



EXECUTIVE SUMMARY

Route 303 Sustainable Development Study December, 2002

Prepared for:



Town of
Orangetown



New York State
Department of
Transportation



Rockland
County



New York
Metropolitan
Transportation Council

Prepared by:



In association with:
Allee, King, Rosen & Fleming
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EXECUTIVE SUMMARY

ES.1 Introduction

Route 303, a major north-south arterial connecting New York and New Jersey, is located in the Town of Orangetown, Rockland County, New York, approximately 25 miles from mid-town Manhattan. Because of major population and employment increases in recent years, Route 303 has become not only a major route for commuter travel and commercial traffic, but also a focus of commercial and residential development in the town. The character of the hamlets surrounding the Route 303 – the communities of Tappan, Orangeburg and Blauvelt – have not yet been overwhelmed by the adjacent commercial development at the Palisades Center and in New Jersey. Nonetheless, development pressures have galvanized public attention on the corridor’s traffic safety and operational problems, diversion of traffic into residential areas, and the potential for diminished quality of life in the surrounding residential neighborhoods.

In 1992, in response to the traffic safety and congestion problems identified along various portions of the Route 303 study area, the New York State Department of Transportation (NYSDOT) began to develop preliminary project plans for a street widening project that would address these deficiencies. These plans were perceived by the Town and its residents as being out of scale with the needs of the community and the project was not implemented. Instead, in 1999, the New York Metropolitan Transportation Council (NYMTC, which serves as the federally designated Metropolitan Planning Organization for the New York region), in concert with the Town of Orangetown, the Rockland County Department of Planning, and NYSDOT initiated the Route 303 Sustainable Development Study as a joint effort. The Route 303 Sustainable Development Study was undertaken to link transportation and safety improvements with recommendations for land use changes in the same study. The five-mile Route 303 corridor was chosen because its high rate of accidents make it an unsafe road and its mix of land use and zoning districts make it aesthetically unappealing, despite its impressive natural environment. A consultant team led by Wilbur Smith Associates (WSA) with support from Allee King Rosen & Fleming (AKRF) and Eng-Wong Taub (EWT), interacted directly with the government agencies constituting the Technical Committee (TC) and the general public through a Citizens Advisory Committee (CAC).

The ultimate objective of the study was to chart a path for future improvements that balanced the need for safety, accessibility, mobility, and sustainable development and land use goals. The approach to community outreach integrated government agencies’ input through the TC with public input garnered through the CAC, Neighborhood meetings, and a series of visioning charrettes. Other outreach elements included the development of a project website – www.route303.net (which received over 12,000 total hits) and the production of three public information videos at key study stages. The study also received coverage from local and regional print and broadcast media.

Efforts were made to involve all stakeholders in the process, including residents, business people, and educational institutions. By getting the public actively involved and engaged in project-level alternatives analysis and decision-making, the project team was able to develop a consensus among the stakeholders.

ES.2 Study Area

For analysis of both transportation and land use alternatives, the corridor was initially divided into three neighborhood areas. While there are no formal boundaries to these areas, such as an incorporated village, the identification of the individual areas was based on common land use, environmental, and transportation characteristics. The three neighborhood areas (shown in Figure ES-1) are:

- Tappan - extending from King's Highway South to the New Jersey State Line,
- Orangeburg/Blauvelt - extending from Glenshaw Street to King's Highway South in Tappan, and
- Bradley Parkway - extending from Route 59 to Glenshaw Street (between Erie Street and Mountainview Road).

Each of these areas had a particular range of issues that were considered most significant by residents or business owners within the particular neighborhood.

ES.3 Existing Conditions Assessment

Data was collected to assess existing conditions and preliminary land use and transportation issues were outlined. The data collection effort acquired information on corridor demographics, traffic counts, existing transit service data, and bicycle and pedestrian usage in the corridor. From this initial data, existing conditions in the corridor were documented in the Route 303 Existing Conditions Report, dated October, 2000. The following is a summary of the various key issues identified in the report.

Traffic Operations & Congestion: Traffic engineers use a scale known as Level of Service (LOS) to describe varying levels of traffic congestion. LOS ranges from "A" (best) to "F" (traffic that exceeds the capacity of the roadway). This is described in greater detail in section 2.3 of the report.

Currently, most intersections in the study area operate at satisfactory Levels of Service (LOS C or better) during the morning peak period. The exception to this is Kings Highway North in Orangeburg that operates at LOS E and the intersection of Orangeburg Road, which operates at LOS D during the morning peak. In the evening peak, several intersections operate at LOS D or below, including Oak Tree Road, King's Highway South, Route 340, Orangeburg Road, King's Highway North, Mountainview Road, Glenshaw Street, and Birchwood Drive.

Most trucks in the corridor were not traveling on through-trips. Less than half of northbound trucks from New Jersey were observed leaving the northern end of the corridor, and less than one in seven southbound trucks from Clarkstown left the southern end of the corridor. Vehicle classification counts showed highest levels of truck traffic between Erie Street and Mountainview Road. The average percentage of heavy vehicles is less than seven percent over all time periods and locations, and these relatively low truck levels were not thought to influence roadway speeds.



Neighborhood Areas
Route 303 Sustainable Development Study

During the study period, there were highway construction projects that undoubtedly influenced traffic volumes on Route 303. Though attempts were made to take these temporary changes into account, actual traffic conditions will only be determined when new studies are conducted prior to implementing Route 303 improvements. The construction projects were as follows:

- During the initial portion of the study period, the Palisades Interstate Parkway (PIP) was undergoing major reconstruction, and the southbound Route 303 to northbound PIP ramp was closed. To replace traffic count data from these locations, NYSDOT provided 1999 counts for the PIP ramps. These counts, however, did not include Sunday traffic, so the Sunday volume for this movement was estimated based on historic traffic characteristics.
- At the time traffic data was being collected for this study, Route 9W in Piermont was closed for reconstruction.

Travel Speed: Posted speed limits along Route 303 are generally 35 miles per hour for both northbound and southbound traffic between the New Jersey line and a point just north of Campbell Street. From that point to the northern project limits, the posted speed limit is 40 miles per hour for both directions of traffic. The highest observed speeds along Route 303 typically occur in north of Bradley Parkway, since there are very few intersections and traffic lights. Another high-speed segment was the section of Route 303 between Route 340 and Kings Highway South, the area of the interchange with the Palisades Interstate Parkway. Slower speeds usually occur in the vicinity of Orangeburg Road in both directions and south of Oak Tree Road in the northbound direction. Excessive vehicle speed on many segments of the roadway is seen as a threat to safe pedestrian and motorist movement.

Traffic Safety: Traffic accidents are concentrated at those intersections where both volumes and turning movements are highest. For example, the Route 303 intersections with the Route 59 ramps, Bradley Parkway, Erie Street, Mountainview Road, Orangeburg Road, King's Highway, and Oak Tree Road. All of these locations have been previously identified by NYSDOT as High Accident Locations (HAL's). Specifically, the greatest number of accidents occurs at the intersections of Route 303 with Oak Tree Road (including commercial driveways south of Oak Tree), and at King's Highway North. Improving traffic safety is the highest priority identified by the CAC and cited at all three charettes.

Transit: Both existing bus service, and existing bus facilities, such as bus stops, turn-outs or shelters, are limited in the Route 303 study area. Based on responses from CAC members, the current limited transit service creates a perception that scheduled transit is not effective in the suburban environment of the Route 303 study area. However, many other areas of Rockland County with similar land use patterns are provided with more comprehensive, successful transit service.

Bicycle & Pedestrian Travel: The Route 303 study area offers few opportunities for safe, comfortable pedestrian and bicycle travel either on the roadway or parallel to it. Both Route 303 and the surrounding development have also made travel by non-auto modes, such as transit, bicycle or pedestrian travel unattractive, by increasing the distances between origin points and destinations.

The existing JP Clarke Trail, now designated as a section of the Palisades Trailway, crosses Route 303 and covers half the length of the corridor. In addition, there are a number of pedestrian paths along sections of Town, County, and State roads in the study corridor.

