MALTA ROUND LAKE ROAD CORRIDOR PLAN

2012 Comprehensive Plan Amendment

TOWN OF MALTA Est. 1802

THE Chazen COMPANIES

Creighton Manning

Acknowledgements

The Malta Round Lake Road Corridor Plan was prepared by an advisory committee that worked cooperatively to create a new and forward thinking vision for the Round Lake Road corridor. The following people contributed many hours of their personal time. Their energy, ideas, and dedication are what made this plan possible.

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Special Thanks

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Saratoga County Department of Public Works
Saratoga County Planning Department
Capital District Transportation Committee
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NYS Department of Transportation

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Introduction

Courtesy of timesunion.com

In 1993, the Town of Malta's *Mini-Master Plan for the Round Lake Road/Exit 11 Area* noted that "over the past ten years, the Town of Malta has experienced one of the largest growth rates in Saratoga County, and the Exit Eleven, Round Lake Road area is no exception." Since 1990, Saratoga County has experienced a 21 percent increase in population. Much of this growth can be attributed to the area's high quality of life and to such economic development initiatives as Global Foundries. While there are many benefits associated with this growth, increased traffic demand on local roadways is problematic. Because of this, the NYS Department of Transportation (NYSDOT), Capital District Transportation Committee (CDTC), Saratoga County Department of Public Works, and local municipalities have been proactive in addressing this issue. For example, the construction of new roundabouts and points of access throughout Malta, including the Exit 11 Bypass, has helped mitigate traffic congestion and improved vehicle and pedestrian safety.

In 2005, the Town of Malta prepared a Generic Environmental Impact Statement (GEIS) that identified several improvements along the Round Lake Road corridor. This included the installation of roundabouts, traffic signals, and turning lanes at select intersections and the widening of certain road segments. While some improvements

have been constructed since 2005, including reconstruction of the Exit 11 northbound intersection, the need for an updated and more comprehensive evaluation of Round Lake Road persists. Recognizing this need, the Malta Town Board tasked an advisory committee comprised of residents and Town officials with the preparation of a Malta Round Lake Road Corridor Plan that the Board would ultimately approve and adopt as part of the Town's Comprehensive Plan. In addition to serving as a planning and policy guide, the plan is intended to provide up-to-date traffic and land use analysis that may be used to attract such funding opportunities as the NYS Department of Transportation (NYSDOT) Transportation Enhancement Program (TEP).

Early in the planning process the advisory committee adopted a "complete streets" vision for the corridor. The complete streets concept has become an increasingly popular and accepted roadway design philosophy throughout the transportation engineering and planning community over the last decade. With the passage of the Complete Streets Act in 2011, New York officially adopted the concept into law. According to the legislation, complete streets "considers the needs of all users of roadways including pedestrians, bicyclists, public transportation rider, motorists and citizens of all ages and abilities, including children, the elderly and the disabled…"

A complete streets approach has many positive benefits including fostering a sense of place, encouraging healthier lifestyles, addressing air quality concerns, bolstering economic growth and sustainability, as well as other varied transportation related issues. In addition, a complete street approach may incorporate "green"

design elements such as alternative stormwater management practices or landscaping with native plants that can help offset carbon emissions and shade roadways reducing heat island effects. Regardless of location or design, the ultimate goal for any complete street is to "balance safety and convenience for everyone using the road."[1] For the purposes of the Malta Round Lake Road Corridor Plan, the complete street vision includes the following key concepts and features:

- **Pedestrian Access, Safety & Mobility**: includes such features as sidewalks, crosswalks, bike access, landscape buffers between vehicle traffic and pedestrians, and signage. Together, these features make for a safe and pleasant experience for pedestrians.

- **Access Management**: includes orderly and well planned points of access throughout the corridor, reduced number of curb cuts, increased interconnection between adjacent land uses, and designated turning lanes. Access management, when implemented, will help to reduce the number of potential conflicts between motorist and pedestrians.

Traditional roadway designs focus on traffic flow efficiency and safety of vehicle movements.

[1] www.completestreets.org

- **Traffic Calming Techniques**: include curb “bump-outs,” the narrowing of roadways, pedestrian islands, signage, speed reductions, and textured surface crosswalks. Together, these features are conducive to safe and alert driving.
- **Corridor Beautification**: may include themed lighting, landscaping, gateway treatments, orderly and/or themed signage, and planted medians. These features help to create a sense place and improve the aesthetic quality of the corridor.
- **Green Infrastructure**: includes stormwater designs that focus on infiltration and nutrient uptake by plantings (e.g., raingardens, disconnected curbs, bioretention basins, pervious surfaces, etc.). These features help to reduce pollutants that may be conveyed by stormwater runoff. Street trees act as carbon sinks and help to preserve road surfaces by shading them from the summer sun and help block the cold winds of winter.

Study Area

The Malta Round Lake Road corridor study area is located between the Town's municipal boundary along East Line Road and the newly constructed Adirondack Northway's (I-87) Exit 11 Bypass roundabout. The 1.25 mile roadway segment is currently owned and maintained by Saratoga County.

