in the region ranks 69th of 85 areas evaluated by the Texas Transportation Institute in 2002, with an average annual travel delay per traveler that is one-half of the average value for its peer group (medium-sized urban areas).
- Pavement conditions are no worse than average (the region ranks 31st of 67 urban areas over 500,000 based on 2002 condition data reported to FHWA).

Additionally, the region is economically stable and is experiencing continuing, modest population growth and low unemployment. Relative to some region’s hyper-growth, the Capital District grew at about 1/3 the national rate in the 1990’s, and is now growing to about ½ the national rate according to US Census estimates. Even a “fired-up” growth scenario will produce less growth than most areas of the US are experiencing.

At the other end of the spectrum, urgency to intervene in local economic conditions through transportation investment is not felt as keenly by local leaders as it is by leaders in places such as Pittsburgh or Binghamton. The recent substantial economic incentive provided to attract AMD to the Luther Forest Technology Campus required only modest transportation actions.

This is not to say that a sense of urgency may not develop in coming years, or even in coming months. CDTC’s “Pursuing Quality in the Capital Region” report stated the following concern:

“The region thus faces serious threats in coming years. These come from the potential for: further loss of key industries, increasing disparities and isolation, squandered opportunities for regional competitiveness, local decision-making that conflicts with the best interests of the region as a whole, unhealthy patterns of migration, diminished political efficacy, excessive land consumption and degradation of environmental resources, increased auto dependency and declining personal mobility, inadequate fiscal resources, and the threats and expenses related to security protection.” (p. 1)

There is a growing sense of concern about the future of the region, but that there is not yet a sense of urgency sufficient to undertake bold and difficult transportation initiatives. A shift from concern to urgency is possible if recent high tech actions (such as nanotech activities at SUNYA or the Luther Forest Technology Campus in Malta) start producing significant private investment and rapid job creation, in migration of residents to the region and in attendant increases in traffic, transit access issues, and land pressures. Alternatively a shift from concern to urgency is possible if recent high tech actions fail to produce significant economic growth and the region is faced with out-migration, job decline and rapid tax increases.

The greatest emerging area of concern – and potential urgency – pertains to the funding gap for preservation and rehabilitation of the existing street and highway system. This type of urgency, however, is difficult to rally the public around.

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2 Albany’s metropolitan area is unique among traditional urban centers in terms of its history of steady, slow growth. Of the more than one hundred current metropolitan areas in the US that had populations over 100,000 in 1900, Albany’s is the only area that both experienced population growth in each decade and also grew by less than 100% in the 20th century. All others have experienced more explosive growth and/or periods of substantial stagnation or decline.

3 In the 2004 Siena Research Group – Times Union survey on urban sprawl, 71% of respondents selected a value of 4 or 5 (with 5 being very satisfied) to describe the quality of life offered by the community in which they live.
NOT PRESENT— A Transportation Champion: Partly as a result of a lack of urgency and partly because of CDTC’s success in bringing interested parties into the consensus-building MPO planning process, there is no elected official, planning professional or business or community leader currently identified as a champion of a serious, major transportation initiative in the region.

This does not mean that there is a lack of leadership in the region. Elected officials and the business and environmental communities are engaged in multiple, continuing dialogues on regional development strategies. One or more champions could easily emerge if and when greater urgency is present and a plausible major initiative to confront a perceived issue(s) is identified. Champions do not necessarily precede an idea; some appear and carry the banner for an initiative after it has achieved a certain status in the public debate.

UNCERTAIN – Willingness to Pay: Willingness to pay can be truly judged only when a popular and plausible initiative is on the table. The failure of Capital District residents to support either the 2000 or 2005 State Transportation Bond referenda can be viewed as representing an unwillingness to pay. Alternatively, it can be viewed as representing a willingness to pay for a popular initiative. Despite the lack of identifiable “big idea” projects in the Capital District, the two referenda still came close to support by a majority of Capital District residents. This leaves the question open as to how a local referendum for a visible and popular initiative might fare.

A clear, substantial hurdle to securing a willingness to pay for any combination of the hypothetical “big initiatives” listed in table 4 is the existing tax burden in the state and in the region.

UNCERTAIN – Access to External Funding: Availability of external funding for major transportation initiatives is also uncertain. The steady shift in federal transportation programs away from financial support of Northeastern states toward support of Southern and Western US growth areas does not bode well. Congressional earmarks are growing in number with each successive federal transportation bill (the House Reauthorization Bill passed in 2004 contains approximately 3,000 earmarks – generally in the scale of $500,000 to $5,000,000), but these earmarks are insufficient to achieve financial feasibility for any major initiative.

Federal “New Starts” transit money could become available to the Capital District for a substantial transportation / land use commitment to BRT or guideway system implementation. The characteristics of a Capital District request would likely include a large degree of innovation, collaboration and land use integration – characteristics that would be treated favorably in the review process.

One possibility of external funding is the Federal Transit Administration (FTA) evaluation process. However, the availability of New Start funds is scarce. Nationwide, over 190 projects representing approximately $100 B in capital “wants” are vying for federal funding of approximately $1 B per year. A strong proposal with compelling rationale and local financial support is not guaranteed federal matching funds, by any means.

The recent state investments and incentives for Nanotech and chip fab industries in the Upstate communities raises the possibility that the external funding needed to help support big transportation initiatives in the Capital District may be from the state budget as much or more than from the federal budget.