ES.4 Land Use Themes

Once the existing issues and corridor needs were identified, visioning charrettes and meetings with the CAC were conducted to develop preliminary land use and transportation scenarios. Topics that were discussed at charrettes and CAC meetings included:

- Neighborhood Areas and Gateway
- Residential Land Use and Demographic
- Retail and Commercial Development
- Transit Issues / Implementation of West Shore Commuter Railroad Service
- Access Management
- Traffic Calming / Traffic Safety Measures
- Educational Institutions and Promotion of an Educational Corridor
- Open Space, Pedestrian / Bicycle Facilities

The TC and the CAC selected four land-use “study themes” for modeling alternative future development scenarios and the performance of transportation infrastructure improvements. Levels of future development were determined by land use type for each of the four themes. These themes subsequently served as the basis for development of a Land Use Vision incorporating the preferred elements of each of the four themes. (See section ES.6 below). The themes were as follows:

Continuation of Current Trends Theme – The Current Trend Theme was developed and analyzed for comparative purposes as a base case. This scenario projected existing development patterns for retail, office and residential development, over the 20-year study time period, with no major changes in zoning and land use regulations or transportation infrastructure.

Open Space Emphasis Theme - This theme incorporated open space preservation efforts through state grants, development restrictions, and other techniques. Participants at the second Charrette highlighted the potential to work with developers to preserve buffer areas surrounding their properties, to incorporate set-asides within development tracts, to interconnect open areas, and to seek opportunities for greater public use of these open areas.

Neighborhood Area Emphasis Theme - This theme of clustered retail and residential land use and development sought to promote nodes of pedestrian activity, and to enhance pedestrian safety. These objectives would be achieved by slowing traffic speed, giving the commercial areas more of a village atmosphere coordinated with existing and future retail development and redevelopment, and by buffering residential development from commercial concentrations. Enhancement of roadway and transportation features such as sidewalks, crosswalks, bicycle paths and street lighting would encourage diversity in neighborhood-oriented businesses and services. The goal would be to support new and existing neighborhood-serving retail (“mom and

pop” stores), such as coffee shops, clothing shops, restaurants, book stores, art galleries, bakeries, personal services (barber/beauty salon), small groceries, etc. This theme could also include limited residential development, new government and cultural facilities, and reuse and reconfiguration of existing properties. The three defined neighborhood areas that were proposed for this theme are Tappan (south of Oak Street), Orangeburg Road, and Erie Street.

Business Emphasis Theme - This theme incorporated continued non-residential development of large properties with frontage and access from Route 303. Desired types of development within this theme include office space, research and development, and “flex” space suitable for both office and technology-based users. Large scale retail development would be limited, with commercial and office uses emphasized. Based on existing market conditions and zoning, some warehouse and distribution uses would also be anticipated within the business emphasis theme.

ES.5 Analytical Modeling

Because of the complexity of the land use and transportation challenges involved in the Route 303 study area, no single performance measurement was judged suitable for modeling the effectiveness of transportation and land use themes. Therefore, the consultant team applied four different analytical tools to compare the four development themes:

- US EPA’s Smart Growth Index (SGI)—looking at land use, housing, employment and travel.
- WSA’s Land Use Transportation Index (LUTI)—looking at vehicle trips generated, miles of travel, and hours of travel.
- Trip Generation, Assignment, and Level of Service (LOS) Analysis—looking at vehicle trip generation and the performance of roadway and intersection operations.
- Safety Analysis—looking at existing numbers of roadway accidents, anticipated growth in accident levels, and measures to reduce accident rates.

The study final report describes these technical measures in more detail and presents the results of the analysis of each land use scenario.

ES.6 Land Use Vision

Elements of the different land use themes were used to derive the ultimate land use recommendations, or “Land Use Vision.” This Land Use Vision, illustrated in Figure ES-2, emphasizes the strong and interconnected relationship between land use and transportation. The Land Use Vision contains the following elements:

Neighborhood Areas – Drawing from the Neighborhood Areas Theme, the Land Use Vision incorporates the concept of clustering retail and residential land use and development in the vicinity of three defined areas highlighted in Figure ES-2 by brown stars:

- Tappan neighborhood area (south of Oak Tree Road);
- Orangetown neighborhood area (between King’s Highway North and Route 340); and
- Erie Street neighborhood area.

Sparkill Creek Greenway/Path – Future development of the Sparkill Creek stream bank as a location for pedestrian and bicycle paths, passive recreational use (i.e. park benches, plantings, and landscaping) with access to Route 303 and the local road network is highlighted in green in Figure ES-2.

Buffering of Existing Residential Areas - Opportunities to further protect residential use of properties adjacent to Route 303 in the Bradley Parkway and Erie Street areas have been highlighted in blue in Figure ES-2. Careful consideration needs to be given by the Town's Zoning Board of Appeals as it reviews future land use applications in these areas.

Business Oriented Development – Business-oriented development of non-retail commercial facilities, such as office and research campuses could be a future tax generator. Appropriate areas for such development have been highlighted in tan in Figure ES-2. In areas with new office and light industrial use, provision could be made for public access and use of buffer zones and natural areas. The Town Board has begun to implement this concept by passing an Overlay Zone district for the Route 303 Corridor, which, among other things, restricts the size of retail uses in appropriate areas to 65,000 square feet. The Town has also recently worked with property owners, Lowe's Home Improvement Warehouse and Bill Kolb Ford, to expand buffer areas.

Historic Preservation – Maintenance and enhancement of the historic characteristics of the Tappan area is part of the Land Use Vision as shown in Figure ES-2 with a brown line. This area represents a larger area than the current federally recognized historic district in that hamlet.

Bike/Pedestrian Multi-Use Path – While the J.B. Clark Rail-Trail (highlighted in Figure ES-2 with an orange line) is already in public ownership, only the portion east of Route 303 is currently surfaced. The Land Use Vision would develop a better pedestrian and bicycle facility on both sides of Route 303 in the Orangeburg neighborhood area, and enhance signage and supporting facilities (bike racks, brochures, landscaping, etc.) for the trail. Development of a continuous pedestrian system consisting of sidewalks and crosswalks, and connection with the J.B. Clarke (Orangetown) Rail Trail, (a newly designated segment of the Palisades Trailway) is also shown in the Land Use Vision (orange line in Figure ES-2).

Educational Corridor – The Educational Corridor is an interesting idea that arose from the second Visioning Charette, held in November, 2000. The Educational Corridor could connect St. Thomas Aquinas College, Dominican College and Iona College and Tappan Zee High School with adjacent commercial and residential areas. These facilities could provide shared recreational and cultural resources for these institutions and the Town would set the tone for future development in the Orangeburg Hamlet area. A dashed blue line in Figure ES-2 highlights this opportunity..

Open Space Set Asides - There is potential to work with developers to preserve buffer areas surrounding their properties, to provide a system of interconnected public space set-asides, and to seek opportunities for greater public use of these open space areas. These are shown as green spots on Figure ES-2. The need for open space in the corridor has also been taken into account

as part of the Route 303 Implementation Plan's Route 303 Overlay Zone, and the Palisades Scenic Management Plan. (See Section ES.9 for more information).

ES.7 Transportation Vision

After a comprehensive, in-depth discussion of problems facing neighborhoods, a full range of context-sensitive (compatible with community values) conceptual transportation alternatives meeting best practice design standards were considered for their applicability within the context of Route 303. Alternatives considered included roadway "downsizing," traffic calming, roundabouts, access management, improvements for pedestrians and bicyclists, bus transit, rail transit stations, neighborhood connectivity, and short-term improvements to improve accessibility and safe turning movements and travel on Route 303 (transportation system management). The Transportation Vision that follows has been further directed as part of the Route 303 Implementation Program, discussed in greater detail in Section ES.9 below.

Throughout the course of the study, Rockland County, NYSDOT, NYMTC, the Town of Orangetown and the study's Consultant Team worked to identify Early Action Projects that could be implemented quickly to address the study area's most immediate traffic safety needs in a way that would be consistent with the ultimate improvement program desired by the community. These included new signage in various locations, traffic signal installation with a left turn phase at Mountainview Road, sidewalk and crosswalk enhancements, speed limit reductions, stepped up enforcement on Route 303. Other strategies included deployment of an early action improvement to upgrade the traffic signal at Oak Tree Road (in support of re-striping this intersection to support a center turn lane on Route 303 between Oak Tree Road and Livingston Street) as well as additional left turn lanes on Oak Tree Road and Route 303. Several other early action efforts were also included.

