ROUTE 20 CORRIDOR STUDY
CITY OF RENSSELAER

February 12, 2004

Prepared for the
Capital District Transportation Committee (CDTC)

By
Buckhurst Fish & Jacquemart Inc.
ROUTE 20 CORRIDOR STUDY
CITY OF RENSSELAER
RENSSLEAER COUNTY, NEW YORK

February 12, 2004

Prepared for the Capital District Transportation Committee (CDTC)
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1.0 Introduction

1.1 Study Purpose

Buckhurst Fish & Jacquemart Inc. (BFJ) was retained by the Capital District Transportation Committee (CDTC) and by the City of Rensselaer to develop a corridor improvement plan for U.S. Route 20 in the City of Rensselaer, New York. The study corridor is approximately 0.70 miles in length and runs from the Town of East Greenbush line to the intersection of Broadway and Route 20. The purpose of the study is to provide a long-term vision of the corridor and to propose improvements to best serve its role within the adjacent community. CDTC is the designated metropolitan planning organization for the Albany-Schenectady-Troy region responsible for prioritizing funding for transportation projects.

BFJ analyzed the traffic conditions and development patterns along the Route 20 corridor as they relate to the efficient functioning of the area’s transportation system. BFJ examined the roadway configuration, vehicle and pedestrian traffic volumes, intersection levels of service, accident history, vehicle speeds, and other modes of transportation such as bicycles and bus transit.

The goal for the Route 20 corridor study is to improve the transportation functions of the corridor; increase the safety, aesthetic quality, and economic viability of the corridor; and reduce the barrier effect of Route 20 on the adjacent neighborhoods. An important goal is to generate consensus on the future directions from all interested parties. The study provides short, intermediate, and long-term improvements to manage corridor traffic. The participation of the City of Rensselaer Planning & Development Agency, City Planning Planning Commission, County Representatives, and business owners was essential to ensure the long-term success of the effort.

1.2 Public Participation

A technical Advisory Committee was formed to offer guidance to BFJ. The committee included representatives from CDTC, the New York State Department of Transportation (NYSDOT), City of Rensselaer Planning and Development Agency, Hudson River Valley Greenway Communities Council, business owners and residents from the study area. BFJ met several times with the committee during the different phases of the study. An important component of the study was a wider public participation effort. Two public workshops were held at different stages of the study. The purpose of the workshops was to bring committee members and residents together and benefit from their combined local knowledge. At the first workshop, held on Thursday, June 19, 2003, BFJ presented the existing conditions in the Route 20 Corridor and then workshop participants were asked to share their visions for the study corridor. Comments made at the
workshop helped BFJ to further identify the core issues and opportunities along the corridor. At the second workshop, on Thursday, July 31, 2003, BFJ presented potential short, intermediate and long-term improvements. Workshop participants had the opportunity to provide feedback on the potential improvements and suggest on improvement priorities.

2.0 Existing Conditions

2.1 Roadway Conditions

The Route 20 study corridor is a major east-west arterial approximately 0.70 miles in length that runs from the Town of East Greenbush line on the easterly end to the intersection of Broadway on the westerly end. Between Broadway and Aiken Avenue the roadway consists of two travel lanes (approximately 11' - 12' wide) in each direction plus a center turning lane (approximately 16') and a bike lane on each side. The roadway narrows down to two travel lanes in each direction between Rensselaer Avenue and the on/off-ramps connecting to Route 9J. Figure 1 shows the study corridor.

Pavement conditions along the entire corridor are good with the exception of some of the side streets that connect to Route 20. It was observed that poor pavement conditions exist on the north side of Route 20 along Academy Street and Aiken Avenue.

2.2 Daily Traffic Volumes (AADT)

A traffic count report for the year 1999 was obtained from the New York State Department of Transportation (NYSDOT). The hourly report shows traffic volumes taken on Route 20 east of Washington Street for a 24-hour period, which are then multiplied by different factors (seasonal adjustments) to get the estimated Average Annual Daily Traffic (AADT). The report shows that the AADT located along Route 20 between the junction of Route 9J and Washington Street is 24,600 vehicles.

Figures 2 and 3 show the average weekday hourly traffic counts for the westbound and eastbound directions along Route 20 for July 1999. The westbound direction (going to Albany) shows that peak traffic occurred during the morning from 7:00 AM to 8:00 AM with more than 1400 vehicles. For the eastbound direction, peak traffic occurred during the afternoon between 4:00 PM and 5:00 PM with approximately 1600 vehicles.
Figure 1
STUDY AREA MAP

Route 20 Corridor Study

BFJ Buckhurst Fish & Jacquemart Inc.

Legend:
Study Area:

Not Drawn to Scale
Figure 2 - Route 20 Average Weekday Hourly Traffic Counts - Westbound
(between Route 9J and Washington Street)
Figure 3 - Route 20 Average Weekday Hourly Traffic Counts - Eastbound
(between Route 9J and Washington Street)
2.3 Peak Hour Traffic Volumes

Manual turning movement counts for the study area were obtained from a traffic study conducted by Fuss O’Neil Inc. & Champagne Associates. The traffic study shows that manual traffic counts were conducted in May 2001 during the weekday morning (7:00 AM to 9:00 AM), weekday midday (11:00 AM to 1:00 PM), and weekday afternoon (4:00 PM to 6:00 PM). Table 1 summarizes the different intersections that were counted. Of the 6 study intersections, 3 are signalized and 3 are unsignalized.

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Route 20 and Broadway</td>
<td>signalized</td>
</tr>
<tr>
<td>Route 20 and Academy Street</td>
<td>unsignalized</td>
</tr>
<tr>
<td>Route 20 and Washington Street</td>
<td>signalized</td>
</tr>
<tr>
<td>Route 20 and Aiken Avenue</td>
<td>signalized</td>
</tr>
<tr>
<td>Route 20 and Rensselaer Avenue</td>
<td>unsignalized</td>
</tr>
<tr>
<td>Route 20 and Route 9J on/off-ramps</td>
<td>unsignalized</td>
</tr>
</tbody>
</table>

Figures 4 to 6 show the traffic volumes at the different intersections for the weekday morning, midday and afternoon peak hours, respectively. The traffic study indicates that the peak hours typically occurred from 7:30 AM to 8:30 AM in the morning, 12:00 PM to 1:00 PM during the midday, and 4:30 PM to 5:30 PM in the afternoon.

2.4 Existing Levels of Service

Based on the peak-hour traffic volumes and on geometric measurements made during the site evaluation, all intersections were analyzed using the Highway Capacity Manual method (Transportation Research Board Special Report 209, Fourth Edition, 2000 Update). Traffic conditions are described in terms of level of service (LOS) with the levels ranging from LOS A, the best, to LOS F, the worst. Level of service C is generally considered the design level of service, while LOS D is generally considered as the acceptable limit during peak hours. Level of service E is typically at or near the capacity of the roadway or intersection and generally involves unacceptable delays.

Levels of service for signalized intersections are defined in terms of average control delay per vehicle. Delay is dependent on a number of variables including the quality of signal progression, cycle length, green ratio and the volume/capacity ratio for the lane group or approach in question. For signalized intersections, levels of service can be calculated and expressed for each movement or approach and for the total intersection as a weighted average of all movements. Specifically, level of service criteria are stated in terms of the average control delay per vehicle for the worst 15-minute period within the peak hour, as shown in Table 2. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.
Figure 4
2001 TRAFFIC VOLUMES
AM PEAK HOUR

Route 20 Corridor Study
BFJ Buckhurst Fish & Jacquemart Inc.

Not Drawn to Scale

Figure 5
2001 TRAFFIC VOLUMES
MIDDAY PEAK HOUR
Route 20 Corridor Study
BFJ Buckhurst Fish & Jacquemart Inc.
Not Drawn to Scale

Figure 6
2001 TRAFFIC VOLUMES
PM PEAK HOUR

Route 20 Corridor Study
BFJ Buckhurst Fish & Jacquemart Inc.

Not Drawn to Scale

Table 2 - Level of Service Criteria for Signalized Intersections

<table>
<thead>
<tr>
<th>Level of Service</th>
<th>Average Control Delay (seconds/vehicle)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>10.0 or less</td>
</tr>
<tr>
<td>B</td>
<td>10.1 to 20.0</td>
</tr>
<tr>
<td>C</td>
<td>20.1 to 35.0</td>
</tr>
<tr>
<td>D</td>
<td>35.1 to 55.0</td>
</tr>
<tr>
<td>E</td>
<td>55.1 to 80.0</td>
</tr>
<tr>
<td>F</td>
<td>more than 80.0</td>
</tr>
</tbody>
</table>


Level of service analyses for unsignalized intersections are based on average control delay, defined as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line. This includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position. The total delay for a particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. The level of service criteria are shown in Table 3.