PRESENT – Community Consensus and Subjective Rationale: Because of the maturity of the planning process and the extent of dialogue on regional strategy, few regions in the nation are likely to possess as broad a consensus on transportation policy as that present in the Capital District. Through CDTC’s ongoing planning process and outreach, the transportation planning agenda has been exposed to repeated public review and scrutiny. Attitudinal surveys have been conducted by CDTC, by the NYS Association of MPOs and by the press in recent years to assess perceptions and preferences. The most recent of these is the 2004 Siena Research Group – Times Union survey on urban sprawl.

Groups such as the Center for Economic Growth, the Business – Higher Education Roundtable and ARISE have also engaged extensively in the subject of regional transportation system needs and wants, with CEG producing a collaborative “regional development strategy” and the roundtable authoring a white paper on transportation. The regional urban empowerment group ARISE has also engaged extensively in the regional development agenda discussion. These groups are both supportive of and engaged in CDTC’s processes.

The result is a consensus that seeks to use transportation policy (and other public policy) in the region to:

- Encourage sustainable economic growth with good-paying jobs
- Revitalize urban areas

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CDTC AND ITS MEMBERS NEED TO CLARIFY AND DOCUMENT COMMUNITY VALUES AND BE PREPARED TO INITIATE SERIOUS CONSIDERATION OF CONSSENSUS “BIG IDEAS”. THE REGION MAY CHOOSE TO PURSUE IDEAS BECAUSE THEY ARE GOOD, NOT JUST BECAUSE THEY SEEM NECESSARY.

- Help build community structure in growing suburbs
- Preserve open space and agricultural land
- Make communities more walkable and livable
- Provide meaningful transit options;
- Connect all residents with job opportunities and,
- Mitigate growing congestion and maintain reasonable mobility on the highway system.

Such a community consensus provides a powerful “subjective rationale” regarding the vision of the region, its urban and environmental sensibilities in support of big initiatives that help achieve the stated consensus goals. The plausibility of big initiatives is certainly increased by the recent Luther Forest Technology Campus actions, the catalytic effect of ongoing investment by Metroplex in Schenectady and the commitment of state funding for a convention center in Albany. If over one billion dollars of public incentives in Malta alone is able to leverage many times that amount in private investment, the public is able to see the potential gain from major public investments – such as transit systems or riverfront development, technology or urban revitalization.

Community values and broad consensus are evident not only through the discussions of the various community leaders but also through the public surveys. In the recent Siena survey, 83% of Capital District respondents favored the use of public funds to create parkland and protect farmland; 64% supported greater funding for sidewalks, bike lanes, paths and crosswalks over building new highways; and 68% supported greater funding for trains, buses and light rail over building new highways.

Such a community consensus is also evident through the products of recent Linkage planning studies and through the local response to transportation project solicitation. In short, the temperament of the Capital District is one that is receptive to “green” concepts; more interested in preservation and restoration than large-scale new development; and quite appreciative of local heritage and quality of the environment.

In terms of transportation investment, the general policy consensus, expressed public opinion and apparent regional temperament allow conjecture regarding which “big initiatives” might be likely to garner support in the Capital District if and when all other prerequisite conditions are met. This conjecture is shown in Table 4, which attempts to speculate as to which “big initiative” concepts appear to be consistent with broadly-held community values in the region and would likely garner broad regional support. Additional public dialogue is warranted to review and confirm or modify the findings of CDTC’s review of “big idea” and “big ticket” transportation initiatives and its comparison of the characteristics of long-range metropolitan transportation plans.

If the findings documented in this paper are confirmed, the implications for CDTC’s planning process and its long-range regional transportation plan are that CDTC and its members and participants should:

- Continue to clarify, document and secure broad buy-in to statements of community values and regional objectives.
- Explore in a sketch manner the potential Capital District application of those hypothetical “big initiative” concepts outlined in Table 4 rated as being consistent with community values and standing a good chance of achieving a regional consensus for implementation.
- Explore the feasibility of including a scaled-down version of those concepts in the financially-constrained long-range plan by raising the threshold of “reasonably expected” funding.
- Consider the merit of adding a “visionary” or “what if” version to the long-range regional transportation plan that includes a commitment to implementing a more fully scaled combination of those consensus concepts, if funds become available.
- Monitor the emergence of a sense of urgency and of potential champions that are necessary to generate support and financial resources for implementation of the consensus concepts from Table 4.
- Be prepared to initiate serious consideration of the consensus concepts as soon as warranted by urgency and other conditions. Urgency can come from desire as well as need. The region may choose to pursue ideas because they are good, not just because they seem necessary.
### Table 4
Maximum Twenty-Year Scale of Hypothetical “Big Initiatives”
In the Capital District (Implementation between 2010 and 2030)