In addition to early action projects, the Transportation Vision proposed context-sensitive conceptual improvements meeting best practice design standards that would provide for enhanced traffic safety while meeting the goals for enhancing and preserving neighborhood areas, making bicycle/pedestrian facilities more accessible, retaining open space, and serving businesses dependent upon Route 303. The transportation improvements recommended are grouped under the following two general categories: *Low Level* Improvements and *High Level* Improvements. The definitions of these categories are as follows:

- *Low Level Improvements*, if implemented, would provide adequate turn lanes at intersections to improve spot levels of service. These Low Level Improvements could be implemented in a shorter and sooner time frame than High Level Improvements, and could include such things as some added turn lanes, minor refinement or addition of turn signals, improved striping of the roadway, improvements to pedestrian/bicycle paths, enhanced landscaping, and in some cases, limited widening along Route 303.
- *High Level Improvements*, if implemented, would consist of measures that would maintain a four-lane cross-section with turning lanes along Route 303, including a planted median. High Level improvements would focus on major intersecting streets along Route 303, including improvements to pedestrian/bicycle paths, enhanced

landscaping, and in some cases, may require some limited widening along Route 303. Other High Level Improvements could include a major re-routing of Orangeburg Road to directly connect with Route 340, and possible changes to street patterns to support expanded design concepts for neighborhood areas. In general, these alternatives would cover locations that continue to operate at poor levels of service even with the Low Level Improvements.

It should be noted that both levels of improvement are not necessarily “either/or” choices to be made, but rather represent successive phases of continuing incremental transportation improvements for the Route 303 study area.

Key issues considered in the roadway concept development process include:

- Roadway width and lane width;
- Number of through and turning lanes;
- Design speed and speed management techniques (traffic calming);
- Curb/shoulder width and configuration;
- Sidewalk/crosswalk locations;
- Signalization;
- Median treatment;
- Landscape requirements, and;
- Community access management requirements (Driveway spacing, width standards, line-of-sight issues).

ES.8 Neighborhood Concept Plans

By integrating the Land Use and Transportation Visions for the Route 303 Corridor, Neighborhood Concept Plans were generated for the three study area neighborhoods. The Neighborhood Concept Plans considered such needs as building location, parking provision, signage, pedestrian and side street connectivity, pedestrian amenities, bicycle/pedestrian facilities, and transit services. The concepts for the three neighborhoods are as follows:

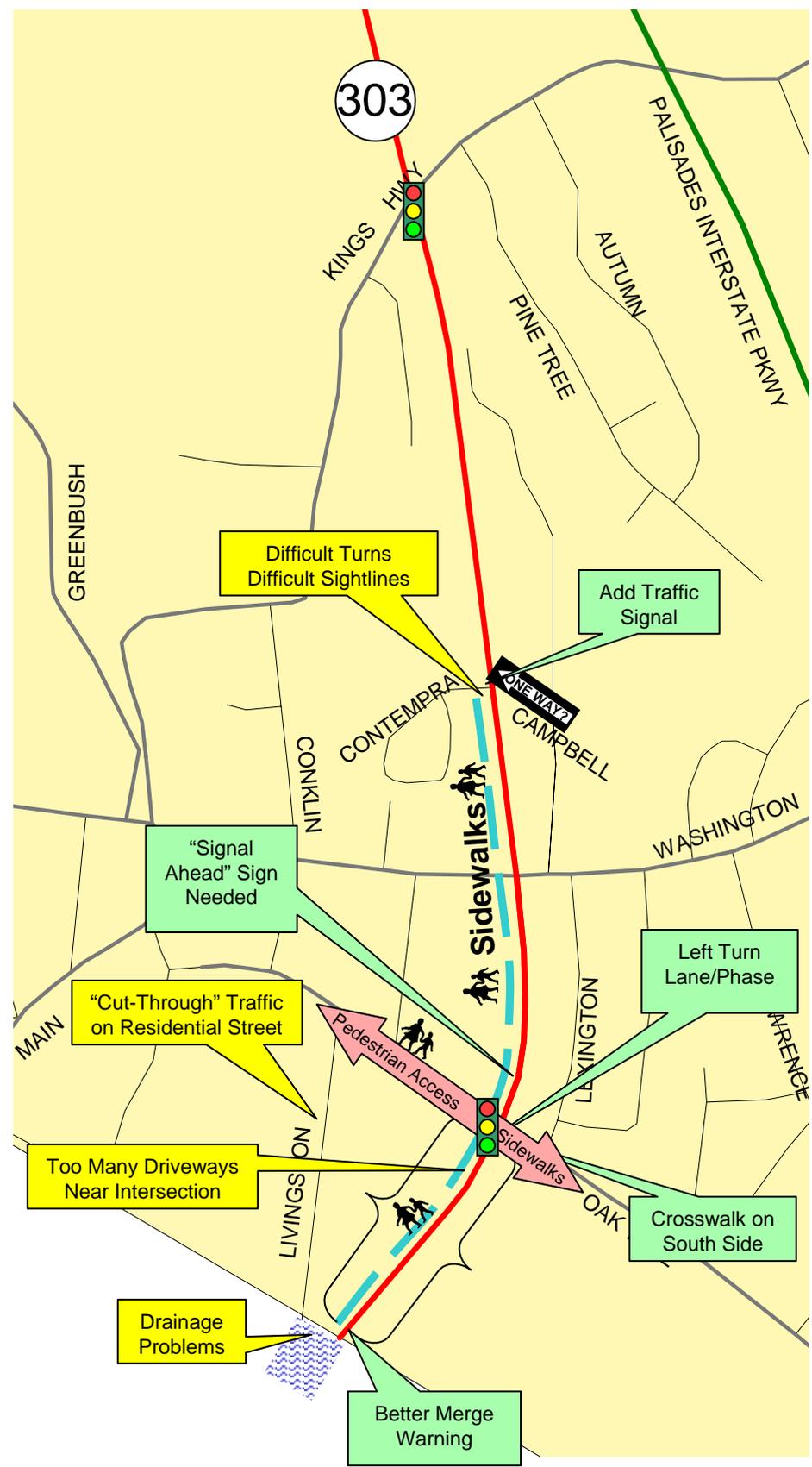
Tappan Neighborhood

This is a largely residential area with a narrow (100 – 400 foot) strip of commercial uses abutting Route 303. Route 303 in Tappan is a 4-lane, undivided arterial highway with travel lanes between ten and twelve feet wide. At the southern end of the corridor – at the New Jersey State Line – a transition is made between the 4-lane cross-section in New York State and a 2-lane cross-section in New Jersey. Only very limited roadway sections provide sidewalks, crosswalks and paved shoulders, making the corridor an uninviting and potentially unsafe location for pedestrian and bicycle travel. Signalized intersections with Route 303 are located at two locations in the Tappan neighborhood – at Oak Tree Road and King’s Highway South. The neighborhood boundary and specific neighborhood concerns voiced at CAC and Neighborhood meetings are illustrated in Figure ES-3.

CAC IDENTIFIED ISSUES FOR TAPPAN NEIGHBORHOOD

General Issues

- Safety
- Speed
- Increase Police
- Maintain Character
- Protect Property
- Minimize Widening
- Control Truck Growth
- Open Space Preservation
- Lanes Too Narrow
- For Trucks
- Larger Street Signs
- Beautify Road / Businesses



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Recommendations From the New Jersey State Line to Oak Tree Road, the selected alternative is a two-lane alignment with a center lane in place of the existing four-lane cross-section as shown conceptually in Figure ES-4 with pedestrian walkways. Access management strategies are recommended in this segment.

For the segment from Oak Tree Road to King's Highway South, the preferred conceptual alternative as shown in Figure ES-5, is a two-lane configuration with a minimum four-foot wide raised median with breaks and pedestrian walkways.

Other improvements in the Tappan Neighborhood would include intersection improvements at King's Highway South and Oak Tree Road. A roundabout was considered at King's Highway South. At Oak Tree Road, Figure ES-6 illustrates the potential to add landscaping and to undertake a limited amount of access management and driveway consolidation in order to enhance the appearance of the commercial district and to buffer the commercial area from adjacent residences.

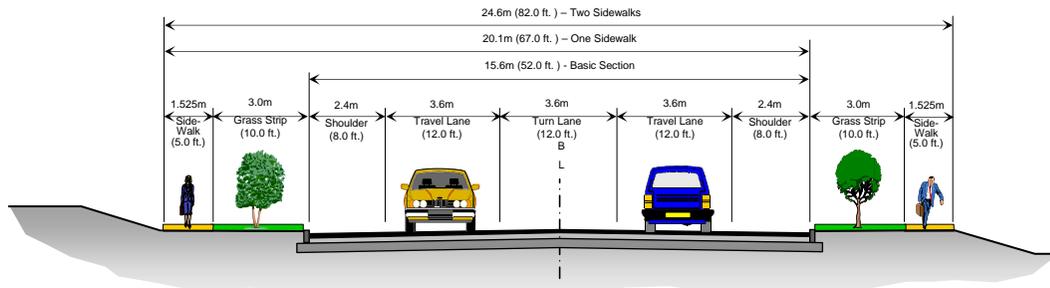
Orangeburg Neighborhood

The Orangeburg area includes several smaller concentrations of commercial uses, such as neighborhood-oriented stores, restaurants and local services (banks, professional offices, personal services, etc.) at King's Highway North, Erie Street and Mountainview Road and underutilized vacant area and publicly-owned property on Route 303 between Route 340 and the Palisades Parkway. A number of homes are located within walking distance of the corridor. Educational and institutional facilities are also located in Orangeburg. In the southern portion of the Orangeburg neighborhood area, Daimler-Chrysler Corporation has a large campus-type office and distribution center located south of the Palisades Parkway interchange. Other corporate and industrial facilities are also located in the area between Route 340 and King's Highway South.