Table 3 - Level of Service Criteria for Unsignalized Intersections

<table>
<thead>
<tr>
<th>Level of Service</th>
<th>Average Control Delay (seconds/vehicle)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>10.0 or less</td>
</tr>
<tr>
<td>B</td>
<td>10.1 to 15.0</td>
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<td>15.1 to 25.0</td>
</tr>
<tr>
<td>D</td>
<td>25.1 to 35.0</td>
</tr>
<tr>
<td>E</td>
<td>35.1 to 50.0</td>
</tr>
<tr>
<td>F</td>
<td>more than 50.0</td>
</tr>
</tbody>
</table>


Using the capacity analysis methodology described above, peak hour traffic volumes were analyzed by Fuss & O’Neil to determine the existing levels of service for the 6 study intersections for the weekday morning, midday, and afternoon peak hours. Figures 7 to 9 show the existing levels of service for each intersection. It should be noted that in the Fuss & O’Neil traffic study no capacity analysis was conducted for the intersection of Route 20 and the Route 9J on-ramps.

As shown in the figures, most of the intersections within the study area operate with good levels of service for the peak hours analyzed. The following movements are observed to operate with poor levels of service: the intersection of Route 9J and South Street and Port Access Highway operates with an overall LOS F with estimated delays of approximately 300 seconds during the AM peak hour. The northbound approach (from Route 9J) at this intersection operates with a LOS F with estimated delays of approximately 430 seconds. The northbound approach of the Route 20 westbound off-ramp and South Street operates with a LOS F with estimated delays of approximately 57 seconds during the AM peak hour.
Figure 7

2001 AM PEAK HOUR TRAFFIC CONDITION

Route 20 Corridor Study

BFJ Buckhurst Fish & Jacquemart Inc.

Not Drawn to Scale

Figure 8
2001 MIDDAY PEAK HOUR TRAFFIC CONDITION
Route 20 Corridor Study
BFJ Buckhurst Fish & Jacquemart Inc.

Figure 9
2001 PM PEAK HOUR TRAFFIC CONDITION
Route 20 Corridor Study
BFJ Buckhurst Fish & Jacquemart Inc.
Not Drawn to Scale

2.5 Accident History

An accident analysis was conducted along the Route 20 study corridor. Accident information obtained from NYSDOT for the years 1998 to 2001 indicated that there were a total of 89 accidents during those 3 years. There were 12 vehicular accidents that involved injuries, 3 vehicular accidents that involved a pedestrian or a bicycle, and no vehicular accidents that involved a fatality.

Accidents are summarized separately for intersections and for roadway sections. As shown in Figure 10, the highest number of vehicular accidents occurred in between the intersections of Washington Street and Aiken Avenue with 18 accidents. The highest incidence of vehicular accidents with injury was located at the on-ramp connecting Route 9J and Route 20 eastbound with 4 accidents. There was one accident involving either a pedestrian or a bicycle at the intersections of Route 20 and Academy Street, Route 20 and Aiken Avenue, and east of the junction of Route 9J.

2.6 Vehicular Speeds

BFJ collected speed data along the study corridor. Automatic Speed Data Recorders were installed approximately 200' east of the intersection of Route 20 and Aiken Avenue for a period of approximately one week (May 29, 2003 to June 1, 2003) to determine the actual vehicle speed along this section of the roadway. Vehicle speed data collected during this period indicated that the westbound and eastbound direction had 85th percentile speeds of 31 mph and 47 mph, respectively. This means that 85 percent of the drivers were driving at those speeds or lower. The median speed for the westbound direction is 28 mph, while the median speed for the eastbound direction is 41 mph.

It is interesting to note that the vehicle speed data collected indicated that 94% of the vehicles going eastbound and 26% of the vehicles going westbound are traveling over the posted speed limit of 30 mph. Westbound traffic is slower on average because some of the westbound vehicles slow down due to the red lights ahead, whereas the eastbound traffic is more in an acceleration mode.

2.7 Other Modes: Buses, Bicycles and Pedestrians

Sidewalks: There is a significant sidewalk system serving the commercial and residential areas along the study corridor. Sidewalks are provided on both sides of Route 20 starting at the intersection of Broadway down east to Aiken Avenue. There is no continuous sidewalk on the north side of Route 20 between Aiken Avenue and Rensselaer Avenue - in front of Eckerd Pharmacy and the Aldi Supermarket. Starting from the intersection of Rensselaer Avenue to the junction of Route 9J, there are sidewalks provided on both sides. For most of the sidewalks located along Route 20, pavement conditions are fair and sidewalk widths are between six feet and seven feet. Parallel parking is not allowed along Route 20.
Figure 10 - Accident Data Map

Legend:
1/2/3: Total Accidents/Injuries/Bike-Ped Accidents

Source: NYSDOT Region 1: (8/01/1998 to 8/31/2001)
Pedestrian counts were conducted by BFJ on Thursday, May 22, 2003, from 3:00 PM to 5:00 PM to determine the number of people crossing Route 20 at different locations in the study corridor. The results are summarized in Figure 11. As shown in the figure, the highest number of pedestrians crossing the street is at the intersection of Route 20 and Aiken Avenue. During this period, 19 pedestrians crossed Route 20 and 16 pedestrians crossed Aiken Avenue. The high number of pedestrians at this location is due to the proximity of Eckerd Pharmacy and Aldi Supermarket in the northeast quadrant of the intersection of Route 20 and Aiken Avenue.

Bike Path: Route 20 is designated as an on-street bike route. Bike lanes are provided on each side of Route 20 from the intersection of Broadway down east to Rensselaer Avenue. There are no bike lanes east of Rensselaer Avenue. Along this section of the roadway, bicyclists must use the sidewalk. The width for bike lanes along Route 20 is between three feet and four feet.

Bus Transit: Bus service for the City of Rensselaer is provided by the Capital District Transportation Authority (CDTA). Several bus routes currently travel along the Route 20 Corridor.

- **Bus Route No. 5/15:** Bus Route No. 5/15 operates from Monday through Friday and runs on an hourly headway from 5:40 AM to 6:00 PM. The route starts and terminates at the Wal-Mart/Van Rensselaer Heights. In the vicinity of the study corridor, Bus No. 5/15 travels along Route 20 westbound and travels along River Road and Aiken Avenue in the eastbound direction.

- **Bus Route 32, 33, 33X:** Bus Route No. 32, 33, 33X operates from Monday through Friday starting from approximately 7:00 AM to 7:00 PM. It starts at the Malden & Chatham terminal and goes to the Empire State Plaza and back.

Photo showing Bus Transit along Route 20 stopping in front of the Aldi Supermarket.
Figure 11 - Pedestrian Volumes
(3:00-5:00 PM, 5/22/03)

Route 20 Corridor Study
City of Rensselaer, New York
Buckhurst Fish & Jacquemart Inc.

Not Drawn to Scale
3.0 Public Planning Workshops

BFJ conducted two planning workshops held at different stages of the study. The purpose of the workshops was to bring the local community together to obtain their input into the planning process and to generate consensus on the future of Route 20.

The first planning workshop was held on June 19, 2003 at the Albany Yacht Club. BFJ presented existing traffic and land-use conditions in the study corridor. After the presentation, the participants were asked to identify issues and opportunities along the corridor. The major issues identified by workshop participants included:

- High vehicular speeds; roadway is hostile to pedestrians;
- Corridor is used as a throughway for trucks and trailers;
- Increase in traffic due to Besicorp development;
- Corridor is unattractive;
- The intersection at Aiken Avenue and Route 20 is dangerous.

The improvement opportunities identified by workshop participants along Route 20 included:

- The installation of medians to serve as pedestrian refuge;
- Widening of the bike lanes, enforcement of speed limits, beautification corridor, creation of a business niche;
- Realigning First Alley and Aiken Avenue;
- Fixing the ramps at Route 9J and Route 20.