<table>
<thead>
<tr>
<th>Hypothetical “Big Initiative”</th>
<th><strong>Approximate</strong> Maximum Twenty-year scale in the Capital District</th>
<th>Twenty-year cost estimate</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional greenway program</td>
<td>10 miles per year; 280 total including existing</td>
<td>$150 M</td>
<td>Scale reference is Seattle’s plan for 800 miles of paths. Cost at approximately $500 K/mile based on local experience.</td>
</tr>
<tr>
<td>Riverfront access and urban development program</td>
<td>Implementation of a majority of existing plans</td>
<td>$1,000 M</td>
<td>Could draw from multiple fund sources, not just transportation. If significant Interstate redesign is included, could approach $3 B - $4 B based on Boston’s Central Artery precedent.</td>
</tr>
<tr>
<td>Street Reconstruction and Reconfiguration</td>
<td>40 lane miles per year; 800 total</td>
<td>$2,400 M</td>
<td>New Visions intended to address 25 lane miles per year; this is 50% more aggressive. Cost at approximately $3 M per lane mile.</td>
</tr>
<tr>
<td>Roadway widening and connections program</td>
<td>10-15 lane miles per year; 200 total</td>
<td>$1,000 M</td>
<td>Scale comparable to double the intended ten-year implementation in New Visions 2021 plan. Mix of modest ($2.5 M per lane mile) and costly ($7 M per lane mile) projects.</td>
</tr>
<tr>
<td>Major highway system construction</td>
<td>Approx. 20-25 arterial and 5-10 lane miles of expressway annual</td>
<td>$3,000 M to $5,000 M</td>
<td>Not consistent with community values or public policy (such as the State Energy Plan, State Transportation Plan and the New Visions Plan).</td>
</tr>
<tr>
<td>Suburban town center development</td>
<td>5-10 lane miles per year; 150 total</td>
<td>$175 M</td>
<td>Cost at approx. $1 M+ per lane mile as mix of access and collector roads. Developer-built or financed connections not included in the total.</td>
</tr>
<tr>
<td>Bus service expansion, BRT program with transit oriented development</td>
<td>100 route miles total including NY 5</td>
<td>$200 M capital $400 M add’l oper.</td>
<td>Scale and cost estimated at 5-10 times that for NY 5 BRT.</td>
</tr>
<tr>
<td>Guideway transit system with transit-oriented development</td>
<td>50 route miles guideway with 50 route miles of non-guideway BRT.</td>
<td>$2,100 M capital $1,450 M add’l oper.</td>
<td>Scale comparable to planned expansion in Portland over 20 years; capital cost of $40 M/mile derived from Portland, Phoenix, and Columbus plans. Operating cost estimated at $1.25 M/year per linear mile. Includes ½ of BRT non-guideway plan also.</td>
</tr>
<tr>
<td>Managed lane program</td>
<td>50 route miles total with approx. 75 lane miles</td>
<td>$750 M $10 M operating</td>
<td>Scale at one or two lanes per centerline mile where physically feasible in Interstate system in Albany County, extensions north, east, west. Cost at $10 M per lane mile.</td>
</tr>
<tr>
<td>Hypothetical “Big Initiative”</td>
<td>Approximate Maximum Twenty-year scale in the Capital District</td>
<td>Twenty-year cost estimate</td>
<td>Comments</td>
</tr>
<tr>
<td>--------------------------------</td>
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</tr>
<tr>
<td>Take-a-lane program</td>
<td>No feasible implementation for contra-flow lanes. Tolling existing toll-free facilities in theory could reach 100 route miles</td>
<td>more than supported with toll revenue-</td>
<td>Not supported by traffic dynamics; no excess capacity in off-peak to yield a lane. Tolling existing toll-free facilities not yet politically plausible.</td>
</tr>
<tr>
<td>Highway noise program</td>
<td>40 locations on expressway system</td>
<td>$40 M</td>
<td>Scale addresses all existing warrants; noise mitigation costs for widenings are included in guideway and managed lane budgets above.</td>
</tr>
<tr>
<td>Demand management program</td>
<td>40,000 participants</td>
<td>$50 M (public)</td>
<td>Scale at 10% of regional workforce; Cost estimated at $20/month for ¼ of participants, self-financed by employers for remaining participants. $20/month is derived from CDTC experience.</td>
</tr>
<tr>
<td>Clean, efficient vehicle program</td>
<td>public transit fleets, private vehicle incentive to double hybrid sales (2010), declining incentive to 2030</td>
<td>$550 M</td>
<td>Scale at 30% purchase price incentive in 2010 to double hybrid sales to 2,800; incentive declines as hybrid market expands. Estimated $100,000 price increase for 300 transit vehicles of varied sizes.</td>
</tr>
<tr>
<td>Intelligent traffic management program</td>
<td>Full ITS deployment on priority network; including real-time traffic info on entire system</td>
<td>$135 M</td>
<td>Working Group B estimates as continuation of current $6.7 M/yr; purchases more as costs decrease. Cost does not include rapidly-expanding private investment (vehicles, services)</td>
</tr>
<tr>
<td>Video surveillance and enforcement program</td>
<td>Full deployment on priority ITS network</td>
<td>Supported by fines</td>
<td>Red light running cameras and possibly, speed enforcement cameras</td>
</tr>
<tr>
<td>Comprehensive Traffic Safety program</td>
<td>Capital investment at several times the set aside in SAFETEA-LU, plus other features</td>
<td>$200 M</td>
<td>Capital improvements, driver education, traffic enforcement, improved community and site design.</td>
</tr>
</tbody>
</table>
Regional Greenway Program

A regional greenway is generally defined as a series of interconnected trails that link parks, natural areas, cultural features, historic sites, neighborhoods and retail areas for non-motorized transportation throughout a metropolitan area. The trail system may be along natural corridors such as a riverfront, along an abandoned rail line or on streets designed for shared transportation use. Typically, the objectives of regional greenway programs are to increase opportunities for bicycling and walking, create a more attractive environment and reduce reliance on the car.

A regional greenway initiative in the Capital District could be pictured as a system of trails that connect activity centers and parks in various communities throughout the region. The Mohawk-Hudson, Zim Smith and other existing trails as well as proposed trails such as the Patroon Greenway Trail would all be part of this system. Cooperative management agreements would be in place. Primarily the trail system would be off-road, but safe accommodations on the street system would be necessary in some locations to complete the connectivity of the system.

The Seattle regional transportation plan contains a greenway initiative that totals 800 miles of off-road paths and other improvements. A comparably-scaled plan for the Capital District would generate about 10 miles of path construction per year for a regional total of approximately 280 over twenty years. The estimated cost of this big initiative would be $150 M.