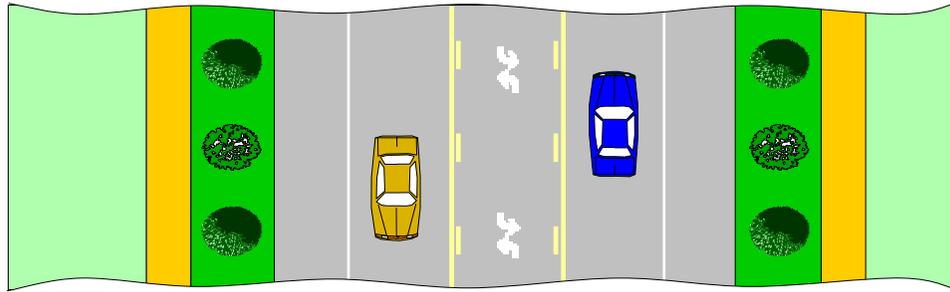
In the Orangeburg neighborhood, Route 303 through-traffic frequently conflicts with traffic bound for local destinations such as retail business, government offices, schools, and others. Specific concerns are summarized in Figure ES-7.

Recommendations As shown in Figure ES-8, the preferred alternative for the segment from King's Highway South through Erie Street incorporates a four-lane cross section, with curbs and a raised landscaped median and turn lanes, in place of the existing four-lane undivided configuration. Additional sidewalks, crosswalks and curb section would be implemented in this segment. Additional amenities would be incorporated to support the future implementation of a Village Center concept for this area, if developed.

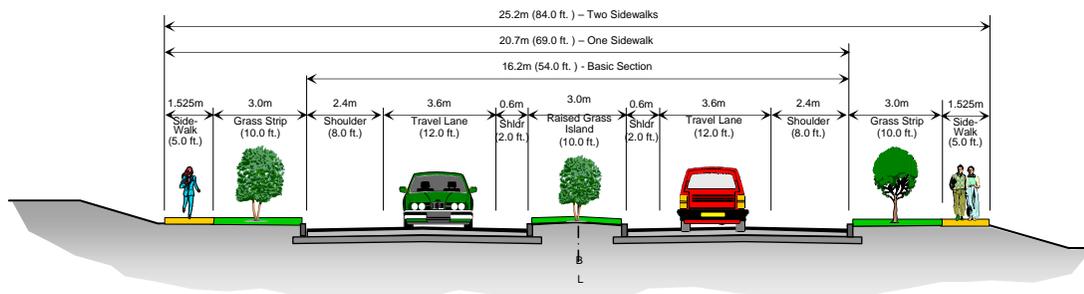
Intersection improvements were proposed for Route 303 intersections with Route 340, Orangeburg Road, Mountainview Road, and Erie Street. Furthermore, two conceptual alternatives are proposed for the Orangeburg Neighborhood Area. While both concepts consist of realigning Orangeburg Road to directly connect to Route 340, one alternative includes a supplementary Connector Road and the second does not. The Orangeburg Village Center Expanded Concept in Figure ES-9 shows a concept without a connector road. With a median