The second planning workshop, which was held on July 31, 2003 at the Rensselaer Boys and Girls Club, focused on short, intermediate, and long-term improvements for the Route 20 Corridor. The improvements were based on comments from the first planning workshop and from local observations by BFJ staff. Workshop participants were asked to provide comments about the potential improvements. Some of their comments included:

- Option of having a traffic light and raised medians at the intersection of Broadway and Route 20 is preferred;
- Agreement with the installation of pedestrian countdown timers;
- Agreement with some of the locations of the raised medians;
- Install attractive signage;
- Envision a walking community;
- The landscaped medians should be higher than curb height.

Summaries of the first and second planning workshops, including the comments from workshop participants are shown in the appendix.

4.0 Goals and Objectives

The two planning workshops identified numerous issues, viewpoints and opportunities for Route 20. However, the vision for the corridor shared by most participants emphasizes the following goals: improve the transportation functions of the Corridor; increase the safety, aesthetic quality, and economic viability of the Corridor; and reduce the barrier effect of Route 20 on the neighborhood. These goals serve as our guide in developing an improvement plan for the study corridor.
5.0 Recommended Roadway Improvements

The following sections describe the list of recommended improvements along the Route 20 Corridor. These recommendations respond to the problems identified in the analysis of the existing conditions, local observations, and discussions during the planning workshops. They are in line with the desired goals and objectives for the study corridor.

5.1 Short-Term Improvements

One of the main problems identified in the study was the difficulty for pedestrians (especially the elderly) and the danger imposed on the school children when crossing Route 20 between the downtown area and the Fort Crailo neighborhood. To alleviate this problem, we suggest that pedestrian crossing signals with countdown timers be installed at the intersections of Route 20 and Broadway, Route 20 and Washington Street, and Route 20 and Aiken Avenue. In addition, there should be a 4-to-5 second lead time for the pedestrian phases at the above-mentioned intersections. The leading pedestrian interval gives pedestrians a head start and places them in the middle of the crossing when cars start.

The bike lanes along the Route 20 study corridor are too narrow. We recommend that the bike lanes be restriped to five feet.

To promote the use of bus service running through the corridor, we recommend that new and more visible “Bus Stop” signs be installed.

The entire study corridor should have a continuous sidewalk. We recommend that the sidewalk on the north side of Route 20 from Aiken Avenue (in front of Eckerd Pharmacy and Aldi Supermarket) eastward to Rensselaer Avenue be extended to connect with the existing sidewalk further east. The photo simulation below shows a proposed sidewalk extension east of the intersection of Aiken Avenue.

Proposed sidewalk improvements northeast of the intersection of Aiken Avenue/Route 20

Problems with regard to truck maneuvering at the intersection of Route 9J and Route 20 were identified. We noticed that large trucks turning from the westbound on-ramp to Route
Route 20 tend to occupy two lanes to complete their turn. We also observed that large trucks turning from Route 20 westbound to Route 9J tend to drive over the curb. To mitigate this condition, we propose that the curbs along the on/off-ramp at westbound Route 20 be widened to accommodate truck turning movements. We also recommend that the northbound and westbound approaches at the intersection of Route 9J (South Street) and Route 20 be widened to accommodate left turn lanes. An all-way stop sign should be installed at this intersection. A stop-sign warrant analysis shows that although the intersection does not appear to meet the required minimum traffic volume, the relatively high number of accidents due to poor intersection sight distance and high vehicle speeds coming from the off-ramp justifies the installation of an all-way stop sign. The traffic report prepared by Fuss & O’Neil for Besicorp also recommends that this intersection be installed with an all-way stop sign. See Figure 12.

The total estimated cost for the short-term improvements would be $265,000. The improvement to the Route 9J ramps becomes particularly important if the Besicorp project is approved.
5.2 Intermediate-Term Improvements

It is recommended that at selected locations, raised medians be introduced interspersed with left-turn lanes of approximately eleven feet in width. Travel lanes should be eleven feet to twelve feet in width and the bike lanes should be five feet in width. Sidewalks should be widened to eight feet in width. This includes a three foot-wide grass strip and a five foot walking lane. Figure 13 compares the existing cross-section of Route 20 with a typical recommended cross-section.

Figures 14a & 14b show the recommended locations of the landscaped medians. It is proposed that left turns along Route 20 be allowed only at the most important intersections, and along one section of Route 20 between Washington Street and Aiken Avenue and one section east of Aiken Avenue, where the existing commercial land uses are to some degree dependent on these movements. Those two-way left-turn lanes should be monitored in the future and should be reassessed as adjacent land uses change. The two-way left-turn lanes should eventually be changed to a raised landscaped median. Other intermediate-term recommendations are as follows:

- **Broadway and Route 20:** At the intersection of Broadway and Route 20 left turns should be prohibited on the westbound approach. Access to Downtown Rensselaer should be reinforced through better signage on the Dunn Memorial Bridge to encourage all downtown traffic to use the loop road to downtown. An additional sign towards downtown should be set up at the intersection with Washington Street. The elimination of the left-turn lane allows us to build an attractive landscaped median to mark the entry into Rensselaer and to build a protected pedestrian refuge in the median. A gateway sign should be installed on the southeast side of the intersection. Figure 15 shows the conceptual plan and the photo below shows a photomontage of the intersection with the proposed improvements.
• The option of building a two-lane roundabout at the intersection of Broadway and Route 20 was examined. The roundabout would have an outside diameter of about 140’ to accommodate trucks and semi-trailers. Figure 16 shows the alternative with a two-lane roundabout.

To achieve adequate deflection for traffic along Route 20, the roundabout has been centered along Route 20. This would require the home on the southwest corner to be acquired and relocated. This alternative would provide for a very safe and attractive entry into this part of Rensselaer, and it would allow for easy U-turns along Route 20 (thus allowing the construction of raised medians). It is not recommended, however, due to the high cost of its construction.

• Academy Street and Route 20: We are suggesting that Academy Street be repaved and crosswalks be added to the intersection. See Figure 17.

• Washington Street and Route 20. At the intersection of Washington Street and Route 20 a left-turn lane should be installed at the eastbound approach of Route 20. Figure 18 shows the proposed improvements at this intersection.

• Aiken Avenue and Route 20: At the intersection of Aiken Avenue and Route 20, left turns coming off the westbound approach from Route 20 should be prohibited (at least during peak hours) and the left-turn lane on that side should be replaced with a short raised median with trees. The sidewalk at the southwest corner of the intersection should be widened. A bus bay should be constructed to accommodate bus stops along the area. We are also suggesting that Aiken Avenue be repaved and restriped on the north side extending all the way to the railroad property line. We are recommending that the intersection of Aiken Avenue and First Alley be realigned and the curb along First Alley be repaired. A sidewalk with some landscaping should be constructed on the west side of Aiken Avenue in between First Alley and Route 20. See Figure 19.

The photo renderings below illustrate the improvements at the intersection of Aiken Avenue and Route 20.
The photo above shows the improvement at the intersection of Aiken Avenue and Route 20 looking west. As shown in the picture, we recommend extending the curb near the intersection, realigning and restriping the crosswalks, and providing ADA compliant ramps near the edge of the curb. In addition, we also recommend the installation of more visible “Bus Stop” signs, benches near the bus stop, and lamp posts along the landscaped medians and sidewalks.

The study identified a demand for park-and-ride facilities for bus commuters to downtown Albany. To further encourage the use of the bus service we propose that a bus shelter be installed in front of Eckerd Pharmacy or Aldi Supermarket. In addition, we would recommend that the area connecting Aiken Avenue to the back of Eckerd Pharmacy be developed into a park-and-ride lot. These improvements are illustrated in Figure 20.

The improvements along Route 20 from the intersection of Broadway to Aiken Avenue are estimated to cost approximately $920,000 with the traffic light option at the intersection of Broadway and Route 20. With the roundabout option at the intersection of Broadway and Route 20, the estimated cost would be approximately $1.3 million due to the high cost of relocating a house. The cost estimate of the improvements mentioned above is summarized in Section 7.0.
Figure 13 - Typical Cross-Section for Route 20

Route 20 Corridor Study
City of Rensselaer, NY
Buckhurst Fish & Jacquemart, Inc.
Figure 14a - Route 20 Improvements from Broadway to Washington Street
Figure 14b - Route 20 Improvements from Washington Street to Aiken Avenue
Figure 19 - Aiken Avenue and Route 20 Improvements

- Widen Sidewalk
- Install Raised Median with Landscaping
- Eliminate Left-Turn Lane
- Widen Bike Lane to 5'
- Allow On-Street Parking on North Side of First Alley
- Repair Curb Lines
- Repave Aiken Avenue Ext.
5.3 Long-Term Improvements

Route 20 between the intersection of Aiken Avenue and Rensselaer Avenue should be widened to accommodate the cross-section shown in Figure 13. As shown in Figure 21, the landscaped raised median is proposed near the intersections leaving the section in between available for two-way left turns. The area in between the landscaped medians should be constructed with a different paving material. The left-turn lanes between the intersections are temporary and should be replaced with raised medians as future land uses and access patterns permit.