Rationale: A greenway system would provide a continuous network for alternative transportation options, recreation and exercise. It would also reflect the region’s “green” sensibilities, its desire to reinforce existing settlement patterns and make use of the region’s natural beauty and variety. It also would be an investment in sustainability for scenarios of significant energy costs or shortages.
Riverfront Access and Urban Development Program

The goals of a riverfront access and urban development program are to provide public access to the riverfront in the form of trails, transit service or street connections, revitalize brownfield areas and provide new development opportunities in riverfront communities, particularly in urban areas. The development can be modest such as the creation of a new riverfront visitor center (such as in Waterford, New York) or grandiose with large scale, high density development that mixes uses such as residential, retail, office, parks and other public spaces (such as in Baltimore, Maryland). Common barriers to providing riverfront access are the Interstate Highway System and heavy industry which are both frequently located along riverfronts. Brownfield sites should undergo remediation.

A riverfront access and urban development program in the Capital District could be pictured as the successful implementation of waterfront revitalization plans already in place in most communities that front the Hudson and Mohawk Rivers. These plans include marinas, living history museums (a recreated Fort Orange, for example) and commercial and residential development. The scale of some of the individual pieces of existing plans ranges up to the hundreds of millions of dollars each – not all from transportation sources. Additionally, should such an initiative include redesign of riverfront expressways (I-787 particularly), the cost could rise to $3 B to $4 B, based on Boston’s Central Artery project experience.

Rationale: Riverfront land is abundant in the Capital Region, located both adjacent to older urban centers and undeveloped suburban and rural spaces. A program to make riverfronts the "front doors" rather than "back doors" to these communities would provide significant sense of place, land for mixed-use development and tourist appeal.
A street reconstruction and reconfiguration program would represent a commitment to enhancing the existing transportation system. Projects in the program would not only reconstruct pavement but would also incorporate boulevard treatments such as planted raised medians, roundabouts at intersections and streetscaping where appropriate. Streetscaping enhances the aesthetics and use of a corridor with elements such as landscaping, sidewalks, transit shelters, bike lanes, bike racks, benches, under grounding of utilities and street lighting.

A major objective of a reconstruction and reconfiguration program would be to make significant inroads into the long list of streets and roads that have not received substantial rehab and reconstruction for many years. Such an initiative would likely also embrace the “complete streets” concept and emphasize traffic calming, good quality bicycle and pedestrian accommodations, access management, and explicit consideration of goods movement. Significant addition of linear capacity would not be a feature of a reconfiguration program.

A “big initiative” of this type in the Capital District could be pictured as one that accomplishes reconstruction and reconfiguration of a much greater portion of the region’s key streets and highways than current funding allows. The original New Visions plan in 1997 called for about 25 lane miles of reconstruction/reconfiguration per year; actual experience has fallen short. A “big initiative” of this type would not only achieve the 25-mile annual pace but accelerate it to as much as 40 miles per year. At approximately $3 M per lane-mile, this initiative would total $2.4 B over 20 years.

**Rationale:** The majority of surface arterials in the Capital District are in fair-to-poor condition requiring rehabilitation. Communities almost universally desire and are planning for improved walkability and bikeability, safer property access, smoother (and calmer) traffic flow and improved site designs for development along these arterials - both for quality of life and economic sustainability.
Strategic Roadway Widening and Connections Program

This program would reflect strategic widening, extensions and connections of roadways to offer drivers a safety benefit and to add capacity. Road widening may take the form of adding a turning lane on a two lane road or widening a two or three lane road to a four lane boulevard. Extensive widening of Interstates for general use lanes is not considered here. Connecting roadways is another way to add capacity to a system without widening existing roadways. This approach offers drivers additional route choices to spread traffic around an area so that traffic pressure is reduced on the system overall. Roadway connections might include new or reconstructed roads that link key land uses. Overall, such a program would not add substantially to the total highway mileage of the region but would strategically deal with areas of growth and long-standing bottlenecks.

A “big initiative” of this type in the Capital District could be pictured as one that allows construction of new through lanes or median turn lanes at a faster pace than reflected in the current ten+ year lead time. Current TIP projects that would be typical of this kind of program are the Slingerlands Bypass extension, Exit 3 Airport Access connector, the I-90 Exit 8 Phase 2 connector, Balltown Road widening, New Karner Road, and NY 50 projects. Access improvements between I-87 and the Luther Forest Technology Park would also fit in this program.

Over twenty years, a “big initiative” of this type might average 10 to 15 lane miles of connectors and or/local widenings in concert with local land use plans. As a mix of modest projects (at $2.5 M per lane mile) and more costly projects (at up to $7 M per lane mile), the twenty-year budget for this program would approach $1 B.

Rationale: The region has a conservative approach to providing traffic relief by building more lanes, but limited amounts of arterial connections and widenings (such as current plans for addressing the Glenridge Rd. underpasses in Glenville and Clifton Park) are consistent with regional principles - and are currently severely delayed due to limited funding. These strategic additions may be critical to providing system flexibility for emergency situations.
Major Highway System Construction Program

The primary goal of a major highway system construction program is to enhance system capacity by building new highways (arterials or expressways) in new alignments. Such a program would go far beyond the “strategic” widenings listed earlier and would also include extensive widening of expressways for general use lanes. A highway system construction program would address:

- Highway system capacity through the creation of new highways.
- Highway system function through the addition of new general purpose lanes.
- Highway system condition through phased reconstruction of deteriorating sections.
- Highway system design through strategic improvements such as shoulder widening, longer and wider ramp tapers, relocation of on- and off-ramps, etc.