The Round Lake Road Corridor provides access to I-87 via Exit 11 for area residents and commuters that are traveling to northern Saratoga County and Warren County and for those traveling south to Saratoga County and Albany County. While Exit 11 is located within the Town of Malta and the Village of Round Lake, the interchange serves such adjacent communities as the Towns of Ballston and Stillwater as well as the City of Mechanicville.

In addition to serving as a regional transportation corridor, the study area encompasses a mix of residential, commercial, and institutional uses (including the Chango Elementary School and Round Lake Road Fire Department). Residents and businesses move about the study area in their day-to-day lives while going for a walk or a bike ride, shopping, and conducting business.

The Malta Round Lake Road Corridor figure (next page) depicts the limits of the study area.

THE Chazen COMPANIES

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Malta Round Lake Road Corridor Plan

Study Area Map

Town of Malta
Saratoga County, New York

Drawn:	PWC
Date:	05/01/2012
Scale:	1:5,200
Project:	31103.29
Figure:	NA

Planning Process

The Town of Malt Round Lake Road Corridor planning process began in 2011. Recognizing the need to address existing and future Round Lake Road conditions, the Town appointed a committee of local residents and tasked it with drafting a concept plan that would address traffic, land use, and pedestrian access and safety.

Advisory Committee

The advisory committee consisted of six (6) residents and Town officials that represented a broad spectrum of the community. The Malta Round Lake Road Corridor advisory committee met regularly throughout the planning process. The committee gathered and examined information from many sources in order to develop the recommendations that are outlined within this plan. In addition to holding a public workshop, the Committee reached out to local businesses, the Round Lake Fire Department, Town officials, Saratoga County Public Works, Saratoga County Department of Planning, Capital District Transportation Committee, and NYSDOT representatives.

Inventory & Analysis

The first step in the planning process was to conduct an inventory and analysis of Round Lake Road Corridor's existing conditions. This included a review of goals and recommendations outlined in the Town's previous planning initiatives identified below:

- Malta's Mini-Master Plan for the Round Lake Road/Exit 11 Area (1993)
- Town of Malta Comprehensive Plan (2005)
- Malta Town-Wide Generic Environmental Impact Statement (2006)

In addition, the committee used information and data from such sources as the Malta Building & Planning Department, Saratoga County Real Property Tax Service, Public Works, and Planning Departments, and NYS

Department of Environmental Conservation (NYSDEC) and NYS Department of Transportation (NYSDOT) to examine relevant traffic patterns, land use trends, and environmental conditions.

The inventory and analysis process also included a Traffic Impact Study (TIS) of the 1.25 mile corridor. As part of the TIS, each intersection was evaluated to identify existing and potential future traffic conditions. As part of this analysis, traffic counts were conducted at select intersections in November 2009, January 2011, and October 2011 during peak morning and afternoon commuter hours. To evaluate the impact of the growth in and around the Round Lake Road corridor, traffic projections were prepared for the year 2021, which represents a ten-year build-out scenario. These future traffic volumes included a regional traffic growth rate that incorporated such projects as the redevelopment of Malta Mall, Global Foundries, and several nearby residential developments. Traffic projections were then used to evaluate potential improvements within the corridor.

Public Participation

Providing opportunities for Malta residents to take part in the development of the Malta Round Lake Road Corridor Plan was an important part of the planning process. Public outreach efforts included a stakeholders meeting with Town officials and representatives from the Saratoga County Planning and Public Works Departments, Capital District Transportation Committee (CDTC), Capital District Transportation Authority (CDTA), and the NYSDOT (see attached Stakeholders Meeting Summary). The committee also hosted a well-attended public workshop at the Round Lake Road Fire

Department, which provided an opportunity for local residents and business owners to offer their input regarding the draft concept plan (see attached Public Workshop Summary). Following the public workshop, concept plan documents were posted on the Town's website to allow for additional review and comment. Finally, the Town Board hosted an additional public meeting to present the final draft plan, allowing an additional public comment opportunity.

Malta Round Lake Road Corridor Concept Plan

Included as an attachment is the **Malta Round Lake Road Corridor Concept Plan**, which represents the future vision for the Round Lake Road corridor. It is important to note that as a concept plan it is subject to modification during subsequent design and engineering phases.

Inventory & Analysis

Planning & Land Use

Planning Initiatives

In 1993, the Town of Malta prepared the ***Mini-Master Plan for the Round Lake Road/Exit 11 Area***. The Min-Master Plan was intended to "specifically address land use planning for the Round Lake Road corridor from East Line Road to Round Lake Road." The plan identified several findings intended to guide future development of the Round Lake Road area, which included the following:

- Maintain residential character of the area;
- Discourage the development of regional retail;
- Upgrading current land uses (e.g., site design standards); and,
- Find solutions to growing traffic problems.

Based on a 1990 traffic analysis, the plan noted that the Ruhle/Raylinsky Road intersection experienced AM peak hour volumes that warranted a traffic signal. However, since only one signal warrant was met at that time, no improvements were recommended, and it was suggested that "as development continued, the intersection be monitored to determine when a signal would be recommended."[2]

[2] The Manual On Uniform Traffic Control Devices (MUTCD) identifies 11 traffic signal warrants that define minimum conditions under which signal installations may be justified. The Manual suggests that traffic control signals should not be installed unless one or more of the signal warrants are met. However, the satisfaction of a warrant or warrants is not in itself justification for a signal because every situation is unique and requires site specific evaluation.