At the intersection of Rensselaer Avenue and Route 20, we are recommending that Route 20 be widened to accommodate a left turn lane and a landscaped median. The northbound approach off Rensselaer Avenue should be realigned to accommodate a separate left and right turn lane. With the potential redevelopment of the old BASF industrial site, we are suggesting that an entrance be considered on the eastern side of the intersection to serve as a more direct access point to the site. This intersection should be signalized and pedestrian crossings should be added if and when warranted. Improvements at this location are shown in Figure 22.

In conjunction with the rebuilding of the overpasses near the junction of Route 9J and Route 20, we are suggesting the following improvements at this location: construct a 6-foot landscaped median along Route 20 from the intersection of Route 9J westward to Rensselaer Avenue; install an acceleration and deceleration lane (12 feet in width) along westbound Route 20; shift the eastbound off-ramp from Route 20 towards Route 9J further south to allow for a better right-turn radius and an acceleration lane from Route 9J to eastbound Route 20. To accommodate bikers along this area, it is preferred that the multi-purpose path (sidewalks) be used as a bike lane. The above-described improvements are shown on Figure 23.

The estimated total cost for the above-mentioned improvements will be approximately $740,000. This cost does not include the rebuilding of the overpasses.

6.0 Land-Use/Zoning Recommendations

6.1 Access Management Plan

Access Management Plan: For safety and traffic flow reasons it is important to manage access along Route 20 to and from the adjacent properties. A large number of driveways or curb cuts with indiscriminate left turns in and out of these driveways leads to an unsafe and congested highway. Access can be managed such that the highway becomes safer and more fluid and good access is maintained. Access management does not necessarily mean reduced access. In many cases we increase accessibility by adding access driveways to adjacent commercial properties, because a vehicle at a neighboring property is more likely to patronize a commercial establishment than a vehicle on the highway. By reducing the number of driveways along a roadway, we also make this road more pedestrian friendly and attract more pedestrians. The following strategies should be considered by the Planning Commission whenever a site plan is submitted for approval: 1) Shared driveways, curb curts or entrances and exits: Whenever possible, adjacent property owners should be encouraged to share driveways. 2) Connections to adjacent lots: One way to increase access to a parcel of land is to make it accessible to the neighboring parcels to encourage
drivers from an adjacent parcel to drive directly onto the parcel without having to drive onto the highway. These connections should be required on a regular basis. Sometimes the adjacent parcel owner may not agree to the connection. In this case the Planning Commission could require the applicant to provide an easement for the connection. When the neighboring parcel has an application pending, the Planning Commission can then require the connection.

6.2 Future Land Use and Site Plan Recommendations

Figures 24 and 25 show the recommended future development configurations for the properties located west of Aiken Avenue. The future development plans should incorporate the following principles:

- Shared driveways and interconnected lots, allowing customers to drive (or walk) from one parcel to the next without having to get back onto the street.
- Shared parking lots. Parking spaces should not be reserved for individual users or stores. More efficient use can be made if all spaces can be shared.
- Establish a continuous retail frontage along Route 20 with parking in the back, as much as possible. This development pattern will be more attractive and pedestrian friendly.

As shown in the figures, we recommend reducing the number of driveways along Route 20 and implementing a shared driveway system. A walkway should be created that will connect new buildings with existing buildings. This can be seen in Figure 25.

Ideally, a mix of uses should be encouraged along Route 20, including retail uses, restaurants, and recreational uses. Combining such a mix of uses with shared parking policies will also make it possible to minimize the total number of parking spaces, arguably maximizing the amount of development for the given land. For instance, the vacant parcel where the former paintball building once stood could be developed into a movie theater or some other recreational use.

Figure 26 shows a rendering of our long term vision for the study corridor. The rendering shows the potential future development along Route 20 near Rensselaer Avenue (looking east of Aiken Avenue). The improvements include landscaped medians, a mix of uses on the north side of Route 20, and streetscape improvements.

How should Route 20 in Rensselaer relate to Route 20 in East Greenbush? First, each section of Route 20 needs to fulfill its regional role as an important regional arterial. They should be designed to accommodate the volume of through traffic that is expected on these arterials. Besides the transportation function Route 20 has to address the needs of each community and has to fit into the vision or master plan that each community adopted for this corridor. This may vary from community to community. The plan and program proposed for Rensselaer addresses the most urgent immediate needs to improve safety and to reduce the barrier effect of Route 20, and takes into consideration the existing land uses as well as an ambitious vision for the future. The commercial/retail uses in Rensselaer are not contiguous to the uses in East Greenbush and do not need to duplicate the image pursued in that Town. The more “rural” or inactive zone between the two commercial districts should be maintained as such so that the driver is aware of the two distinct communities. Gateway signs should be set up at each entry into the commercial districts.
Figure 21 - Roadway Improvements in between Aiken Ave and Rensselaer Ave
Figure 22 - Rensselaer Avenue and Route 20 Improvements

- Install Raised Median with Landscaping
- Signalized If Warranted
- Widen Lane Approach
- Add Left-Turn Lane
- Install Gateway Sign
- Provide Additional lane for Potential Access to Besicorp
- Realign to have a Left & Right Turn Lane

Route 20 Corridor Study
City of Rensselaer, New York
Buckhurst Fish & Jacquemart, Inc.
Figure 23 - Route 9J and Route 20 Long Term Improvements

Install Acceleration Lane

Install Deceleration Lane

Install Raised Median with Landscaping

Realign Roadway to Accommodate for Wider Turn and Acceleration lane

Install Acceleration Lane
Figure 25 - Future Development Configuration South of Aiken Avenue

Route 20 Corridor Study
City of Rensselaer, New York
Buckhurst Fish & Jacquemart, Inc.
6.3 Zoning: Existing Conditions and Recommendations

The Route 20 study area encompasses an approximately 15-block area within Rensselaer, just south of the central business district. The area is bounded by Rensselaer Avenue, the Hudson River, Second Avenue, and the railroad, with Columbia Street (Route 20) as the spine. Tax lots within the area are predominantly commercial, mixed with a small amount of residential, community and public services, industrial, and conserved land along the river.

Zoning Code: While the study area is divided into seven zoning districts, the recommendations in this report will focus on the three non-residential districts and one overlay district found on either side of Route 20. (See Figure 27: Study Area Zoning Districts.) The three underlying districts are CI Commercial Industrial, LB Local Business, and LB2 Local Business 2. The Columbia Street Overlay District affects these three underlying zones.

LB, LB2, and CI: The district regulations for each are summarized in the following table. The table shows the principal permitted (as-of-right) uses and special permit uses, and the area and bulk regulations for the three districts. The summary demonstrates that for the Route 20 Corridor, the zoning builds upon LB Local Business: both LB 2 and CI allow all LB uses with additional special permit and/or as-of-right uses. LB is a neighborhood retail and service district, providing local residents and employees with goods and services aimed primarily at a convenience market. The minimum lot sizes are the smallest of the three districts with the most generous allowed lot coverage and building height. Appropriately, the setback, lot width, and open space requirements are low, thus encouraging development that is compact and walkable, with closely spaced buildings. LB-zoned land lies on either side of Second Avenue, and forms part of the city’s central business district.

LB2 is a slight variation on LB. The differences between the two are 1) LB2’s prohibition against automotive uses, and 2) LB2’s somewhat more restrictive area and bulk regulations. The only LB2-zoned land in the city appears to be in the study area, regulating land one lot deep on the north side of Route 20 between Aiken Avenue and Academy Street.