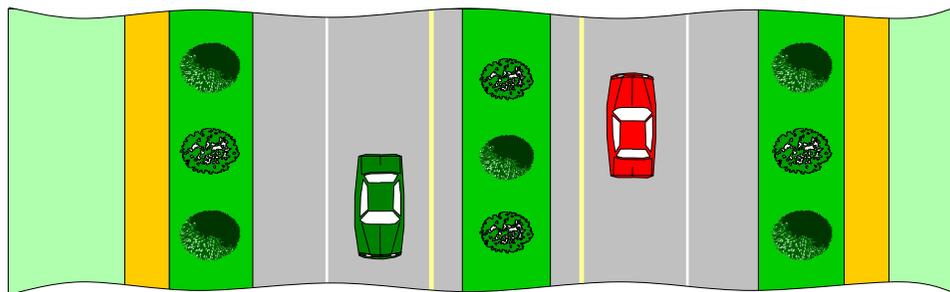
2 LANE UNDIVIDED WITH CLTL



State Line To Oak Tree Road

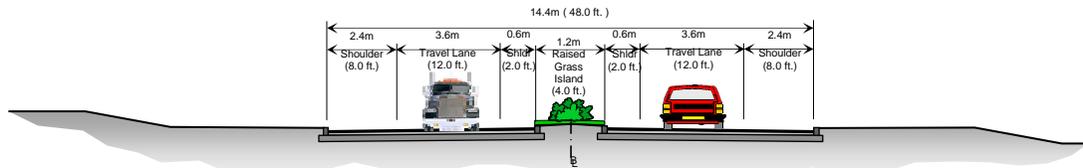


2 LANE WITH RAISED MEDIAN

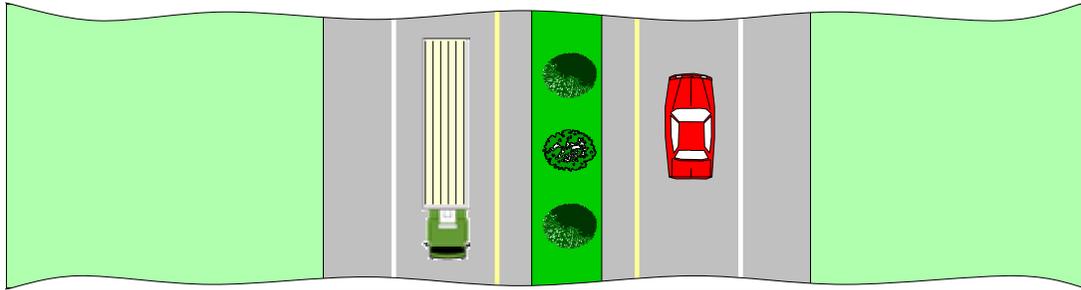


State Line To Oak Tree Road

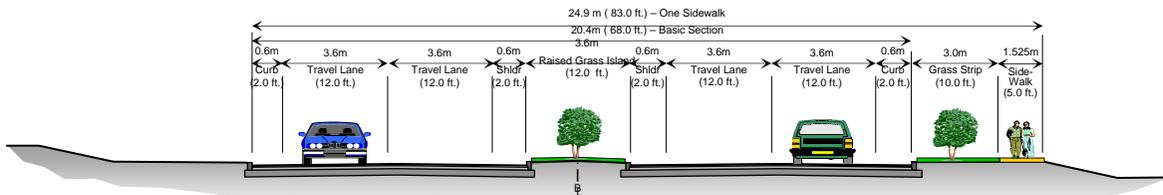
STATE LINE TO OAK TREE ROAD CONCEPTUAL
CROSS SECTION ALTERNATIVE



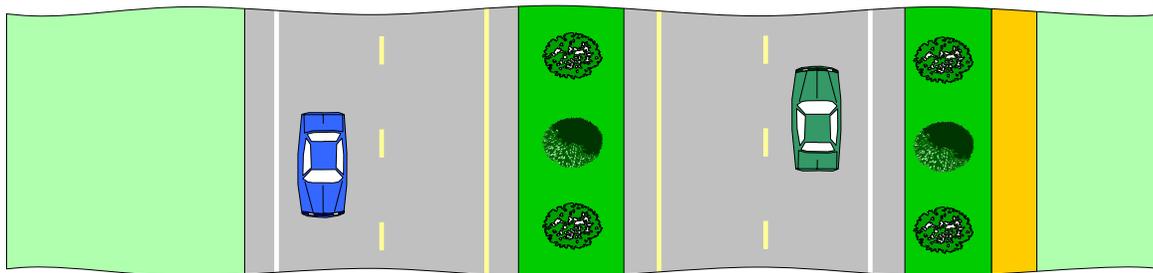
2 LANE DIVIDED



Oak Tree Road To Kings Highway South



4 LANE DIVIDED



Kings Highway South to Orangeburg Road

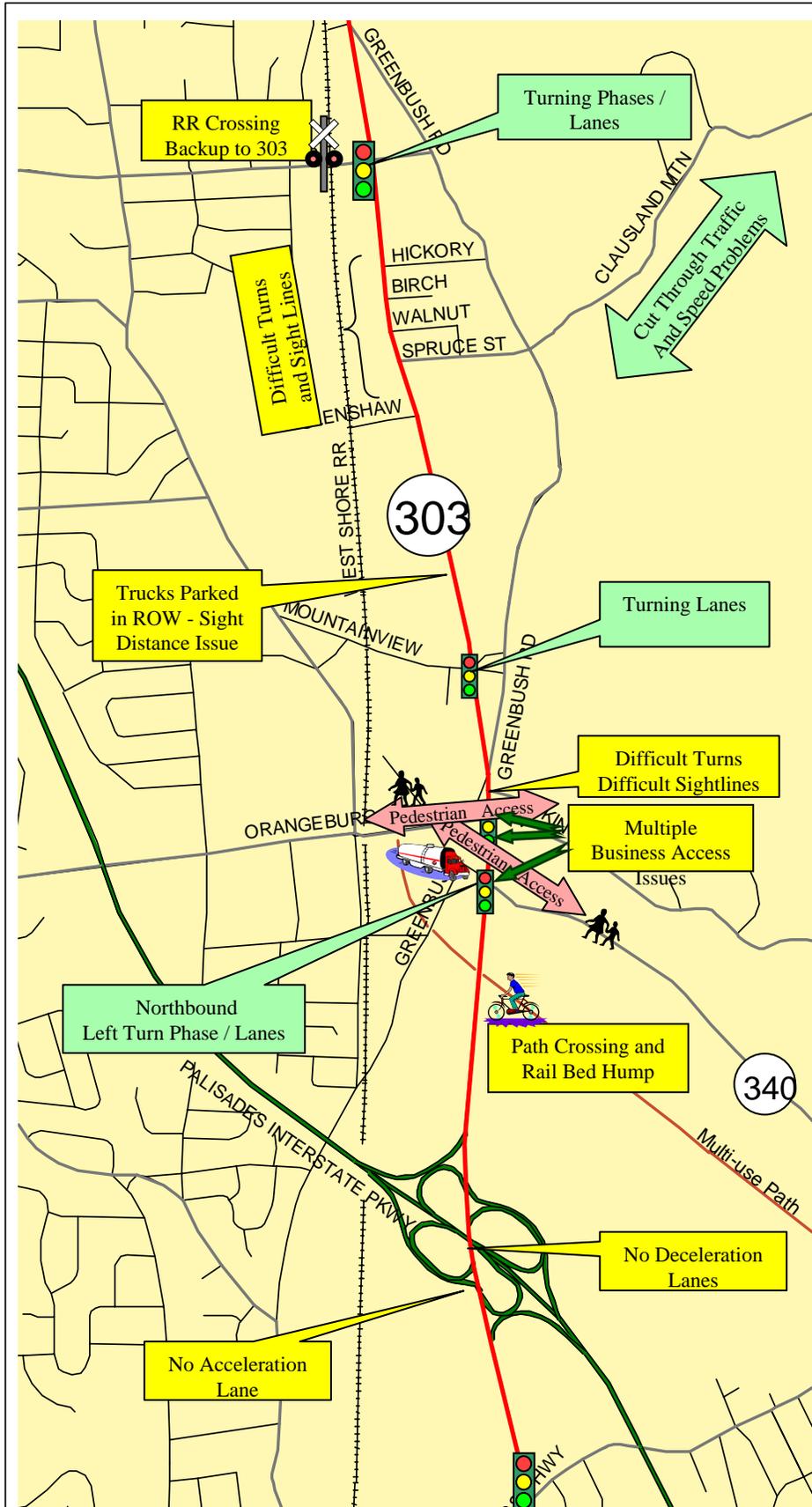
OAK TREE ROAD TO ORANGEBURG ROAD
CONCEPTUAL CROSS SECTION ALTERNATIVE



**TAPPAN NEIGHBORHOOD CENTER
ENHANCEMENT CONCEPT**

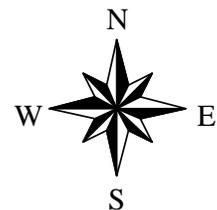
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CAC IDENTIFIED ISSUES: ORANGEBURG BLAUVELT AREA



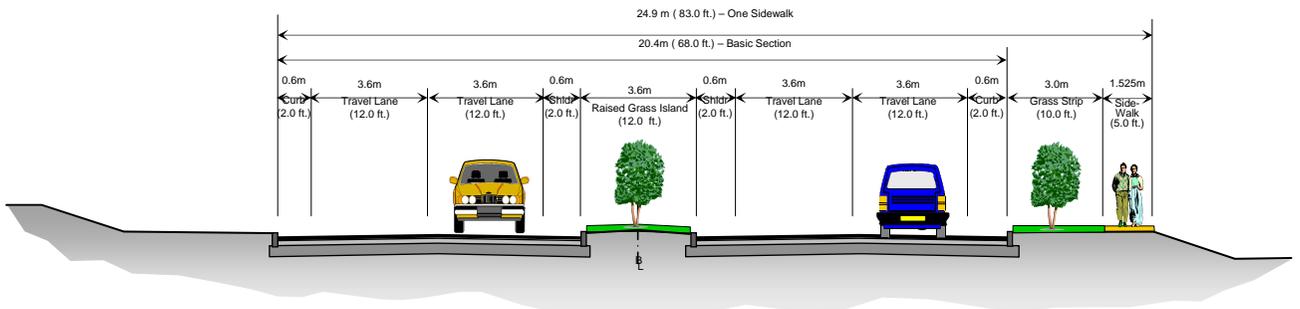
General Issues

- Safety
- Speed
- Multiple Left Turns / Left Turn Lane
- Access Management
- Increase Police
- Maintain Character
- Beautification
- Protect Property
- Cluster Development
- Minimize Widening
- Control Truck Growth
- Open Space Preservation
- Lanes Too Narrow
- For Trucks
- Raised Pavement Markers
- Larger Street Signs
- Sidewalks
- Lighting