The plan also identified several site plan improvement recommendations. Specifically, the plan noted that many of the existing business and properties did not comply with the following site development guidelines and goals outlined in the plan:

- Parking should be located to side and rear of buildings;
- Building setbacks should be increased;
- Quality green space should be located in the front;
- Berming and landscaping should be used to screen parking and break up site mass;
- Buffers should be used between adjacent land uses; and,
- Meandering sidewalks should be installed within street right of ways.

The plan noted that such standards should be incorporated into the Town's zoning and sign design provisions ordinances. Furthermore, the plan recommended that the Town implement such standards via the site plan review process during "new projects or project upgrades."

Located within Neighborhood 1 of the Town's ***2005 Comprehensive Plan's***, the Round Lake Road corridor was described as "suburban residential" in character. According to the Comprehensive Plan, Neighborhood 1 consisted of 550 single-family homes, 1,000 apartments, a senior citizen housing complex, and a mix of commercial uses including the Malta Mall, service stations, convenience shops, and restaurants. The Comprehensive Plan also noted that commercial development is limited to parcels on Round Lake Road, including the Malta Mall, Eckerd and Schultz Construction Company PDD. The Comprehensive Plan offered the following recommendations for Neighborhood 1 and the Round Lake Road Corridor:

- Maintain existing residential character;
- Concentrate well-designed (e.g., attractive lighting, landscaping, small scale signage, architecturally appropriate and appealing buildings, etc.), neighborhood in scale, commercial development and infill within hamlet commercial areas;
- Parking to the side and rear for new development of commercial businesses in the hamlet commercial area;
- Improve pedestrian access and safety and improve connections to the County's Zim Smith Trail and Chango Elementary School; and,
- Enhancements to Exit 11 Park and Ride and bus stop accommodations.

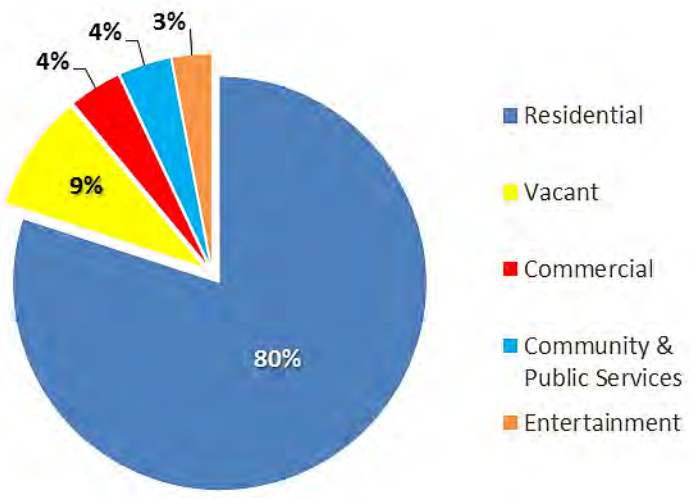
Prepared in concert with Town's Comprehensive Plan, the 2005 town-wide **Generic Environmental Impact Statement (GEIS)** identified improvements associated with growth throughout the Town. With regards to Round Lake Road, the GEIS identified the following intersections as problematic during AM and/or PM peak hours and offered improvements to address these issues:

- Round Lake Road/East Line Road: Installation of a traffic signal and construction of northbound and southbound left-turn lanes on East Line Road.
- Round Lake Road/Ruhle/Raylinski Road: Construction of eastbound and westbound left-turn lanes on Round Lake Road or a roundabout.
- Round Lake Road/I-87 Exit 11 Northbound: Widening the northbound off-ramp to accommodate left and right-turn lanes and adjust traffic signals to provide exclusive eastbound phase.
- Round Lake Road/I-87 Exit 11 Southbound: Installation of traffic signal.

Since the adoption of the GEIS, the Town made several improvements within the corridor, including reconstruction of the Exit 11 Northbound intersection to provide two lanes on all approaches and the installation of a traffic light at the East Line Road intersection.

Land Use Characteristics

Today, several commercial projects are underway within the Round Lake Road corridor. The Malta Mall is undergoing renovations to accommodate a new grocery store. A pharmacy was recently built at the corner of Raylinski and Round Lake Road and a bank and office building are currently being constructed. In addition, Neighborhood 1 has experienced significant growth in the number of single-family residences following the completion of the Town's Comprehensive Plan. According to Saratoga County Real Property Tax Service Agency data, there are approximately 720 single-family residences within the area, which represents a nearly 31 percent increase since 2005.



Although the area has experienced significant residential growth in the past, a review of Neighborhood 1's overall land use suggests that there are limited opportunities for such growth in the future. According to Geographic Information System (GIS) parcel data approximately 80 percent of land area within Neighborhood 1 is residential. The balance is a mix of commercial, community and public services, and recreation and entertainment. Vacant accounts for nine (9) percent of the land area. Finally, the presence of federally and state wetlands on vacant lands north of Carlyle Court further reduces the growth potential

of the area.