CI Commercial Industrial allows all LB uses, and adds uses. Generally, these are wholesale, to-the-trade, and warehouse uses, various retail uses defined as “major,” and automotive uses. The special permit uses allow the heavy industrial uses of railroad yard operations, and land excavation, removal, and fill. CI is thus a mix of neighborhood convenience uses, larger comparison shopping retail and recreation uses, substantial transportation facilities, and industry. Some of these uses could be considered incompatible to local residential areas, such as kennels or pounds (due to the noise), fast food restaurants (hours of operation, extent of parking, and litter), and the quasi-industrial nature of rail, bus, and truck terminals. Of the three Route 20 districts, CI has the largest minimum lot size (one-quarter acre), and the most restrictive coverage, open space, lot width, and setback requirements. CI-zoned land occupies nearly one-half the study area. This district regulates land from the south side of Route 20 to the tracks, with a one-lot depth on the west side of part of Route 20.
Figure 27 - Study Area Zoning Districts

Route 20 Corridor Study
City of Rensselaer, NY
not to scale

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The Columbia Street Overlay District: This district is listed as CSt in the Enumeration of Districts in the zoning code. However, the district boundaries are not shown on the official zoning map, and there is no separate overlay map incorporated into the code. We have attached a copy of a map provided to us by the Planning and Development Agency. (See Figure 28: Columbia Street Overlay District.) The zoning code has only the following concerning the CSt District:

- Interpretation of boundaries: Where the district bisects a lot, the district regulations shall not extend into the less-restricted portion of the lot. (Section 179-8.B)
- Delineation of boundaries: The district boundary and the affected underlying zones are delineated in words, in Section 179-11. No map is provided in the zoning code.
- Signs: One freestanding sign per lot is allowed. The sign shall be two square feet per foot of lot frontage, not to exceed 100 square feet in total. (See Section 179.23.)

The code lacks an official overlay district map, any substantive text on the purpose of the overlay district, and any supplementary use, area, bulk, or design regulations affecting lots within the district. Given this, the CSt District is effectively non-existent and thus not enforceable. City staff has not in recent memory processed any site plan applications according to CSt regulations.

Other Relevant Documents: In addition to the zoning code, the City of Rensselaer has a draft LWRP (Local Waterfront Revitalization Program) dated 1979, a Riverfront Development Plan, and a Downtown Development Plan 2003-2010. The city is updating the LWRP; the study area will likely be included in the LWRP discussion and recommendations. In the 1979 draft, the study area is part of the inland coastal area (defined as from the river to the Conrail right-of-way). Certain development policies affect the study area, especially those involving stabilizing and revitalizing the Fort Crailo area, creating a riverfront bikeway, and clean-up of industrial solid and hazardous waste in the Fort Crailo area where residences are close to industry. The LWRP’s recommended long-term land uses for the Route 20 corridor are an upgraded shopping center area, upgraded highway commercial uses, and local commercial uses. The required development actions are maintenance, rehabilitation, and redevelopment of vacant sites. The LWRP notes that “All development shall be undertaken in a manner compatible with adjacent residential and commercial development… Where proposed development shall compete and/or be incompatible with existing residential land use, adequate buffering and fencing will be installed.”

The LWRP also cites the city’s Riverfront Development Plan which has the following recommendations for the Route 20 Corridor:

- Continue revitalization and expansion of shopping center area.
- Redevelop vacant sites for local commercial uses.
- Require context-sensitive design for limited retail and personal services uses adjacent to the Fort Crailo neighborhood.
- Rehabilitate existing industry, encourage full utilization of existing facilities, and expand uses to the south.
The Downtown Redevelopment Plan shows a portion of the study area within the central business district (CBD). The design guidelines (p. 23) apply to mixed use and commercial areas in the CBD, and concern building scale, location, facades, materials, entrances, awning, doors, and colors, signs, parking, entrances, and enforcement. These design guidelines may be usefully incorporated into the revision and re-enactment of the Columbia Street Overlay District.

Land Use Control Issues and Concerns: The Route 20 study area serves many purposes: it is a small-lot riverfront residential community, the buffer against the city’s heavy industrial district, a through-route for Route 20 vehicles, and a transition from large-scale commercial and industrial uses to the city’s central business district. Most of the lots in the study area are occupied, but some are vacant. Further study would show if there are non-conforming uses and under-utilized lots. The following issues and concerns arise when comparing the study area’s many functions and the plans expressed in the LWRP and the Downtown Development Plan to the existing zoning. Zoning is the set of tools a municipality uses to shape private land development decisions so that overall community goals (whether for development, preservation, or aesthetic benefits) are realized. The city’s primary goals for the area are to increase the safety, aesthetic quality, and economic viability of the corridor and to reduce the barrier effect of Route 20 on the adjacent neighborhoods. The discussion below focuses on how the city’s land use controls can be revised to foster the specific goals of economic development centered on the needs of the local Fort Crailo community and the opportunities presented by the volume of traffic carried on Route 20, and aesthetic improvement.

Adequacy of Existing Zoning: The city should discuss whether the three districts – LB, LB2, and CI – function in a way that supports study area goals and supports the city’s overall economic development goals. The city will need to address two issues: what land uses are preferred, and what scale should they be? Zoning changes will need to balance the needs of the Fort Crailo community, the economic potential presented by the traffic volume on Columbia Street, the rights of current property owners, and the economic development objectives of the downtown. The downtown is located very near the study area, and presumably Rensselaer does not want the two areas to compete for the same businesses and customers.

The first set of changes to the study area zoning involves identifying preferred land uses. The list of principal and special permit uses in the LB and CI districts should be updated, modernized, and clarified. (Table 4 showing Existing Use and Bulk Regulations for the Route 20 Corridor presents the current as-of-right and special permit uses. However, the table groups the uses differently than the actual zoning schedule, as the zoning schedule is poorly constructed). The city should seek to encourage businesses that offer consumer goods and services, so that the Fort Crailo neighborhood and the industrial area employees have a greater selection of convenience retail and dining establishments. Such uses should be made principal permitted uses. Current principal permitted uses that pose adverse impacts to the stability and attractiveness of residential neighborhoods should be made special permit uses, with clear performance standards incorporated into the zoning code. These uses might include drive-ins, fast food restaurants, automotive or transportation uses, and noisy or potentially polluting uses such as kennels, pounds, and dry cleaners. Where these uses actually exist, the zoning revision should grant an automatic special permit to the use as long as the use continues. In this way, current uses will not be made non-
### Schedule of Principle and Special Permit Uses

<table>
<thead>
<tr>
<th>LB Local Business</th>
<th>Principal Permitted Uses</th>
<th>Special Permit Use</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Local retail or specialty shop</td>
<td>Automobile service station</td>
</tr>
<tr>
<td></td>
<td>Personal service establishment, such as:</td>
<td>Dry cleaning and related establishment</td>
</tr>
<tr>
<td></td>
<td>Barber shop or beauty salon</td>
<td>Private membership club or lodge</td>
</tr>
<tr>
<td></td>
<td>Local eating and drinking establishment</td>
<td>Public or private school</td>
</tr>
<tr>
<td></td>
<td>Does not include night clubs, cabarets, fast food or drive-in establishments</td>
<td>Public building</td>
</tr>
<tr>
<td></td>
<td>Food store</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Drug store</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Laundromat</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Radio and television store</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Business and professional office</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bank and/or financial institution</td>
<td></td>
</tr>
<tr>
<td>LB2 Local Business 2</td>
<td>Any use permitted in LB</td>
<td>Any special permit use allowed in LB</td>
</tr>
<tr>
<td></td>
<td>Sale of gasoline or other motor fuels as secondary activity.</td>
<td>Sale of gasoline or other motor fuels as secondary activity.</td>
</tr>
<tr>
<td></td>
<td>Does not include:</td>
<td>Does not include:</td>
</tr>
<tr>
<td></td>
<td>Automobile service station or Vehicle repair shop or Gas station</td>
<td>Automobile service station or Vehicle repair shop or Gas station</td>
</tr>
<tr>
<td>CI Commercial Industrial</td>
<td>Any use permitted in LB</td>
<td>Any special permit use allowed in LB</td>
</tr>
<tr>
<td></td>
<td>Wholesale and trade establishment, such as</td>
<td>Railroad yard and repair facility</td>
</tr>
<tr>
<td></td>
<td>Printing establishment</td>
<td>Excavation</td>
</tr>
<tr>
<td></td>
<td>Warehouse</td>
<td>Removal and filling of lands</td>
</tr>
<tr>
<td></td>
<td>Major commercial facility, such as</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Shopping center</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Outdoor recreation and amusement area</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mobile home and boat sales</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Transportation uses, such as:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Parking garage</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Automobile repair and washing establishment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Truck terminal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bus and rail terminal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Retail and professional uses/services, such as:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Animal hospital</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kennel and/or pound</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fast food and/or drive-in restaurant</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Laundry and dry cleaning establishment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other uses, such as:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Private membership club and/or lodge</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Utility substation</td>
<td></td>
</tr>
</tbody>
</table>

### Schedule of Area and Bulk Regulations

<table>
<thead>
<tr>
<th>SCHEDULE OF AREA AND BULK REGULATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>LB Local Business</td>
</tr>
<tr>
<td>LB2 Local Business 2</td>
</tr>
<tr>
<td>CI Commercial Industrial</td>
</tr>
</tbody>
</table>

Route 20 Corridor Study

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conforming. Further, the continued purpose and viability of LB2 should be examined. It may be that the current land uses in this small district are such that the district can be consolidated into LB.