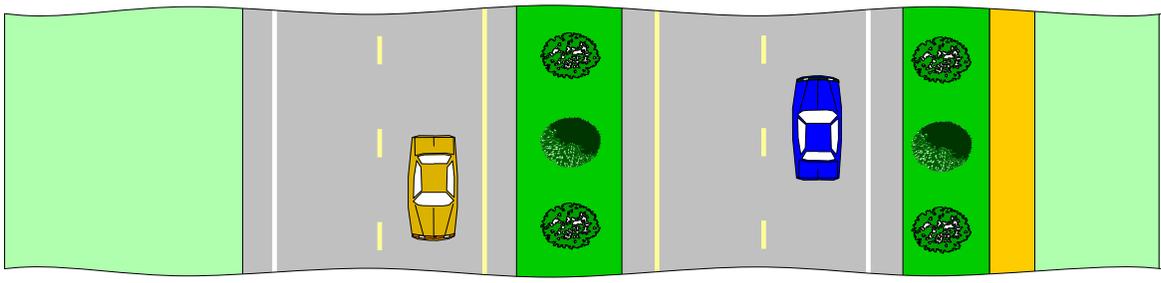


0 0.09 0.18 0.27 0.36 Miles

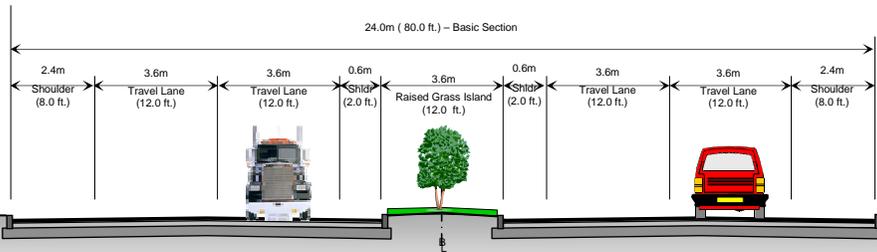
Route 303 Sustainable Development Study



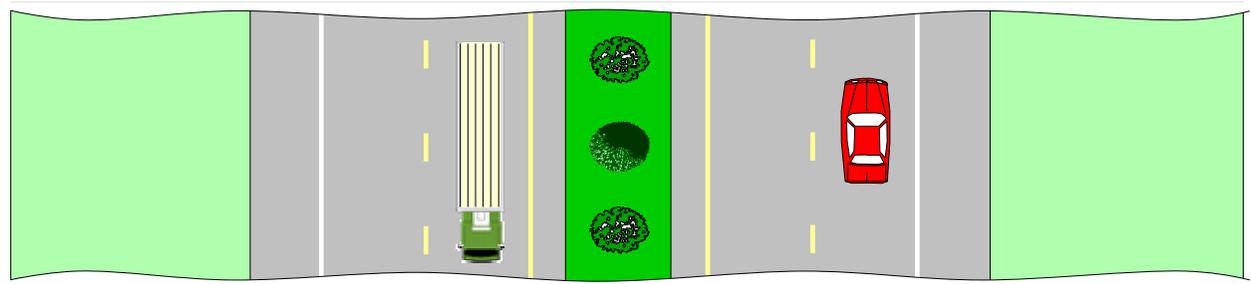
4 LANE DIVIDED



Orangeburg Road to Erie Street



4 LANE DIVIDED



Erie Street to Clarkstown Town Line

ORANGEBURG ROAD TO ERIE STREET & ERIE STREET TO CLARKSTOWN TOWN LINE
CONCEPTUAL CROSS SECTION ALTERNATIVE



**ORANGEBURG VILLAGE CENTER
EXPANDED CONCEPT**

Route 303 Sustainable Development Study

design, a “right-in, right-out” pattern of operation is recommended for smaller driveways intersecting Route 303. In order to accomplish this, left-turn and u-turn areas should be provided at key intersections and major driveways. Sight distance and roadway geometry are also important factors to be considered. Figure ES-10 shows another alternative concept with a connector road..

Figure ES-11 shows a landscape architectural rendering of conceptual improvements at Erie Street.

Bradley Parkway/Greenbush Road Neighborhood

Along Route 303, this area is predominantly commercial, with several large corporate office buildings and industrial facilities, as well as the Bradley Corporate Park and the Xerox Corporation property. These facilities account for approximately two million square feet of commercial space, and constitute the majority of non-retail commercial space within the corridor. Tenants of Bradley Corporate Park are primarily firms involved in distribution, marketing, research and development. In addition, a significant number of homes are located just off Route 303 along Greenbush Road and several side streets to the east of Route 303, as well as to the west of Route 303 along Leber Road and in the vicinity of Cottage Lane Elementary School south to Erie Street.

Bradley Parkway residents and business owners face the double challenge of residing and working within an area of mixed land use next to the busiest segment of Route 303. Concerns reflected this difficult position. Neighborhood issues for the Bradley Parkway area are summarized in Figure ES-12.

Recommendations As shown in Figure ES-8, the preferred conceptual alternative for the segment incorporates a four-lane cross section with curbs and a raised landscaped median and turn lanes, in place of the existing four-lane undivided configuration. With a median design, a “right in – right out” pattern of operation is recommended for smaller driveways along Route 303. In order to accomplish this, left-turn and u-turn areas should be provided at key intersections and major driveways. Sight distance and roadway geometry are also important factors to be considered.

Intersection improvements including left turn lanes were proposed at the Bradley Parkway intersection.

ES.9 Implementation

Based upon the efforts of the project team, CAC, and other project stakeholders, an implementation program has been produced, as shown in Table ES-1. The study recommendation included early action improvements, short-term strategies and long-term actions for implementing land use and transportation improvements.



**ORANGEBURG VILLAGE CENTER
ENHANCED CONCEPT**

Route 303 Sustainable Development Study



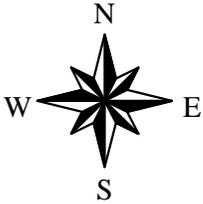
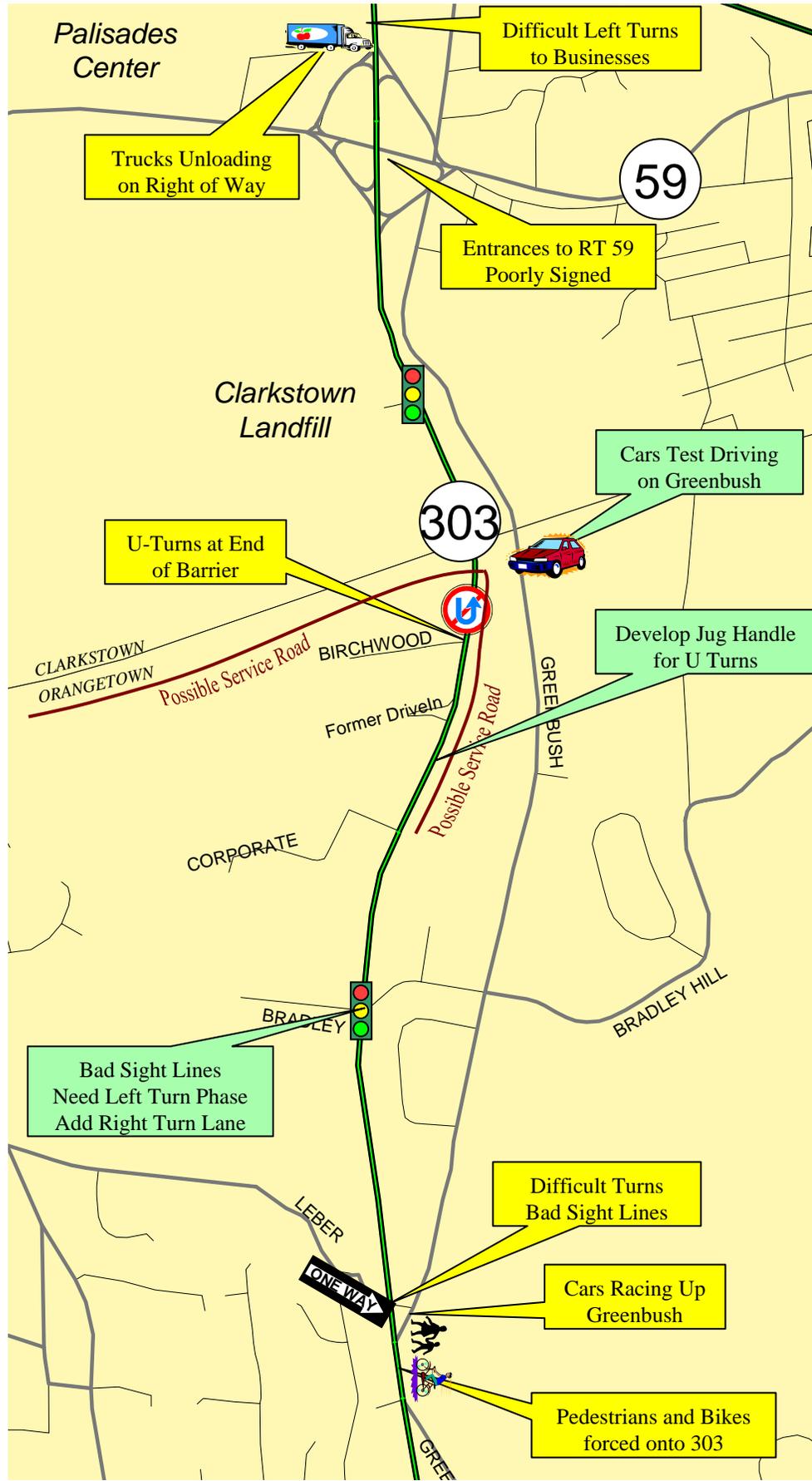
**ERIE VILLAGE CENTER
ENHANCED CONCEPT**

Route 303 Sustainable Development Study

CURRENT ISSUES: BRADLEY PARKWAY AREA

General Issues:

- Safety
- Speed – Lower Limit
- Increase Police
- Add a U-Turn Jug Handle
- Control Truck Growth
- Open Space Preservation
- Development Already Saturated
- Ban Through Trucks
- Lanes Too Narrow For Trucks
- Roadway Lighting
- Aesthetic Improvements
- Add Sidewalks
- Median in Road
- Add Noise Barriers Near Residences