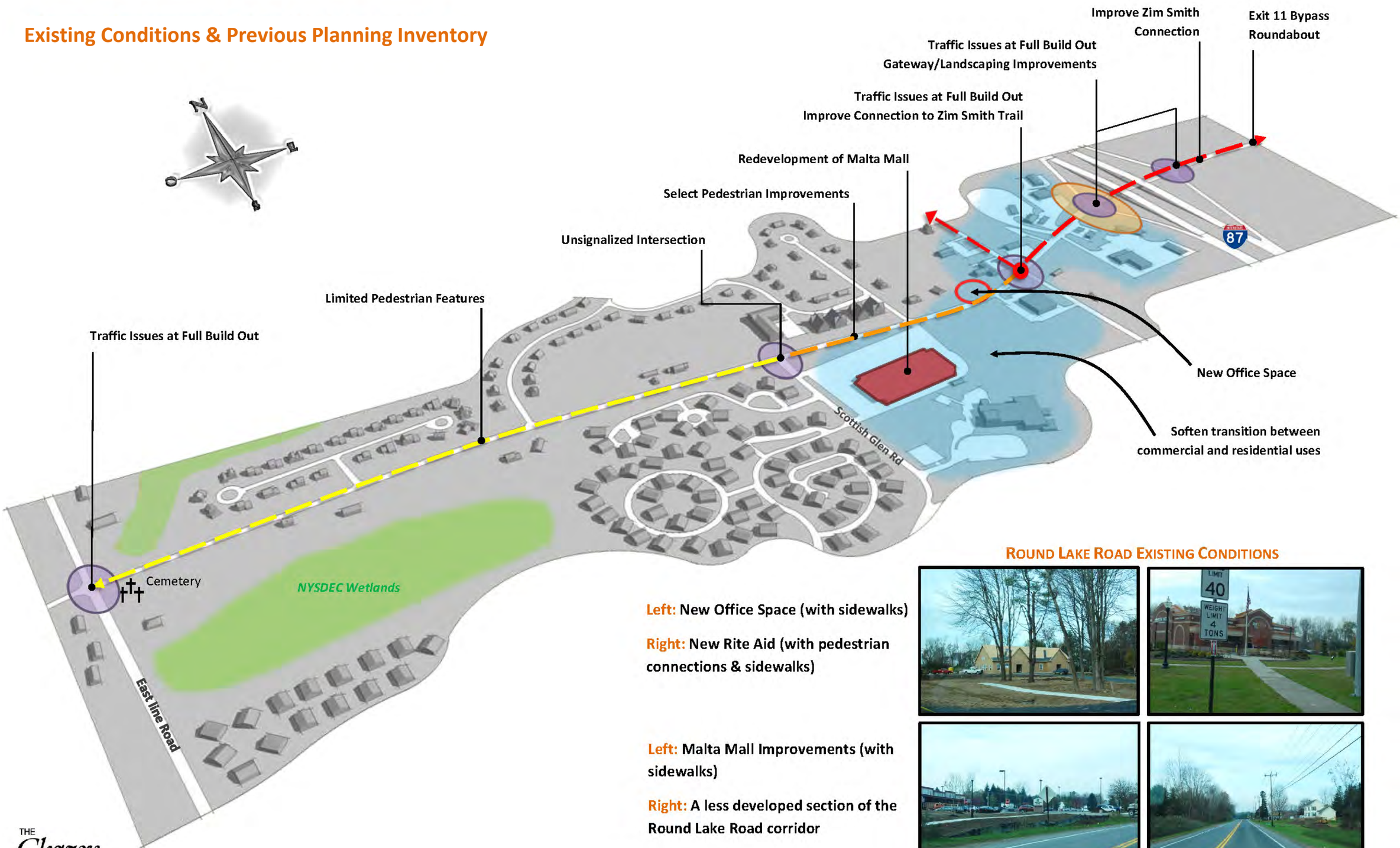
The following private development projects are currently planned or under construction within Malta or communities proximate to the study area will have an effect on the future land use characteristics and traffic volumes of the Round Lake Road corridor.

- Hannaford and Trustco Bank at the Malta Mall
- Adirondack Trust and office building near Ruhle Road
- 450-unit Planned Unit Development District (PUDD) in the Town of Ballston
- 99-unit PUDD in the Town of Ballston
- Global Foundries (two chip fabrication facilities)
- Victorian Landings south of the Round Lake Bypass
- Pan Am Southern Intermodal Railway Facility (Mechanicville)

Zoning within the Round Lake Corridor is a mix of Residential (R-1), Hamlet Commercial or Commercial Exit 11 (C-5), and Planned Development District (PDD), the latter of which includes the Country Knolls, Eckerd, and Schultz Construction Company PDDs. Commercial uses within these PDDs include retail, industrial office, and restaurant.

The Existing Conditions & Previous Planning Inventory figure (next page) highlights a number of the abovementioned initiatives and land use characteristics, including select Town Comprehensive Plan and GEIS observations and recommendations and current projects located within the corridor.