There should be a buffer between CI and the R3 neighborhood along Second Avenue, to protect the homeowners’ investment in the residential neighborhood. This buffer could either be a new road providing improved access to industrial properties and to municipal shopper parking, or deep landscaped setbacks on the CI-zoned properties that abut R3 properties.

The city should also consider reducing the amount of CI-zoned land in the study area, or eliminating this district entirely. The amount of land zoned primarily for strong retail use could thus be increased, and could be given prominent frontage along Route 20. The CI-zoned land on the east side of Route 20 should be rezoned for primarily retail uses. Behind the new retail frontage (near Aiken Street and the railroad tracks), the city should create municipal parking. The CI-zoned land on the north side of Route 20 should also be rezoned. Here, the CI land abuts the HR-zoned recreation field and the residential areas of the Fort Crailo neighborhood. The city should rezone the north side of Route 20 to encourage new small-scale stores, or to multi-family housing.

There are two options for the city to consider in eliminating CI zoning in this area:

- The first option would be for the city to rezone the CI land to LB, an existing district. This has the advantages of predictability and familiarity, and requires only a map change. The disadvantage is that LB is the downtown’s zoning, and thus introduces competition between two weak retail areas that are geographically very close.
- The second would require the city to craft a new district. The new district should be primarily retail but should seek to avoid competing with the downtown. The uses could remain the same as LB, but the area and bulk controls would be different. This would address the second set of issues mentioned above: what is the appropriate scale of new construction on Route 20? The CI area and bulk controls could remain in effect, requiring larger minimum lot sizes, reduced building coverage, lower building heights, and greater open space than in the downtown. This new district could be called LB-C (for Local Business-Columbia) or it could be the next evolution of the Columbia Street Overlay District. This is described below.

In either option, the city should take care to keep existing CI-zoned uses conforming. Automotive and truck uses, and wholesale and trade establishments should be made special permit uses, and where such a use exists, it should be granted an automatic special permit on the date the zoning revisions go into effect. The special permit would remain in effect as long as the use remained in business.

Columbia Street Overlay District: This street-specific district should be revived as it will fulfill an important goal. It can be revived either as originally intended, as an overlay district that does not affect the underlying base zoning. Or it can serve as base zoning: the city could rename it LB-C (for example) and have the district regulations address uses, area and bulk, and design. New development along Route 20 should be not only primarily retail goods and services, but should also be attractive. The overlay district is a useful
mechanism for achieving this aesthetic improvement. Again, the city has two options. The city can craft design guidelines specific to Route 20 or it can incorporate the design guidelines in the Downtown Development Plan (or a tailored version) into the overlay district regulations. (The downtown guidelines are well done and in many cases applicable to the design needs of a neighborhood shopping corridor.) The Planning Commission and city staff should be given the authority to enforce these supplemental requirements.

The overlay regulations should establish a clear aesthetic vision, and provide development incentives for retail uses. The objective should be to gradually create a compact and attractively urban setting for new stores and apartments, avoiding additional strip mall-style or sprawling commercial development. To achieve this, new buildings should be located close to the street, with parking to the side and rear. Building heights can be at least two stories, and could be up to five stories if the upper floors are residential. Greater lot coverage could be allowed, or alternatively a floor area ratio could be adopted. These requirements can also be applied in an incremental fashion to major expansions and alterations of existing buildings. To do this, the zoning ordinance would need to give the Planning Commission the authority to require site plan applications for expansion or alteration to conform as much as possible to the new construction requirements being too burdensome to the individual property owner.

The city should re-enact the Columbia Street Overlay District, with amended boundaries (if necessary), a separate list of uses (if necessary), and text that explains and illustrates the supplemental regulations. The official zoning map should show the overlay district boundary.

**Incentives for Retail, Professional, and Non-Industrial Development:** There are three sets of incentives for shifting real estate decisions towards retail goods and services (and multi-family housing if desired). These are 1) making the preferred uses as-of-right and shifting all others into the special permit category, 2) allowing more dense development on a lot depending on the use, and 3) easing parking requirements.

- As mentioned above, the zoning districts that are specific to Route 20 should be revised to make preferred uses the principal permitted uses; all others should be more stringently controlled with clear performance standards and approval requirements listed in Article XI, Special Use Permits.

- The Columbia Street Overlay District could allow greater lot coverage, narrower setbacks, and greater height for retail and professional goods and services. Alternatively, the overlay district could allow preferred uses to have a higher floor area ratio (FAR) than currently implicit in the zoning code.

A floor area ratio establishes floor area as a percentage of the lot area. For example, a 1.0 FAR allows the proposed building to have the same area as the lot; a quarter-acre lot (10,000 SF) would be allowed 10,000 SF of floor area. In the CI district, the minimum lot area is 10,000 SF with a maximum building coverage of 50 percent. This yields a maximum building floorplate of 5,000 SF. In a two story building (the maximum in CI), the total floor area is 10,000 SF, the same as the lot area and thus an implicit 1.0 FAR. If, for example, a mixed use building (with ground floor retail and upper floor residential uses) was allowed a 1.5 FAR and a taller building, the
building could have a total floor area of 15,000 SF. This would provide an incentive to the property owner or builder that shapes the property interest in accord with community goals.

• On-site parking requirements should be eased in the Route 20 area. The city should pursue creating a municipal parking lot in the CI-zoned land south of Second Avenue. With this, the on-site requirements could be waived or reduced. Also, new development along the Route 20 Property should be required to connect adjoining parking lots so that shared parking is created. Again, on-site requirements for a new use could then be waived or reduced.

7.0 Implementation Plan

The following table summarizes the recommended improvements described in previous sections. The table includes the phase, description, estimated cost and responsible agency or agencies involved for each improvement. Potential funding sources have been identified.
### Figure 29 - Summary of Recommended Improvements