The Southeastern Wisconsin Regional Freeway System Reconstruction Study is an example of a major highway system construction program planned in the U.S. The study recommended the reconstruction of the freeway system to modern design standards and additional lanes on 127 miles of freeway. Many metro areas have plans for much more substantial highway construction than shown in Wisconsin. For example, Seattle’s long-range plan calls for 1,600 lane-miles of new or widened arterials and expressways.

A “big initiative” major highway system construction program in the Capital District could be pictured as one that seeks to address the majority of facilities forecast to be capacity “deficient” thorough standard traffic analysis. A 1999 analysis by CDTC identified trend traffic forecasts that would necessitate 520 lane miles, including 138 on the Interstate system to assure good levels-of-service throughout the region. This scale of construction is embraced in some metropolitan areas of the nation, but is not a valid option for the Capital District; such a “build our way out” initiative would be largely inconsistent with adopted regional and state congestion management policy; the twenty-year budget would be in the range of $3 B to $5 B. It would also be inconsistent with the New York State Energy Plan and New York’s Quality Communities program.

Rationale: Regions experiencing very rapid growth appropriately include major highway construction into comprehensive transportation plans. For the Capital District, major highway construction is not considered appropriate due to the relatively low current level of traffic congestion, likely impacts on communities and the environment, and the untapped potential for better travel information, traffic management and provision of alternate modes. Existing CDTC principles do not support construction of hundreds of miles of highway capacity in order to provide free flow traffic all the time everywhere.
Suburban Town Center Development

Suburban towns have become increasingly interested in town center development across the country. In the Capital District, CDTC’s Linkage studies have helped several towns articulate plans to create town centers. Implementation of such initiatives is largely dependent upon private investment made in conjunction with development. A regional funding program would provide implementation resources for public infrastructure investment to direct and help steer development toward a form that builds community feel, creates “downtowns” and reduces the number of vehicle trips. It would be more pro-active than reactive. The development may include a mix of uses such as retail, office, residential, parks and public spaces at a walkable scale with a transportation system that is multi-modal, offers connected street systems, attractive landscaping and other amenities that enhance quality of life. Extensive consideration is given to bicycles and pedestrians. Town centers can be retrofits of existing built up commercial districts or can lay the groundwork for future development of currently undeveloped or underdeveloped areas.

A suburban town center development program in the Capital District could be pictured as one that would support public/private financing of local service roads parallel and perpendicular to arterials to create street systems in commercial or mixed-use “downtowns”. A “big initiative” of this type would permit implementation of many of the products of CDTC’s “Linkage” program at about five to ten lane miles of new town center streets per year. The total budget for this scale of effort would be about $175 M over twenty years at a unit cost of $1 M +/- per lane mile for a mix of two-lane access and collector roads. Private investment in commercial, retail and residential space at these centers would be substantially greater than the public road expenses. Much of the public expense could be recovered if the roads were to be built within a defined development district with a transportation fee, or if they were financed through mitigation fee structures. A public program with seed money to allow the road construction to precede and direct private development would be a “big initiative” that goes beyond a mitigation process.

Rationale: There is a strong regional consensus that suburban growth should be used to create stronger communities with a sense of place, mixed use development and walkability. This is reflected in many municipal comprehensive plans and CDTC Linkage study recommendations. Funding to put street infrastructure in place to direct the form of development is a key missing ingredient.
Bus Service Expansion, BRT Program with Transit Oriented Development

This initiative emphasizes the use of transit as a key transportation mode complemented by transit-oriented development. Bus Rapid Transit (BRT) is a high-performance transit service that functions more like light rail than a local bus. BRT systems typically incorporate elements such as limited stops, priority treatment at traffic signals, bus lanes to bypass traffic at key congested locations, an identifiable brand name and color scheme, and station amenities such as real-time arrival/departure information, attractive shelters, park-and-ride lots, benches, and in some cases restrooms and other services. BRT systems are complemented by local buses, sometimes referred to as feeders, to bring passengers to the high-performance BRT routes. A reliable and efficient transit system would be more attractive to riders who would otherwise utilize cars for their trips – known as choice riders – while simultaneously improving the transit experience for those that have to use transit such as those without access to a car.

To further encourage the use of transit, Transit Oriented Development (TOD) is encouraged at BRT or other transit service stations. Transit Oriented Development is generally defined as mixed-use development (development that mixes residential, retail, office, open space, and public uses) within walking distance of a transit stop that encourages travel on foot or by public transportation instead of by car.

A “big initiative” encompassing BRT and TOD in the Capital District could be pictured as one that would accelerate the planned NY 5 BRT deployment, increase the frequency of service, enhance the range of amenities at the stations and on vehicles and link that with similar new services on other corridors. Such an initiative would require supplemental operating resources as well as up-front capital investment. At a scale and cost approximately five to ten times the scale of the initial NYS BRT program, the twenty-year budget of a “big initiative” of this type would approach $200 M for capital and $400 M for supplemental operating expenses for a BRT system approaching 100 linear miles.

Rationale: In the 2000 Census, the Capital District ranked 13th of the 100 largest metro areas in terms of reliance on transit for work trips; this orientation is a strength of the region. A substantially-increased commitment to transit through innovative service design such as BRT would provide a flexible, sustainable transportation system for the region while improving access to jobs and education for many residents. A more extensive transit network would support the region’s commitments to urban revitalization, making a carless urban life feasible.
Guideway Transit System with Transit Oriented Development

Guideway Transit is a general term used to describe innovative mass transportation technologies that operate on an exclusive right of way (exclusive travel lanes or tracks depending on the technology). These systems, in combination with Transit Oriented Development, create communities that on a regional scale preserve open space and reduce the need for travel by car. The “permanent” nature of guideways contributes to greater development along the corridor than that stimulated by bus service in mixed traffic. Transit Oriented Development is generally defined as mixed-use development (mixing residential, retail, office, open space, and public uses) within walking distance of a transit stop that encourages travel on foot or by public transportation instead of by car.