Existing Conditions & Previous Planning Inventory



Round Lake Road Existing Conditions

Left: New Office Space (with sidewalks)

Right: New Rite Aid (with pedestrian connections & sidewalks)

Left: Malta Mall Improvements (with sidewalks)

Right: A less developed section of the Round Lake Road corridor

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Traffic Analysis

The following intersections within the 1.25 mile Round Lake Corridor were evaluated to identify existing and potential future conditions:

- Round Lake Road/East Line Road
- Round Lake Road/Chango Drive
- Round Lake Road/Hearthwood Drive/Malta Mall Driveway
- Round Lake Road/Ruhle Road/Raylinski Road
- Round Lake Road/I-87 Exit 11 Southbound
- Curry Road/I-87 Exit 11 Northbound
- Curry Road/Round Lake Bypass

Intersection turning movement counts were conducted at the study area intersections in November 2009, January 2011, and October 2011 during the morning and afternoon peak commuter periods. The traffic volumes were seasonally adjusted to represent average annual conditions and balanced throughout the network.

Based on this analysis, the following observations were noted:

- The morning peak hour of adjacent street traffic occurred from 7:00 to 8:00 a.m. The afternoon peak hour of adjacent street traffic varied but generally occurred from 4:30 to 5:30 p.m.
- The two-way traffic volume on Round Lake Road near Ruhle/Raylinski Road intersection is about 1,050 vehicles during the AM peak hour and about 1,250 vehicles during the PM peak hour.

- Heavy vehicles and school buses accounted for approximately three (3) percent of two-way traffic on Round Lake Road near the Ruhle/Raylinksi Road intersection during the AM peak hour. During the PM peak hour heavy vehicles and buses accounted for approximately one (1) percent of two-way traffic.

To evaluate the impact of the growth in and around the Round Lake Road corridor, traffic projections were prepared for the year 2021 which represents a ten-year build-out scenario. These future traffic volumes include a regional traffic growth rate and specific projects in the Town of Malta, Village of Round Lake, Town of Ballston, and City of Mechanicville.

Based on information provided by the Capital District Transportation Committee (CDTC) and historical traffic data published by NYSDOT in the *2009 Traffic Data Report*, a growth rate of 0.5 percent per year was applied to the 2011 existing traffic volumes to account for background growth. Over the ten year study period this resulted in a five (5) percent increase in background traffic volumes.

When compared to the Town's GEIS traffic analysis, the Round Lake Road Corridor Plan TIS identified an increase in future projections, particularly during the AM peak hour where volumes were higher by an average of 17 percent over the Town GEIS. Traffic volumes during the PM peak hour are more comparable to the Town GEIS, with only a five (5) percent average increase in corridor volumes. These differences appear to be primarily linked to commercial growth currently occurring along Round Lake Road that was not anticipated in the Town GEIS and the location of the residential growth in the area which is generally located along Ruhle Road.

Utilizing these updated traffic projections, the committee evaluated future Level of Service (LOS) within corridor. Levels of service range from A to F with LOS A conditions considered excellent with very little delay while LOS F generally represents conditions with very long delays. Using Synchro7, Sidra Intersection, SimTraffic7 software

and referencing the *2000 Highway Capacity Manual*, the committee evaluated the following design alternatives in order to identify possible improvements to the Round Lake Road corridor:

- **Expanded Roadway Alternative:** This alternative includes the development of a two-way left-turn land on Round Lake Road from Chango Drive through to Exit 11 southbound, creating a three-lane section for a segment of the corridor. This alternative also includes select intersection improvements.

- **Roundabout Alternative:** This alternative includes roundabouts at Chango Drive and Ruhle/Raylinski Road with a narrow raised median between the two roundabouts. East of Ruhle/Raylinski Road the roadway cross-section would widen to include a two-way left-turn lane to the southbound ramps and a three-way section under I-87.

The tables below (next page) illustrate the results the AM and PM peak hour analysis. Based on this analysis, coupled with the desire to forward a complete streets vision for the corridor, the committee selected the Roundabout Alternative as the preferred option because it not only provided the best overall level of service, it also afforded the greatest degree of pedestrian and multimodal safety and access, best preserved the area's existing community character, and engendered the greatest sense of place. However, because of varying public opinions regarding the use of roundabouts, the committee recognizes the Expanded Roadway Alternative as a viable option and decided to include conceptual renderings of this alternative in attached **Malta Round Lake Road Corridor Concept Plan** (see B and C Alternate renderings).

For additional information please see the attached Malta Round Lake Road Traffic Impact Study (see attached).