<table>
<thead>
<tr>
<th>Priority</th>
<th>Improvement Descriptions</th>
<th>Cost</th>
<th>Responsibility</th>
<th>Funding Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Short-Term</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Installation of pedestrian signals and adjustments to traffic lights</td>
<td>$30,000</td>
<td>State</td>
<td>State</td>
</tr>
<tr>
<td>2.</td>
<td>Restripe bike lane along Route 20 to 5’</td>
<td>$10,000</td>
<td>State</td>
<td>State</td>
</tr>
<tr>
<td>3.</td>
<td>Install new &amp; more visible Bus Stop signs</td>
<td>$500</td>
<td>CDTA</td>
<td>CDTA</td>
</tr>
<tr>
<td>4.</td>
<td>Extend sidewalk on the east side of Route 20 in front of Eckerd Pharmacy &amp; Aldi Supermarket</td>
<td>$36,000</td>
<td>State/City/Property Owner</td>
<td>State/City/Property Owner</td>
</tr>
<tr>
<td>5.</td>
<td>Realign NB on/off-ramp at Route 9J/Route 20</td>
<td>$188,500</td>
<td>State/Besicorp</td>
<td>State/Besicorp</td>
</tr>
<tr>
<td></td>
<td>Subtotal</td>
<td>$265,000</td>
<td></td>
<td></td>
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<tr>
<td><strong>Intermediate Term</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Install raised medians at the north &amp; south side of Broadway/Route 20.</td>
<td>$225,000</td>
<td>State</td>
<td>State</td>
</tr>
<tr>
<td>2.</td>
<td>Install a raised median at the south side of Academy Street/Route 20. Repave Aiken Avenue</td>
<td>$135,000</td>
<td>State</td>
<td>State</td>
</tr>
<tr>
<td>3.</td>
<td>Install a raised median at the south side of Washington Street/Route 20.</td>
<td>$175,000</td>
<td>State</td>
<td>State</td>
</tr>
<tr>
<td>4.</td>
<td>Install raised medians at the north &amp; south side of Aiken Avenue/Route 20.</td>
<td>$215,000</td>
<td>State</td>
<td>State</td>
</tr>
<tr>
<td>5.</td>
<td>Repave Aiken Avenue and realign First Alley</td>
<td>$80,000</td>
<td>City</td>
<td>City</td>
</tr>
<tr>
<td>6.</td>
<td>Develop a Park-and-Ride Lot at the back of Eckerd Pharmacy</td>
<td>$90,000</td>
<td>State/City</td>
<td>CMAQ/TEA-21</td>
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<tr>
<td></td>
<td>Subtotal</td>
<td>$920,000</td>
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</tr>
<tr>
<td><strong>Long-Term</strong></td>
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<tr>
<td>1.</td>
<td>Widen Route 20 between Rensselaer Avenue/Aiken Avenue</td>
<td>$190,000</td>
<td>State</td>
<td>State</td>
</tr>
<tr>
<td>2.</td>
<td>Roadway Improvements at the Intersection of Rensselaer Avenue/Route 20</td>
<td>$135,000</td>
<td>State</td>
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<td>3.</td>
<td>Roadway Improvements at the Intersection of Route 9J/Route 20 - Install acceleration  and deceleration lane and raised medians¹</td>
<td>$415,000</td>
<td>State</td>
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<td></td>
<td>Subtotal</td>
<td>$740,000</td>
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**Note:**
1. Roadway improvements at this interchange do not include the repair/rebuilding of the two overpasses
8.0 Minority Report

The purpose of this “minority report” is to express the concerns of two members of the Technical Advisory Committee, who own commercial properties along Route 20. Their concerns related to two aspects of the report’s recommendations: Access to Downtown Rensselaer and mid-block left-turn access to commercial properties along Route 20.

Regarding access to Downtown Rensselaer, the concern arose in relation to Figure 15 in this report, where a raised landscaped median replaces the existing left-turn lane. This left-turn lane currently allows vehicles coming from the west side of the Hudson River via the Dunn Memorial Bridge to turn left onto Broadway towards Downtown Rensselaer. Access to Downtown has always been a major objective for the City of Rensselaer.

The connection between the Dunn Memorial Bridge and Downtown Rensselaer is provided for in a more direct manner via the special right-turn ramp connecting to Broadway near 4th Avenue. In the year 2001, the following hourly traffic volumes were counted in the left-turn lane proposed to be replaced (see figures 4, 5 and 6): AM peak hour 2 vehicles, midday peak hour 34 vehicles and PM peak hour 41 vehicles. These numbers of vehicles are very low in comparison to the vehicles using the direct connection to Broadway: AM peak hour 517 vehicles, midday peak hour 354 vehicles and PM peak hour 753 vehicles. The circulation plan proposed in this report would shift the left-turn movement from Broadway to Washington Street, thus maintaining the same level of access to downtown. See the left-turn lane into Washington Street in Figure 14A. Access to downtown can be further enhanced through special signage on the Dunn Memorial Bridge and at the intersection of Columbia Street with Washington Street.

The benefits of replacing the existing left-turn lane with a raised landscaped median are significant: 1) The landscaped median beautifies the entry into Rensselaer and into this corridor in particular, 2) it slows down traffic as it comes down the Dunn Memorial Bridge and will thus tend to reduce the relatively high number of crashes at this intersection, and 3) it will improve the ease and safety for pedestrians to cross at this location. The raised median will provide a pedestrian refuge in the middle of the crossing allowing pedestrians to cross Columbia Street in two phases.

The mid-block left-turn opportunities that currently exist in the study corridor are of significant benefit to the adjacent businesses, especially to the highway commercial businesses, such as gas stations, car repair shops, and fast-food establishments. The ability of turning in and out of these establishments’ driveways mid-block increases their accessibility and has positive impacts on their economic well being to the degree that they rely on pass-by traffic. There is evidence from other studies that the installation of raised medians can significantly reduce the amount of business for highway related establishments. Traditionally, as in this case, businesses have opposed these types of access control measures.
To alleviate this concern and potential impact the Route 20 Corridor Plan has taken the following steps:

1. For those portions of the raised medians that are of concern we have added an asterisk and added the wording “to become a raised and landscaped median if and when traffic and access conditions allow.” The mid-block sections in question are located between Washington Street and Aiken Avenue (see figure 14) and between Aiken Avenue and Rensselaer Avenue (see figures 20 and 21). This means that if and when the raised median will be reviewed for implementation, the responsible agency (NYSDOT) in conjunction with the City of Rensselaer should assess the traffic flow and safety conditions, as well as the access needs of the affected businesses, to determine whether the raised median would create undue hardship for one or more property owners. If undue hardship is caused, NYSDOT in conjunction with the City will attempt to find access solutions that maintain high accessibility to the respective businesses.

2. The Plan shows other access improvements to the commercial properties that may alleviate some of the concerns expressed by the property owners. For instance, the extension of Aiken Avenue north of Columbia Street all the way to the back of the commercial properties will provide high quality access via the traffic light. Interconnecting the properties along Columbia Street for vehicles as well as for pedestrians will also increase accessibility. Generally clients in one parking lot are more likely to patronize the business next door than vehicles driving on Columbia Street.

3. Any land-use changes in the commercial properties or new developments along Columbia Street should be allowed with the full understanding that eventually the City wants to build the raised median.

It is important to reiterate the reasons and benefits of the raised median: 1) they increase the aesthetics of the corridor and thereby the real estate value. A more attractive corridor is more likely to induce drivers to stop at a local business. 2) The median will improve the pedestrian friendliness by providing the median refuge areas, allowing pedestrians to cross Columbia Street in two phases. The median also protects school children crossing at Route 20 and Broadway. 3) The landscaped median will induce drivers to slow down because of the fact that the visual corridor is not wide open. 4) Most importantly, the elimination of the mid-block left turns will improve traffic safety along Columbia Street. For instance the high number of crashes (mostly fender benders) that were inventoried along Columbia Street between Washington Street and Aiken Avenue are to some degree caused by the left turns along this section. The attached graph shows the relationship between driveway densities and the crash rates along segments of the Boston Post Road (US Rte 1) in Southwestern Connecticut. As can be seen from the graph, there is a strong relationship between the two variables. The raised median proposed along Columbia Street will reduce the number of crashes.

To alleviate both concerns expressed above one could build two roundabouts, one at Route 20 and Broadway (as shown in Figure 16) and one at Route 20 and Rensselaer Avenue. This scheme would allow a full raised median to be built in between. All left turns could then be made via one of the roundabouts.
Figure 30 - Relationship Between Curb Cut Density and Accident Rate

Route 20 Corridor Study
City of Rensselaer, NY
Buckhurst Fish & Jacquemart, Inc.

NOTE: THE NUMBERS NEXT TO EACH DOT REPRESENT DIFFERENT SECTIONS OF US RTE 1, EACH BETWEEN 0.5 AND 1.0 MILE LONG ALONG A 23.0 MILE LONG STUDY AREA, AND NOT THE NUMBER OF ACCIDENTS.
Memorandum

To: Route 20 Advisory Committee

From: Georges Jacquemart, P.E., AICP
       Gregory Tan, Senior Transportation Planner

Subject: Public Workshop 1 Summary

Date: June 24, 2003

Background

As part of the Route 20 Corridor Study for the City of Rensselaer, a public planning workshop was conducted to bring together the steering committee members and members of the community. Eighteen people attended the workshop (excluding committee members). The names of the participants are provided at the end of this report. The workshop participants were asked to identify the strengths and opportunities, major problems, priorities and main strategies along the corridor. The workshop was held from 7:00 PM to 9:00 PM on June 19, 2003 at the Albany Yacht Club.