Examples of guideway transit systems include:

**Bus Rapid Transit (BRT) on Dedicated Lanes:** A high performance rubber wheeled transit service that functions like rail but is flexible and can operate on the regular street network. BRT works best when the vehicles have exclusive travel lanes.

**Automated Guideway Transit (AGT):** A transportation system with unmanned vehicles that operate on their own tracks. This technology is commonly found at airports and occasionally as downtown circulators. CDTC identified potential applications for the Capital District in its work in the mid-1990’s, but cautioned that unit costs need to drop before extensive application is feasible.

**Light Rail Transit (LRT):** A rail transportation system typically powered by electricity that can operate on an exclusive right of way or on streets in mixed traffic.

A “big initiative” of this type for the Capital District could be pictured as one that implements BRT guideway transit on key Interstate facilities and provides dedicated BRT lanes on important arterials. This initiative differs from the “BRT” initiative by including an extensive use of dedicated lanes for buses. Past CDTC research indicates that expensive light rail or automated guideway options would be appropriate only in the context of rapid growth and regional commitments to TOD. As a BRT-based program, a “big initiative” of this type in the Capital District would mirror that planned for Portland, OR. It could produce a 100 mile BRT or light rail system (the same scale as the non-guiweway BRT initiative above), but with approximately one-half of the system miles in dedicated lanes or guideways and greater service levels. The budget is considerable, estimated at $40 M/mile for guideway miles for a total capital expense of $2.1 B over twenty years, with $1.45 B in supplemental operating expenses.

**Rationale:** Guideway transit provides a greater sense of permanence than other forms of transit. A commitment to guideway transit would support efforts to focus and structure regional development and project an image of proactive, energy-conscious public policy to potential businesses and residents.
Managed Lane Programs are a tool for addressing highway congestion. Managed lanes are generally defined as interstate or high speed expressway travel lanes that have their traffic flow managed in response to changing travel conditions. Managed lanes may employ one or more of the following techniques:

- **High-occupancy toll (HOT) lanes**: Travel lanes with tolls that can vary based on traffic demand throughout the day (the higher the traffic volume on the regular lanes the more expensive the toll on the HOT lane).
- **Bus and truck only lanes**: Travel lanes designated for bus and/or truck use only.
- **High-occupancy vehicle (HOV) lanes**: Travel lanes that allow any vehicle with multiple occupants the use of that lane (the minimum number of occupants is a policy choice made by those that operate the lane).
- **Clean air and/or energy-efficient vehicle lanes**: Travel lanes that allow any energy efficient vehicle such as a hybrid-electric car the use of that lane.
- **Alternating HOV/HOT lanes**: Travel lanes that allow HOV travel and could be changed into HOT lanes in response to changing levels of traffic and roadway conditions.

A “big initiative” in the Capital District focusing on this type of investment could be pictured as one that involves the addition of one-way or reversible managed lanes (where physically feasible) on much of the expressway system in Albany County, as well as the Thruway as far west as Schenectady, the Northway as far north as Exit 9 or 10 and a portion of I-90 in Rensselaer County. The initiative would be largely consistent with current regional policy if coupled with transit investment and local development policies. A “big initiative” of this scale might construct 50 route-miles, 75 lane-miles of managed lanes (one or two lanes total per center-line mile) at a unit cost of $10 M per lane mile, or $750 M over 20 years. Operating expenses are estimated at $10 M over 20 years.

**California Route 91 Variable-Toll Express Lanes**

**Rationale**: The addition of general purpose lanes to area expressways is not supported by regional policy - the additional lanes would fill in the peak hour almost immediately. Managed lanes represent a more sustainable option; traffic flow can be maintained by restricting (or pricing) access to the managed lanes as necessary, ensuring effectiveness of the investment for a long time period.
Take-a-Lane Program

Take-a-lane programs provide high occupancy vehicle (HOV) lanes on the existing freeway system without widening the freeway. Essentially, the HOV lane is created by changing the designation of an existing general purpose travel lane to an HOV lane by re-stripping the travel lane or providing a physical barrier between it and the general purpose lanes. HOV lanes are travel lanes that allow any vehicle with multiple occupants the use of that lane (the minimum number of occupants is a policy choice made by those that operate the lane). Clean fuel or emergency vehicles may also be permitted use of HOV lanes.

Take-a-lane programs may include:

Interim HOV Lanes: These facilities are intended to be temporary. They are typically created on an existing freeway shoulder or by taking away a travel lane for restricted use. Such lanes are separated from other general travel lanes by a painted stripe. If the shoulder of a freeway facility is used, it can be the inside or outside shoulder. Often, the HOV lane will be changed back to a general travel lane during the off-peak period. Although not used anywhere in conjunction with high occupancy toll (HOT) operations, an interim configuration could be used for this purpose. They are referred to as interim because successful operation would be expected to lead to the construction of a managed lane meeting typical design standards.

Contraflow HOV Lanes: These lanes are used only in the peak direction of travel. They are created by taking an unused travel lane away from the non-peak direction of travel and giving it to the peak direction of travel during periods of heavy commuting. The lane is separated from other lanes by a movable barrier and when the Contraflow HOV lane is not in use, the barrier is stored against the freeway median.