AM & PM Peak Hour Level of Service Summary

Intersection	2011		2021			
	Existing Conditions		Expanded Roadway Alternative		Roundabout Alternative	
	AM	PM	AM	PM	AM	PM
Round Lake Rd/East Line Rd	B	A	B	C	B	C
Round Lake Rd/Chango Dr	C	D	C	C	B	D
Round Lake Rd/Hearthwood Dr/ Malta Mall Dwy	D	D	D	E	C	C
Round Lake Rd/Ruhle Rd/Raylinski Rd	B	B	B	B	C	B
Round Lake Rd/Exit 11 SB	C	F	A	B	B	B
Round Lake Rd/Exit 11 NB	A	B	B	E	B	E
Round Lake Rd/Bypass/Curry Rd	A	A	B	B	B	B

Corridor Plan Recommendations

As previously noted, the overall design philosophy for the Malta's Round Lake Road is centered on the idea that the corridor should accommodate all users. This includes pedestrians, bicyclists, motorists, transit riders, representing people of all ages and abilities, including children, older adults, and people with disabilities. While traditional roadway designs used a classification system based on increasing volumes and speed (i.e., residential, collector, minor, and major arterial, etc.), a more "complete street" integrates various design elements to control access and speed, thereby making for a more safe and efficient experience for all users. This integrated design approach helps to reduce vehicle miles traveled and promotes pedestrian mobility. Finally, a complete street design offers more opportunities to improve the aesthetic quality of the roadway and its environs.

The Malta Round Lake Road Corridor Plan's recommendations are illustrated in the **Malta Round Lake Road Corridor Concept Plan**, which is included as an attached figure. Key elements of the preferred Roundabout Alternative (as depicted on the Concept Plan) are identified below:

Multimodal Transportation

The preferred Roundabout Alternative calls for a two-lane corridor between Chango Drive and Ruhle Road/Raylinski Road with construction of single-lane roundabouts at these two intersections. Left-turns in this segment of the corridor would be physically restricted with the presence of a narrow, raised median and in lieu accommodated by use of the roundabouts. It is important to specifically note that with these improvements, left-turns at the existing Hearthwood Drive and Malta Mall Driveway intersection would be eliminated and that vehicles wishing to turn left at these locations would need to access the roundabouts at Ruhle/Raylinski Road and Chango Drive. However, the median would include a soft rollover curb for

emergency access.[3] The eastern portion of the corridor includes a three-lane section allowing vehicles to turn left into and out of the land uses between Ruhle/Raylinski Road and the I-87 southbound ramps. Access management with this road segment would be better managed by reducing the width and number of existing and future curb cuts to adjoin land uses. With these improvements, only the Exit 11 northbound intersection would operate at level of service E conditions as identified in the previous section.

In evaluating the use the use of single-lane roundabouts, the committee considered the following safety related benefits:

- By converting signalized intersection to a roundabout, a location can experience a 78 percent reduction in severe (injury/fatal) crashes and a 48 percent reduction in overall crashes.
- Roundabouts may reduce pedestrian collisions by 40 percent.[4]

In addition these vehicular related improvements, the Concept Plan calls for the installation of designated bike lanes throughout the corridor. Currently, Round Lake Road bicyclists either share the travel lanes with passenger vehicles or use narrow shoulders to travel the corridor. The Concept Plan also recommends improved connections to Saratoga County's nearby Zim Smith Trail via Ruhle Road, East Line Road, and

[3] Please note that the Expanded Roadway Alternative includes a three-lane road segment from Ruhle/Raylinski Road to Chango Drive (see Malta Round Lake Road Corridor Concept Plan B and C Alternate renderings). This configuration may be used in place of the raised median between the proposed roundabouts.
[4] Source: US Federal Highway Administration (www.fhwa.dot.gov)

Curry Road in the Village of Round Lake. These improvements may be achieved through installation of additional bike lanes and/or signage. It is important to note that with installation of bike lanes the Town should help foster bike safety awareness and coordinate such an initiative with Chango Elementary School.

Public transit service on Round Lake Road is provided by the Capital District Transportation Authority (CDTA) through its Northway Express and a Saratoga County Shuttle services. The transit stop is currently located within the Malta Mall. The Northway Express provides service to Albany on a daily basis while the Saratoga County Shuttle provides service through Saratoga County on Wednesdays. During the redevelopment of the Malta Mall there have been discussions about relocated this transit stop. Simultaneously, the NYSDOT has recently explored multimodal transportation opportunities throughout the I-87 corridor and identified property that it currently owns near Exit 11 that may provide ample park and ride and/or transit opportunities. As such, this location should be considered as alternative CDTA transit stop if the Malta Mall location became unavailable.