Workshop Format

The planning workshop started with an introduction by Sandy Misiewicz (CDTC) and Mayor Mark Pratt of the City of Rensselaer. This was then followed by a presentation by Georges Jacquemart from Buckhurst Fish & Jacquemart, Inc. (BFJ). The presentation included a description of existing conditions, and identification of issues and opportunities along Route 20. Examples of roadway improvements were also shown in the presentation. Following the presentation, the workshop participants were separated into four groups to provide input on the traffic characteristics, bicycle and pedestrian safety and circulation, visual character, land use and economic development. Each participant was given an agenda that included questions to guide the discussion at each of the tables. Each group also had large base maps that they could use as reference or mark up to express their ideas. At the end of the round table discussion, a representative from each group was assigned to share their responses with the rest of the workshop participants.
A compilation of the comments made during the workshop is provided in this report. We have also included in the appendix maps and data that were presented at the workshop.

**Strengths and Assets of the Route 20 Corridor:**

- Heavy traffic volume along the corridor which provides for high visibility.
- Strong urban fabric with Route 20; seen as a Historic Road and Neighborhood.
- Downtown Rensselaer is within walking distance.
- Seen as a gateway to the capital and good access to the Main Street of the City of Rensselaer.
- The 30 mph speed limit reduces vehicular speed and increases visibility of the city.
- Access to Interstates, i.e. I-787 is in proximity to Route 20 and the City of Rensselaer.
- Access to the Rensselaer train station.
- Small number of curb cuts along the corridor.
- Good views of Albany from the City of Rensselaer.
- Proximity to Albany

**Major Problems along the Route 20 Corridor:**

- High volume of traffic especially commuter traffic.
- Dangerous intersection at Aiken Avenue and First Alley: needs to be better defined (no curbs and sidewalks).
- Road conditions at Aiken Avenue (on the north side) need to be improved. Aiken Avenue could be used as a potential access road to some of the properties along Route 20.
- Increase in traffic due to Besicorp Development and expansion of SUNY campus.
- High vehicular speeds along the corridor.
- Commercial uses are mostly geared towards “auto-oriented” businesses.
- No real commercial draw to the City of Rensselaer – people drive right through because there are few reasons to stop along the corridor (besides Eckert’s drugs).
- The roadway is too wide and hostile to pedestrians.
- Unattractive in general: image is seen as an issue – it does not cater to local residents; poor gateway.
- The corridor is a throughway for trucks and semi-trailers, should only be used by local trucks.
- Narrow lots fronting Route 20 which restricts development.
- Limited or lack of parking for some of the businesses along the corridor.
• Bottleneck between Rensselaer Avenue and Aiken Avenue because of problems in turning movement.
• Vehicles using local road (i.e. Broadway Street and Riverside Avenue) to avoid traffic lights at Route 20.
• Left turns into businesses along the corridor.
• Unclear or no bike paths.
• Route 20 is a cut-off from the waterfront.

Priorities for changes for Route 20 in the City of Rensselaer:

• Medians with shaded trees to serve as pedestrian refuge island and snow storage
• Bike lane improvements.
• Encourage parking on the north side of the corridor and less on the south side.
• More pedestrian activity and make corridor more pedestrian-friendly (i.e. re-timing lights to make it easier to cross the street).
• Lots of parking on the north side of the Corridor, i.e. Eckerd property. There should be more development options for the south side.
• Enforcement of speed limits, especially for the eastbound direction.
• Make sidewalks more walkable and ADA compliant.
• Beautify corridor: add trees, historic lighting, brick crosswalks, and more greenspace.
• Traffic Control, resolve problems at the intersection of Route 20 and Aiken Avenue.
• Create a new business niche
• Fix the ramps at Route 20 and Route 9J.
• Land use developments within the downtown area should be coordinated with the transportation improvements along the corridor.

Main Strategies:

• Acceleration lane or wider turning radius for tight turn entrances from Route 9J to Route 20
• Enforcement of speed control for the eastbound direction.
• Center turn lane along Route 20 between Aiken Avenue and just east of Rensselaer Avenue
Memorandum

To: Route 20 Advisory Committee

From: Georges Jacquemart, P.E., AICP
       Gregory Tan, Senior Transportation Planner

Subject: Public Workshop 2 Summary

Date: August 6, 2003

The Second Planning workshop for the Route 20 Corridor Study was conducted on Thursday July 31, 2003 from 7:00 AM to 9:00 AM at the Rensselaer Boys and Girls Club. The workshop focused on presenting to the committee members and members of the community the potential improvements for the Route 20 Corridor. The potential improvements consist of short, intermediate, and long term recommendations. The workshop also included a roundtable discussion wherein participants were divided into groups and were asked to give comments with regards to the potential improvements. A summary of the comments made during the roundtable discussion is outlined below.

1. What should be the emphasis regarding the following?

   a. Safety
      - Pedestrian crossings at the intersection of Rensselaer Avenue/Route 20 should be eliminated. Install pedestrian crossings at this location only when needed and with traffic lights.
      - Some participants were not thrilled with the roundabout option at the intersection of Broadway/Route 20. They prefer the raised median with traffic lights option. It was also suggested that the curb on the southwest corner of the intersection be improved.
      - Concerns were raised with regards to the left-turning lanes along Route 20 between the intersections of Aiken Avenue and Rensselaer Ave. This may create an effect that is similar to the existing roadway. Some participants suggested having raised medians in this area instead.
      - Workshop participants agree with the installation of countdown timers at intersections mentioned in the presentation.

   b. Aesthetics
      - In general, the workshop participants were happy with the idea of the raised medians at selected locations. However, there were a few concerns with some
raised median locations, specifically, the raised median coming off the Dunn Memorial Bridge just north of Broadway. There was a divided opinion on whether the left turn lane should remain instead of the raised median.

- The raised median located just south of Aiken Avenue should be longer.
- There should be a full raised median between the intersection of Aiken Avenue/Route 20 and Washington Street/Route 20.
- All proposed medians should be raised more than curb height, similar to the medians along the West Side Highway in Manhattan.
- Trees planted in the median west of Broadway should be lower to provide better views of Albany.
- Aside from trees planted at the medians, it was suggested to plant trees along the grass strips near the sidewalk.
- Better signage off Dunn Memorial Bridge. Install attractive signage along the corridor.
- More trees should be planted; there should also be historic or attractive lighting between sidewalk and road.

c. Other Modes

- Participants agree with widening the bike lane to 5’.
- Some participants envision a walking community; Route 20 should be more walkable.

d. Others

- Concerns were raised about the maintenance of trees along the corridor. Decisions should be made if these trees will be maintained by the City of Rensselaer or NYSDOT.

2. What should the priorities be regarding the short, intermediate and long term improvements?

a. Short Term:

- Clean up or fix the intersection of Aiken Avenue/Route 20 and realign First Alley.

b. Long Term:

- There were safety concerns with regard to the raised median near the hill close to intersection of Route 9J/Route 20.
Supplemental Crash Data Analysis
Route 20 Corridor from Broadway to the East Greenbush Town Line

At the request of the Study Advisory Committee, a supplemental analysis of the 89 crashes occurring on Route 20 from August 1998 to August 2001 was undertaken. The results of this analysis are summarized as follows:

1. Of the 89 crashes, only 56 were considered reportable meaning they had property damage costs of over $1,000 or involved an injury or fatality. As a result, detailed crash information could only be obtained for these 56 crashes. This supplemental analysis is consistent with the crash summary documented in the report (12 crashes involved injuries, there were no fatalities and three involved a pedestrian or a bicycle).

2. No clear crash patterns could be determined as the reportable crashes had a wide variety of causes. However, there appears to be a relationship between crashes and higher volume time periods (morning and afternoon peaks).

3. Specific to the 18 crashes occurring between Aiken Avenue and Washington Street, 10 were reportable (9 property damage crashes and 1 injury crash). Of these 10 crashes, four were rear end, two were overtaking (passing related), two were right angle (turning related) and two were reported as other. The primary apparent factors of these 10 crashes were following too closely, passing or lane usage improperly and human error. (One of the ten did involve alcohol.) Nearly all the reportable crashes occurred during the day in regular daylight (darkness and weather were not primary factors).

Although this analysis could not directly correlate crashes with the need for a raised median, it has been widely documented that safety can be improved through the use of raised medians when access to adjacent properties has been properly addressed. As noted in the minority report, there is a high correlation between a large number of driveways and the number of crashes occurring on roads such as Route 20. The use of raised medians can provide safety benefits by providing a pedestrian refuge, reducing the number of conflicts from turning vehicles and reducing speeds by creating visual friction in the corridor. As a result, an incremental approach to raised median implementation on Route 20 will enhance the safety of all road users in the long term. These benefits will only be realized if an aggressive access management program is undertaken by the City.