Tolling existing toll-free facilities: Both the USDOT and NYSDOT encourage the consideration of public-private partnerships. These typically involve the sale of toll facilities to and operation by private firms. SAFETEA-LU allows consideration of the imposition of tolls on existing toll-free Interstate facilities. Nationwide, there has not been any example of imposing tolls on a previously-free Interstate facility except in the case of tolling lanes added to the free facility. It is quite feasible technically to add tolls (particularly if E-ZPass electronic toll only) to existing facilities such as the Northway, I-787 or “free” I-90. In theory, a twenty year program could eventually put about 100 route miles into toll operation, above and beyond the Thruway mileage. This would provide substantially proceeds not only for the maintenance of these facilities, but for use on other transportation initiatives.

A “big initiative” of this type may not be feasible. There are few locations in the Capital District that both have a considerable capacity restriction in one direction and available capacity in the other direction. Peak / off-peak directional flows on a six-lane expressway need to be greater than 2/3 to 1/3 in order to gain more by adding an additional (a fourth) lane in the peak direction than is lost by losing a lane (and leaving only two) in the off-peak direction. Per lane capacities are less because of the friction caused by contraflow traffic. An interim HOV or HOT lane may be possible as a transitional operation prior to building a managed lane, but it is not expected that an interim configuration would be a permanent design.

The concept of adding tolls on existing toll-free lanes on Interstate roads is not currently feasible politically, although attitudes could change.

Rationale: Instituting tolls where none exist is theoretically attractive and complements the region’s principles of transportation management and provision of modal alternatives. However, it is unlikely for the region to support such an initiative until it is proven acceptable elsewhere. (Contraflow lanes can be cost effective when capacity is available. This does not appear to be the case in the Capital District. Taking a general lane for HOV use has never been publicly tolerated.)
Highway Noise Program

Highway noise programs attempt to reduce the impact of traffic noise on developed areas, particularly residential neighborhoods. Such a program would require that sound walls, land berms or other devices be constructed at any location where highway noise is considered excessive and noise barriers are considered both desirable by the community and cost-effective at reducing exposure to excessive noise. At locations where a highway was built through an existing neighborhood, particularly during the construction of the Interstate Highway System beginning in the 1950s, individual states can decide whether or not to support highway noise programs themselves. However, federal dollars can not be used to support highway noise programs unless one of the following conditions is met:

1) A highway is constructed at a new location.
2) The number of through traffic lanes is increased on an existing highway.
3) The vertical or horizontal alignment of an existing highway is significantly changed.

A “big initiative” of this type in the Capital District could be pictured as one that constructs noise barriers in each of the locations cited as feasible and cost-effective in Region 1’s assessment of noise impact in the early part of this decade. The scale would be 40 locations at approximately $1 M per location. A comprehensive noise program would also seek municipal regulations to prevent the creation of noise conflicts through inappropriate development near highways.

Rationale: Extensive noise barrier construction is consistent with regional principles of compatibility between transportation and land use. Lack of funding is the primary reason why no noise program of any kind is active in the Capital District. Implemented in concert with the affected property owners and municipalities, such an initiative would reflect “context sensitive” principles and improve quality of life.
Demand Management Program

The purpose of a Travel Demand Management (TDM) program is to maximize the movement of people, not vehicles, within the transportation system to increase its efficiency while not increasing its physical capacity. Primarily directed at commuter travel (7 AM to 9 AM, and again from 4 PM to 6 PM), TDM programs implement a series of actions that aim to reduce the use of single-occupant vehicles and to alter the time of commuter travel to other, less congested time periods. Examples of TDM strategies include van-pooling, car-pooling, transit use and altered work hours (including flextime, staggered work hours, compressed work weeks, and telecommuting). Financial incentives may also be offered such as transit fare subsidies, parking cash out programs and parking fees. TDM strategies may be developed for a single work site, a specific corridor, or an entire area such as an urban downtown.

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Carpooling and transit park-and-ride web site in the Capital District

Nationwide ridesharing service

A “big initiative” of this type in the Capital District could be pictured as one that builds from CDTC’s and CDTA’s successes in downtown Albany, extending the concepts regionwide, including to the numerous “tech parks” such as the Harriman Campus, Luther Forest Technology Campus, the RPI Tech Park and others. Financial incentives for use of modes other than single occupant vehicle are provided to employees in combination with greater restraint in construction of free or low-cost employee parking. Extensive vanpool services may be appropriate in locations not easily served by fixed route transit service.

The cost of a “big initiative” in TDM in the Capital District could be one encompassing over 40,000 participants – about 10% of the region’s workforce. If the majority of the program is self-financed and only ¼ of participants require a public subsidy (of about $20 per month), the total public cost would be approximately $50 M over 20 years.

Rationale: The least-expensive and most cost-effective strategy to manage traffic, conserve energy and reduce pollution is demand management. An extensive effort in TDM would reflect the region’s interest in environmental responsibility and its desires to limit the amount of highway construction required to maintain mobility.
Clean, Efficient Vehicle Program

A clean or efficient vehicle program would include extensive financial incentives to encourage the use of “clean fuel” vehicles in public and private motor vehicle fleets (cars, trucks, transit buses and other personal vehicles). Incentives may include income tax deductions, sales tax rebates, lower vehicle purchase prices, free or prioritized parking and permitted use of High Occupancy Vehicle lanes, among others. “Clean-fuel” vehicles are vehicles propelled by one of the following fuels:

- Compressed natural gas (CNG)
- Liquified natural gas (LNG)
- Liquified petroleum gas (LPG)
- Hydrogen
- Electricity (e.g., some gasoline/electric hybrids)
- Any other fuel that is at least 85% alcohol or ether

These vehicles provide improved transportation energy efficiency, reduced petroleum reliance, increased energy diversity, and mitigate adverse environmental impacts from transportation fuels.