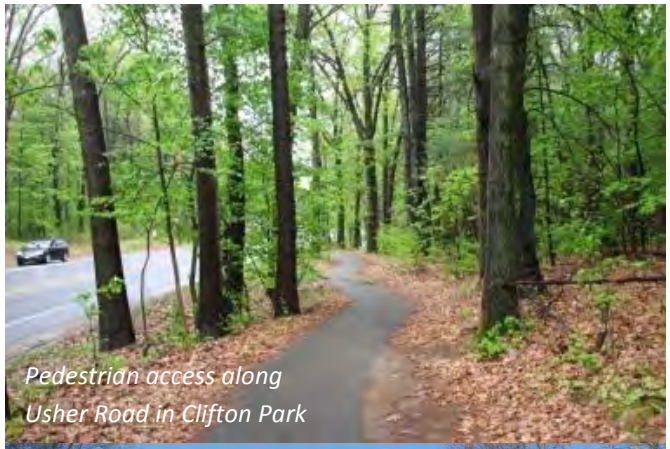
Courtesy of CDTA

Pedestrian Access & Mobility

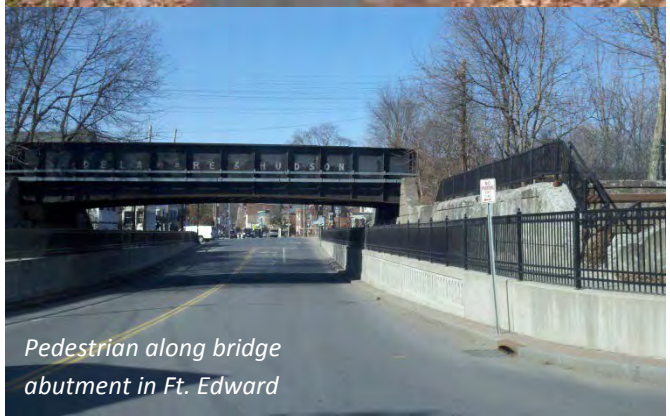
Along the Round Lake Road corridor there is a system of disconnected sidewalks. Generally in the western end of the corridor there are no sidewalks or crosswalks and the sidewalks become more connected in the

central portion of the corridor near Ruhle /Raylinksi Road then pick up again at the Round Lake Bypass at the eastern end of the corridor.

The Concept Plan calls for sidewalks, crosswalks, and pedestrian connections throughout corridor. Sidewalks should be installed on both sides of the corridor from the Exit 11 Bypass to Chango Drive. Sidewalks should be wide enough and without obstacles so that they can be used comfortably by all users. Where possible, sidewalks should have a landscaped area that separates pedestrians from the road. Sidewalks under the I-87 Bridge at Exit 11 should be elevated, include a railing, and abut the bridge. From Chango Drive to East Line Road a single "meandering" seasonal use path and/or a multi-use trail should be installed along the northern side of Round Lake Road. This concept is intended to provide an attractive and cost-effective alternative to sidewalks where there exists less of a pedestrian demand. Wherever possible, the use of alternative pavement materials (i.e., permeable pavement) should be explored. Crosswalks should be located at all intersections and curb cuts and include a pedestrian island whenever practical.



Pedestrian access along Usher Road in Clifton Park



Pedestrian along bridge abutment in Ft. Edward

In addition to physical access improvements, the Concept Plan calls for the installation of a wayfinding signage system that will help strengthen the usability and enjoyment of the Round Lake Road corridor. The

term signage encompasses an array of functionalities including: regulations, warnings, directions and distances, services and amenities, and interpretation. Key features of a wayfinding signage with regards to this plan include:

- Attractive and coherent fonts, color contrast, and symbology, including branding and marketing logos or signal art and the use of high quality materials (e.g., custom woodwork, fabricated metals, stone, high-grade polymers, etc.).
- Appropriate scales and heights that are designed around the intended user (e.g., vehicular traffic, pedestrians, etc.).
- Use of landmarks and key sites to provide orientation cues and memorable locations.
- Placement of signs at decision points to help wayfinding decisions.

Sample wayfinding signage (courtesy of VS&R)

This concept is intended to complement NYSDOT and the Manual of Uniform Traffic Control Devices (MUTCD) signage standards and may include signs for parking locations, pedestrian amenities, along the Exit 11 gateway, informational kiosks, and impotent landmarks and trail connections. Finally, concerted effort should be made to consolidated and simplify required signage in order to reduce possible confusion and visual impacts.

Corridor Beautification

Multiple amenities and features combine for an attractive streetscape

Current landscaping within the corridor, particularly within the Round Lake Road is right-of-way is haphazard. While some areas are well designed and/or maintained, other areas are devoid of such improvements. In order to improve the visual quality of the corridor, a mix of native trees, shrubs, and flowers should be planted and attractively arranged wherever possible. This includes buffer strips between the road and sidewalk and the within Exit 11 gateway. In addition, landscaping may be used to screen undesirable features within the corridor, including large parking areas, building utilities, and waste/recycling receptacles. Ultimately, such landscaping will not only improve the aesthetics of the Round Lake Road corridor, but will help foster a stronger sense of place and community.

Most of the Round Lake Road Corridor is currently lit with cobra style streetlights. However, period style lighting should be installed throughout the corridor in order to improve on the current aesthetics. Examples of desirable lighting styles are included as part of the Rite Aid site design. In areas where there is less pedestrian demand (i.e., from Chango Drive to East Line Road) taller downward directed lighting that complements existing and proposed period lighting should be installed.

Stormwater along the Round Lake Road corridor is either collected through a stormwater conveyance system or runs off into drainage swales along roadway. This approach is very traditional in nature and does not provide for the treatment of runoff. Current or best management practices call for some level of treatment through sediment and pollutant removal, which is generally achieved through green infrastructure practices. The Concept Plan calls for additional stormwater improvements, including rain gardens, bioretention basins, grass swales, infiltration basins, and pervious surfaces where appropriate (e.g., landscaped portions of the streetscape) in order to improve water quality. Additional stormwater improvements should be explored during the design phase. Such practices not only improve the health of our ecological systems, but can also help to attract multiple funding opportunities.