0 0.08 0.16 0.24 0.32 Miles

Route 303 Sustainable Development Study

THE ROUTE 303 SUSTAINABLE DEVELOPMENT STUDY IMPLEMENTATION PROGRAM, December, 2002

CORRIDOR WIDE IMPROVEMENTS		COMPLETED	IN-PROGRESS	SHORT-TERM	MID-TERM	LONG-TERM	NOTES
LAND USE				2003-2005	2005-2010	Post 2010	
1	Overlay Zone	Created and Enacted		Analyze Impacts			
2	Bike Trail, Rail Trail, Pedestrian Path		Develop Plan	Implement Plan	Implement Plan	Implement Plan	Collaborate with County, NYSDOT, and NYMTC
3	Hamlet Center Guidelines			Develop Plan	Implement Plan	Implement Plan	
4	Townwide Open Space Plan	Plan Development	Implement Plan	Implement Plan	Implement Plan	Implement Plan	Integrate into Comprehensive Plan
5	Parcels in More Than One Zoning District		Identify Parcels	Implement Plan	Implement Plan	Implement Plan	Additional Parcels have been identified
6	Business Improvement District (BID)			Develop Plan	Implement Plan	Implement Plan	Town Wide Comprehensive Plan, Explore Funding Options
7	Rockland Psychiatric Center		Under Study	Develop Plan	Implement Plan	Implement Plan	Study of Traffic Impacts
8	Sparkill Creek Management Plan			Develop Plan	Implement Plan	Implement Plan	C.E.A. Designation, Watershed Mgmt Plan, RCDA Collaboration
9	Ridgeline Protection Regulation			Develop Plan	Implement Plan	Implement Plan	
TRANSPORTATION							
10	Access Management Projects -Shared Driveways; Driveway Signage; Medians; Etc.,		Applied for Funding	Develop Plan	Implement Plan	Implement Plan	Quality Community Grant Program
11	Transit and Transportation Demand Mangement (TDM) Strategies			Develop Plan	Implement Plan	Implement Plan	
12	Traffic Calming Techniques for Residential Areas		Analysis	Implement Plan	Implement Plan	Implement Plan	
13	Passenger Service on the West Shore/Northern Branch Train Line including Passenger Stations			Evaluate Impacts	Mitigate Impacts	Mitigate Impacts	
14	Truck Parking Restrictions		Develop Plan	Implement Plan	Implement Plan	Implement Plan	

THE ROUTE 303 SUSTAINABLE DEVELOPMENT STUDY IMPLEMENTATION PROGRAM, December, 2002

NEIGHBORHOOD AREA IMPROVEMENTS		COMPLETED	IN-PROGRESS	SHORT-TERM	MID-TERM	LONG-TERM	NOTES
TAPPAN - Kings Highway to NJ State Line				2003-2005	2005-2010	Post 2010	
15	Interim Improvements: NJ State Line to Cambell Ave. Oak Tree Rd Intersection (Left Hand Turn Lanes on Route 303 NB, SB and Traffic Signal Improvements, 2 to 1 lane Cambell to NJ State Line, Center Turn lane Oak Tree Rd. to NJ State Line)		Plan/Design	Construction			
16	Oak Tree Rd. at Route 303 Intersection Improvement Project: Turn Lanes, Median, Bike/Ped. Access, Transit, Landscaping/Beautification			Plan Development	Implement/Construction		
17	Kings Highway South at Route 303 Intersection Improvement Project: Roundabout or Turn Lanes, Median, Bike/Ped. Access, Transit, Landscaping/Beautification			Plan Development	Implement/Construction		
18	Signing Upgrade on Route 303: Warning, Historic Street Designation and Regulatory	Completed					
19	Speed Reduction on Route 303: Reduced Speed Limit 40-35 mph Cambell to Oak Tree Rd.	Completed					
20	Interim Landscape Project: Oak Tree Rd. to NJ State Line	Completed					
21	Corridor Landscape Project		Develop Plan	Implement Plan			
22	Brick paved sidewalk along Oak Tree Road	Completed					
23	Palisades Parkway Scenic Byway Corridor Mangement Plan		Completed	Implement Plan	Implement Plan		
24	Palisades Trailway - NJ State Line to Anthony Wayne Recreational Area		Plan Development	Implement Plan	Implement Plan		
BLAUVELT/ORANGEBURG - Glenshaw St. to Kings Highway South							
25a	Orangeburg Transportation/Community Development Project: Reconstruction of Orangeburg Bridge and Approaches to Realign with Route 340 at Route 303. In coordination with a Multi-intersection Improvement Project on 303			Plan Development	Implement/Construction		
25b	Intersection Improvement Project 303 at 340, Orangeburg Rd., Kings Highway North, Mountainview Ave.: Turn Lanes, Median, Bike/Ped. Access, Transit, Landscaping			Plan Development	Implement/Construction		
26	Erie Street at Route 303 Intersection Improvement Project: Turn Lanes, Median, Bike/Ped. Access, Transit, Landscaping; Greater capacity for queueing at CSX Crossing			Plan Development	Implement/Construction		
27	Corridor Landscape Project		Develop Plan	Implement Plan			
28	Signing Upgrade on Route 303: Warning, Historic Street Designation and Regulatory	Completed					
29	Closure of Highview Avenue at CSX grade crossing			Study Impacts	Implement Plan	Implement Plan	
30	JB Clarke Rail Trail Crossing Alternative Study			Develop Plan	Implement Plan	Implement Plan	Bike/Ped. Activated Signal; Bike/Ped. Bridge at Grade Crossing;
31	Left Turn Signal at Route 303 and Mountainview Road	Installed					
32	Palisades Parkway Scenic Byway Corridor Mangement Plan		Completed	Implement Plan	Implement Plan		
33	Palisades Trailway - NJ State Line to Anthony Wayne Recreational Area		Plan Development	Implement Plan	Implement Plan		
34	Linking educational corridors			Develop Plan	Implement Plan	Implement Plan	
BRADLEY PARKWAY - Route 59 to Glenshaw Street							
35	Bradley Parkway at Route 303 Intersection Improvement Project: Turn Lanes, Median, Bike/Ped. Access, Transit, Landscaping			Plan Development	Implement/Construction		
36	Corridor Landscape Project		Develop Plan	Implement Plan			
37	Signing Upgrade on Route 303: Warning, Historic Street Designation and Regulatory		Develop Plan	Implement Plan			

Continued coordination and involvement of all study partners as well as an informed and active CAC will be essential in determining the success and public acceptance of both short- and long-term solutions for the Route 303 corridor.

The following actions are proposed for addressing land use needs in the corridor. Refer to Table ES-1 for description of the proposed timeframes for each action.

- ***Route 303 Overlay Zone*** - Creation of the Route 303 Overlay Zone was identified as an early-action recommendation for the Town of Orangetown that would best implement some of the Route 303 Sustainable Development Study's recommendations and meet environmental, aesthetic and character issues of the corridor. The Overlay Zone was designed to encourage land use decision-making and to provide for the economic, social, and aesthetic advantages of orderly development through harmonious groupings of compatible and complementary land uses and the application of appropriate development standards.

Other land use actions included in the implementation plan:

- ***Identification of Parcels in More Than One Zoning District***
- ***Mid-Hudson South Plan for Bike Trail, Rail Trail, and Pedestrian***
- ***Town-wide Open Space Plan***
- ***Determination of Disposition of Rockland Psychiatric Center***
- ***Palisades Interstate Parkway Scenic Byway Corridor Management Plan***
- ***Establishment of a Business Improvement District*** – The establishment of a Business Improvement District (BID) is a recommended strategy to facilitate physical and economic revitalization of the study area.
- ***Hamlet Center Guidelines***
- ***Sparkill Creek Greenway and Management Plan***
- ***Ridgeline Protection Regulation***

The following corridor-wide transportation improvements are recommended for the Route 303 corridor. Refer to the implementation matrix in Table ES-1 for the respective timeframes for these actions.

- ***Access Management Techniques*** – The Town of Orangetown applied for and received a grant from NYSDOT to conduct an access management study that will seek to eliminate, reduce, space or regulate the number of curb cuts/ driveways that occur along Route 303 to provide safer and more efficient traffic operation. In many cases, only minor

modification to existing parking or internal circulation patterns may be needed to allow closure of unnecessary curb cuts.

- ***Traffic Calming Techniques for Residential Areas***
- ***Evaluation of Truck Parking Restrictions***
- ***Transit and Transportation Demand Management (TDM) Strategies***
- ***Impact Assessment of Passenger Service on West Shore/Northern Branch Train Line***
- ***Roadside Pedestrian Facilities (Sidewalks/Crosswalks)*** – Improvements to roadside pedestrian facilities throughout the corridor should be made consistent with the recommendations of the Mid-Hudson South Region Bicycle/Pedestrian Master Plan. The plan calls for the following long-term improvements in the Route 303 study area:
 - Complete sidewalk network in and around all destinations
 - Provide linkages, access and signing to state parks
 - Provide sidewalks along Washington Street

ES.9.1 Tappan Neighborhood Area Improvements

A number of interim improvements, currently in the plan and design phase, and planned for short-term construction include:

- Improvements at Oak Tree Road (left turn lanes on Route 303 northbound and southbound and associated traffic signal improvements)
- A center turn lane from Oak Tree Road to the New Jersey state line
- Improved transition from 2 lanes to one lane in each direction between Campbell Avenue and the state line.