A “big initiative” in the Capital District could be pictured as one which couples federal tax incentives with significant state tax incentives and aggressively markets clean, efficient vehicle purchases in partnership with manufacturers and area dealers. A “big initiative” would target both fleet and individual purchases. Public costs for a “big initiative” in this vein would run $100,000 as an incremental cost for a regional bus fleet of approximately 300 vehicles; and a 30% vehicle price incentive in 2010 to double hybrid sales to 2,800 per year (with incentive declining per vehicle after that). The total cost over 20 years would be $550 M.

Rationale: A clean, efficient vehicle program in the Capital District would be a statement of the region’s (or the state’s) concern for clean air and climate change, improve the ability of the region to deal with energy cost and supply problems, and be an attractive quality to like-minded businesses and residents.
Intelligent Traffic Management Program

A traffic management program would include widespread use of intelligent transportation systems (ITS) to provide electronic traffic monitoring, traveler information and traffic control systems. ITS technology can monitor traffic flows on major freeways, inform motorists of problem areas, improve response time to incidents and alter traffic signal timing on arterials to improve traffic flow in emergencies. Providing drivers with reliable, up to the minute information on existing traffic conditions would greatly enhance the traveling experience and may reduce incident related congestion. Some ITS technologies can be coordinated at a central location, often at a traffic management center, to allow for regional monitoring of the transportation system. ITS applications include:

- Integrated traffic control and transportation management systems
- Coordinated traffic signals
- Highway advisory radio systems
- Variable message signs
- In-pavement vehicle detectors
- Closed-circuit television
- Global Positioning Systems and route guidance (currently used in some trucks, buses, and rental cars)
- Electronic toll systems

Traffic Management Center, Albany, New York

A “big initiative” of this type in the Capital District could be pictured as one that extends signal technology and coordinated operations to the entire CDTC-designated ITS priority network, coupling that with a quantum jump in the quantity and quality of real-time travel information made available through public and fee-based or subscription-based private sources. The cost estimate for this initiative is approximately $7 M per year.

Rationale: The region is already a leader in its financial commitment to traffic and transit technology. A bold initiative to take the ITS program in the Capital District to the next level would reflect the region's recognition that providing travel information, reliability and predictability is a higher objective and more achievable goal than eliminating delay.
Video Surveillance and Enforcement Program

A video surveillance and enforcement program would include extensive use of red light running cameras, speed cameras and other forms of video surveillance to enforce traffic laws and to promote public safety. Red light running cameras basically work by placing a video camera at a strategic intersection, photographing the license plates of a vehicle running a red light and issuing a citation to the vehicle owner by mail. Speed cameras, also known as photo radar, use cameras to photograph the license plates of vehicles violating the speed limit based on radar speed data. The threshold at which a vehicle is considered violating these laws is usually established with some latitude such that those issued citations are the most flagrant offenders. Widespread use of video surveillance and enforcement would also enable stretched police departments to keep their street patrols available for more critical situations.

Extensive use of video surveillance in New York would require changes to the state’s Vehicle and Traffic Law. Only cities with populations of more than 1 million are currently authorized to operate red light running cameras and they are limited to 50 intersections within that City. There is currently no authorization for speed enforcement cameras.

A “big initiative” of this type in the Capital District could be pictured as one that incorporates video surveillance as part of ITS implementation on arterials throughout the region, after state legislation is passed authorizing such surveillance. Cost of the program would be expected to be supported by fines.

Rationale: There has been little discussion of this subject in the Capital District. If the region were shown to support video enforcement, it would reflect a statement of a strong desire for effective traffic enforcement and pedestrian and motorist safety.
A comprehensive traffic safety program is called for by AASHTO's Strategic Highway Safety Plan and NYSDOT's similar Comprehensive Highway Safety Plan. These plans call for action in twenty-two strategic emphasis areas including drivers, non-motorized users, vehicles, highways, emergency services and management systems. Enforcement of traffic laws is an integral part of a comprehensive plan. Capital investment to modify highway design is a large piece of the budget. AASHTO’s bullet list of issues to address includes:

**Drivers**
- Young
- Unlicensed/Suspended/Revoked
- Older
- Aggressive
- Impaired
- Distracted/Fatigued
- Seat Belt Use
- Speed

**Special Users**
- Pedestrians
- Bicyclists

**Vehicles**
- Motorcycles
- Heavy Trucks

**Highways**
- Trees
- Run Off the Road
- Horizontal Curves
- Utility Poles
- Unsignalized Intersections
- Head-On Collisions
- Head-On Crashes on Freeways
- Work Zones

**EMS**
- Rural Emergency Medical Services

**Management**
- Data
- Integrated Safety Management Process

Beyond this list, a comprehensive safety program in the Capital District would also include attention to local streets as well as highways; introduction of traffic calming features, improved site designs and structured street systems; with the goal of reducing points of conflict, creating safer pedestrian/bicyclist/vehicle operating environments, and reducing the severity of impact by lowering speeds in residential and commercial areas.

A “big initiative” of this type could be pictured as one that implements safety-specific physical improvements at several times the pace funded by SAFETEA-LU, and could enhance the benefit possible from other initiatives (BRT, greenways, street reconfiguration, and suburban town center initiatives, for example). Extensive substitution of roundabouts for signalized intersections could be expected to be included in the initiative. A $10 M annual initiative beyond current expenses would be the approximate scale of this program.

**Rationale:** The loss of life and limb on the highway system is tolerated well beyond reason in the US. A major commitment to a comprehensive safety program in the Capital District would reflect a desire for safe neighborhoods, safe streets, safe travel and recreation, and quality spaces.