Refer to Table ES-1 for the implementation schedule for proposed improvements at:

Route 303 and Oak Tree Road – Low-level of improvement consisting of an exclusive left turn lanes in the northbound and southbound directions along Route 303, an eastbound exclusive right turn lane along Oak Tree Road, and exclusive left and right turn lanes in the westbound direction along Oak Tree Road. Other improvements that would be incorporated would be median improvements, bicycle/pedestrian access improvements, transit, and landscaping and beautification.

Route 303 and King’s Highway South – High-level improvement recommended for this intersection includes all of the low-level improvements and in addition requires widening Route 303 to provide an additional through lane in the northbound and southbound directions. A roundabout could be also be considered to provide two travel lanes in the northbound and southbound directions along Route 303 and a single lane in the eastbound and westbound direction along King’s Highway South. Another alternative at this location is the re-alignment of King’s Highway South from the west to fix the angle at which the King’s Highway South

currently intersects Route 303. In addition, sidewalk and crosswalk improvements are proposed. Other improvements that are still to be incorporated include median improvements, bicycle/pedestrian access improvements, transit, and landscaping and beautification.

Campbell Street – Replacement of a yield sign with a stop sign at Campbell Street, and street name sign installation and enhancement at Campbell Street.

Other Improvements in the Tappan Neighborhood

- Renovation of Main Street and part of Washington Street addressing drainage problems, redoing sidewalks, changing the light at Main and Washington Street, and street landscaping.
- Signing Upgrade on Route 303
- Speed Reduction between Campbell Avenue and Oak Tree Road
- Study of Speed Reduction on Route 303 between Campbell Avenue and the PIP
- Interim Landscaping Project between Oak Tree Road and New Jersey State Line
- Neighborhood-wide Corridor Landscape Project
- Brick-paved sidewalk along Oak Tree Road
- Palisades Parkway Scenic Byway Corridor Management Plan
- Palisades Trailway, New Jersey State Line to Anthony Wayne Recreational Area

ES.9.2 Orangeburg/Blauvelt Neighborhood Area Improvements

Refer to Table ES-1 for the implementation schedule proposed for the following improvements:

Route 303 and Route 340 – A high-level improvement at this intersection includes all of low-level improvements and in addition requires widening Route 303 to provide an additional left turn lane in the southbound direction and an exclusive right turn lane in the northbound direction. Enhancement of sidewalks and crosswalks is planned. The Implementation Program calls for reconstruction of the Orangeburg Bridge and its approaches to realign with Route 340 at Route 303, in coordination with a multi-intersection improvement on Route 303. Improvements will include turn lanes, median improvements, bicycle/pedestrian access improvements, transit, circulation between colleges, and landscaping.

Route 303 and Orangeburg Road – A low-level improvement consists of providing an exclusive left turn lane in the northbound direction and an exclusive right turn lane in the southbound direction along Route 303 along with an additional left turn lane in the eastbound direction along Orangeburg Road. Installation of a stop sign at Orangeburg Road at Route 303 has already taken place.

The Implementation Program calls for reconstruction of Orangeburg Road at Route 303, in coordination with a multi-intersection improvement on Route 303. Improvements will include turn lanes, median improvements, bicycle/pedestrian access improvements, transit, and landscaping.

Route 303 and Mountainview Road – A low-level improvement consists of providing exclusive left turn lanes in the northbound and southbound directions along Route 303 and exclusive left turn lanes in the eastbound and westbound directions along Mountainview Road. Signals at Mountainview Road have already been upgraded to offer an exclusive left-turn movement. The Implementation Program calls for a multi-intersection improvement on Route 303, including Mountainview Road. Improvements will include turn lanes, median improvements, bicycle/pedestrian access improvements, transit, and landscaping.

Route 303 and Erie Street –This intersection will require a low-level of improvement consisting of exclusive left turn lanes in the northbound and southbound directions along Route 303 and an exclusive left turn lane in the eastbound direction along Erie Street. The Implementation Program calls for a multi-intersection improvement on Route 303, including Erie Street. Improvements will include turn lanes, median improvements, bicycle/pedestrian access improvements, transit, and landscaping, as well as improving the railroad crossing at Erie.

Erie Street Railroad Crossing - The Implementation Program calls for improvements at the CSX crossing on Erie Street to provide greater capacity for queuing.

Unsignalized Intersections: Orangeburg/Blauvelt Neighborhood

There is likelihood in the short term of the Route 303 and King’s Highway North intersection being signalized and coordinated with the Route 303 and Orangeburg Road intersection. As warranted, all unsignalized intersections with a failing Level of Service should be signalized, with their operations coordinated with the currently signalized intersections. Timing of these actions is dependent on the growth of side-street and mainline traffic and should be done on a case-by-case basis.

Other Improvements in the Orangeburg/Blauvelt Neighborhood

- Signing Upgrade on Route 303: Warning signs, Historic Street designation signs, Regulatory signs.
- Neighborhood-wide Corridor Landscape Project
- Study of Closure of Highview Avenue at CSX Crossing
- J.B. Clarke Rail Trail Crossing Alternative Study, consistent with the Mid-Hudson South Region Bicycle/Pedestrian Master Plan.
- Palisades Parkway Scenic Byway Corridor Management Plan
- Palisades Trailway, New Jersey State Line to Anthony Wayne Recreational Area
- Studying Educational Corridor Linkages

ES.9.3 Bradley Parkway Neighborhood Area Improvements

Refer to Table ES-1 for the implementation schedule proposed for the following improvements:

Route 303 and Bradley Parkway – A low-level improvement consists of providing exclusive left turn lanes in the northbound and southbound directions along Route 303 and exclusive left turn lanes in the eastbound and westbound directions along Bradley Parkway. The Implementation

Program calls for improvements at this intersection, including lanes, median improvements, bicycle/pedestrian access improvements, transit, and landscaping.

Route 303 and Clarkstown Landfill – No specific improvements are proposed at this location.

Unsignalized Intersections: Bradley Parkway Neighborhood

In a future year, as conditions warrant, all unsignalized intersections with a failing Level of Service should be signalized, with their operations coordinated with the currently signalized intersections. Timing of these actions is dependent on the growth of side-street and mainline traffic and should be done on a case-by-case basis.

Other Improvements in the Bradley Parkway Neighborhood

- Signing Upgrade on Route 303: Warning signs, Historic Street designation signs, Regulatory signs.
- Neighborhood-wide Corridor Landscape Project

RELATED RESOURCES

1. **Route 303 Public Outreach Technical Appendix**
Completed December 14, 2001
Orangetown Town Hall - 845-359-5100
2. **Route 303 Community Visioning Report**
Completed December 14, 2001
Orangetown Town Hall – 845-359-5100
3. **Route 303 Existing Conditions Report**
Completed October 2000
Orangetown Town Hall
845-359-5100
4. **Route 303 Master Plan**
Completed November 2002
www.co.rockland.ny.us
www.orangetown.com
5. **Orangetown Comprehensive Plan**
Draft to be adopted December 2002
www.orangetown.com
845-359-5100
6. **Route 303 Overlay Zone**
www.orangetown.com
845-359-5100
7. **Route 303 Overlay Zone Economic Study**
Completed January 17, 2002
Orangetown Town Hall – 845-359-5100
8. **Route 303 Access Management Plan Quality Communities**
(scoping underway – Winter '02-'03)
Town of Orangetown, NYSDOT, & Rockland County
9. **Rockland County: River to Ridge**
A Plan for the 21st Century
Completed 2001
www.co.rockland.ny.us
10. **Railroad Crossing Safety and Train Whistle Study**
Completed phase I
Rockland County Planning Department
845-364-3434
11. **County of Rockland Open Space Guidelines**
(Open Space Acquisition Program)
Completed October 1999
www.co.rockland.ny.us
12. **Mid-Hudson South Region Bicycle-Pedestrian Master Plan**
Completed June 2001
www.co.rockland.ny.us
Rockland County Planning Department
845-364-3434
13. **Palisades Trailway Corridor Study**
NJ State Line to The Anthony Wayne Recreation Area
Completed March 2002
NYSDOT Region 8 Office 845-431-5723
Palisades Interstate Park Commission
845-786-2701
14. **Palisades Scenic Byway Corridor Management Plan**
Completed June 2002
NYSDOT Region 8 Office 845-431-5723
Palisades Interstate Park Commission
845-786-2701
15. **West Shore MIS**
Completed June 2001
DEIS will proceed concurrently w/West Shore Region DEIS
New Jersey Transit 201-491-7813
www.accesstotheregionscore.com