Alternative stormwater design helps improve water quality

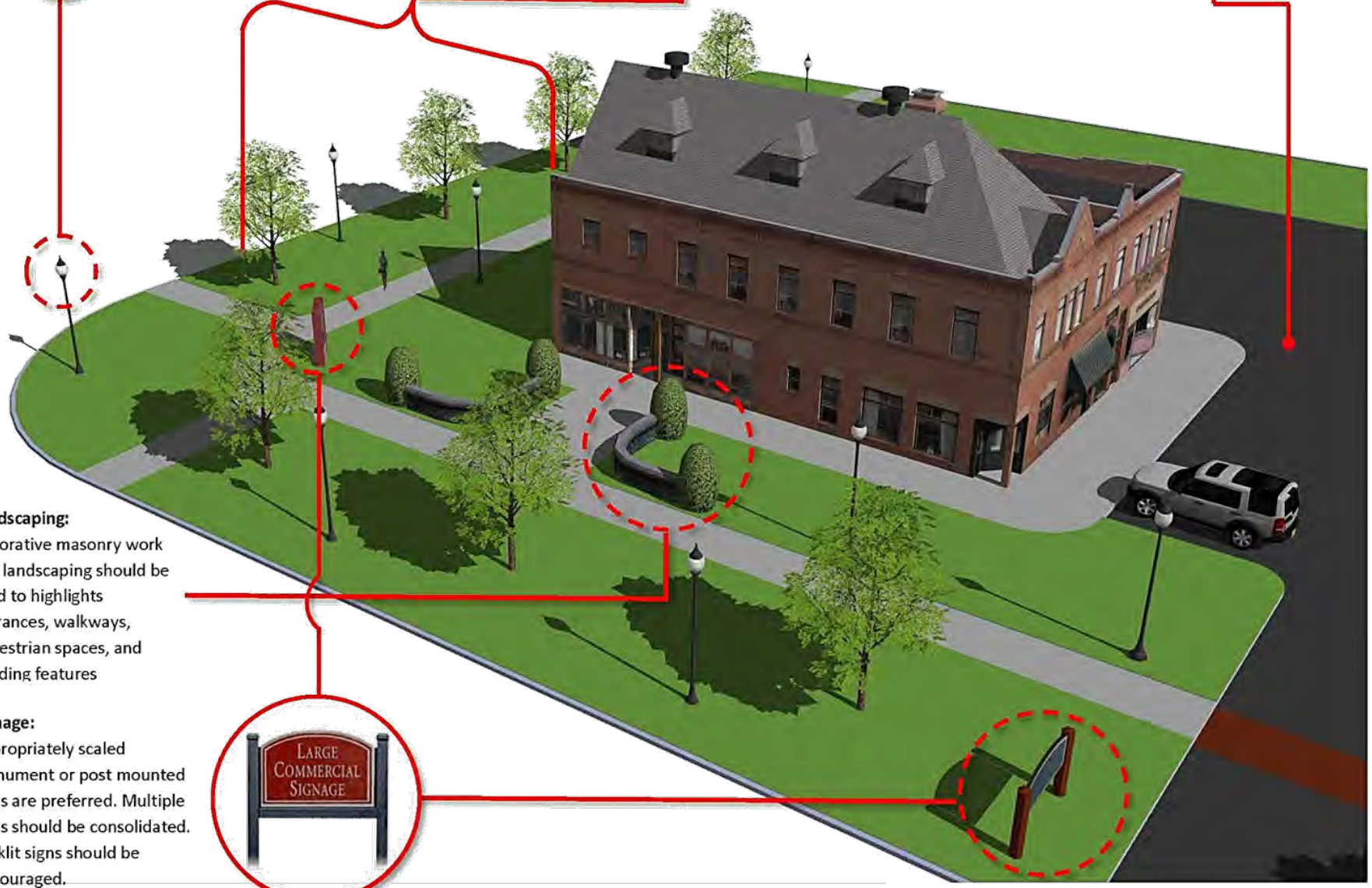
Site Design

While much of the planning process focused on traffic efficiency and complete streets improvements, previous planning initiatives (i.e., Mini-Master Plan for the Round Lake Road/Exit 11 Area and Town Comprehensive Plan) did examine and identify desirable site design concepts and standards. The committee reexamined these ideas and explored additional improvements through the use of visual aids. The results of this exercise are highlighted in the Recommended Site Design Concepts and Recommended Service Station Concepts figures (below), which depict the desired layout and site design for land uses within the Round Lake Road Corridor.

Lighting:
Period or decorative streetscape lighting is desirable. Site lighting should be downward facing and not encroach upon adjacent land uses.

Streetscape:
Public right-of-ways and building setbacks should incorporate numerous pedestrian amenities and landscape elements including sidewalks, walkways, public gathering opportunities, and native vegetation and trees. Such features soften the public roadway to the private realm and offer pleasant user experiences.

Parking:
Rear or side parking is preferred. Shared parking and access should be encouraged. An excessive number of parking spaces should be avoided.



Landscaping:
Decorative masonry work and landscaping should be used to highlights entrances, walkways, pedestrian spaces, and building features

Signage:
Appropriately scaled monument or post mounted signs are preferred. Multiple signs should be consolidated. Backlit signs should be discouraged.

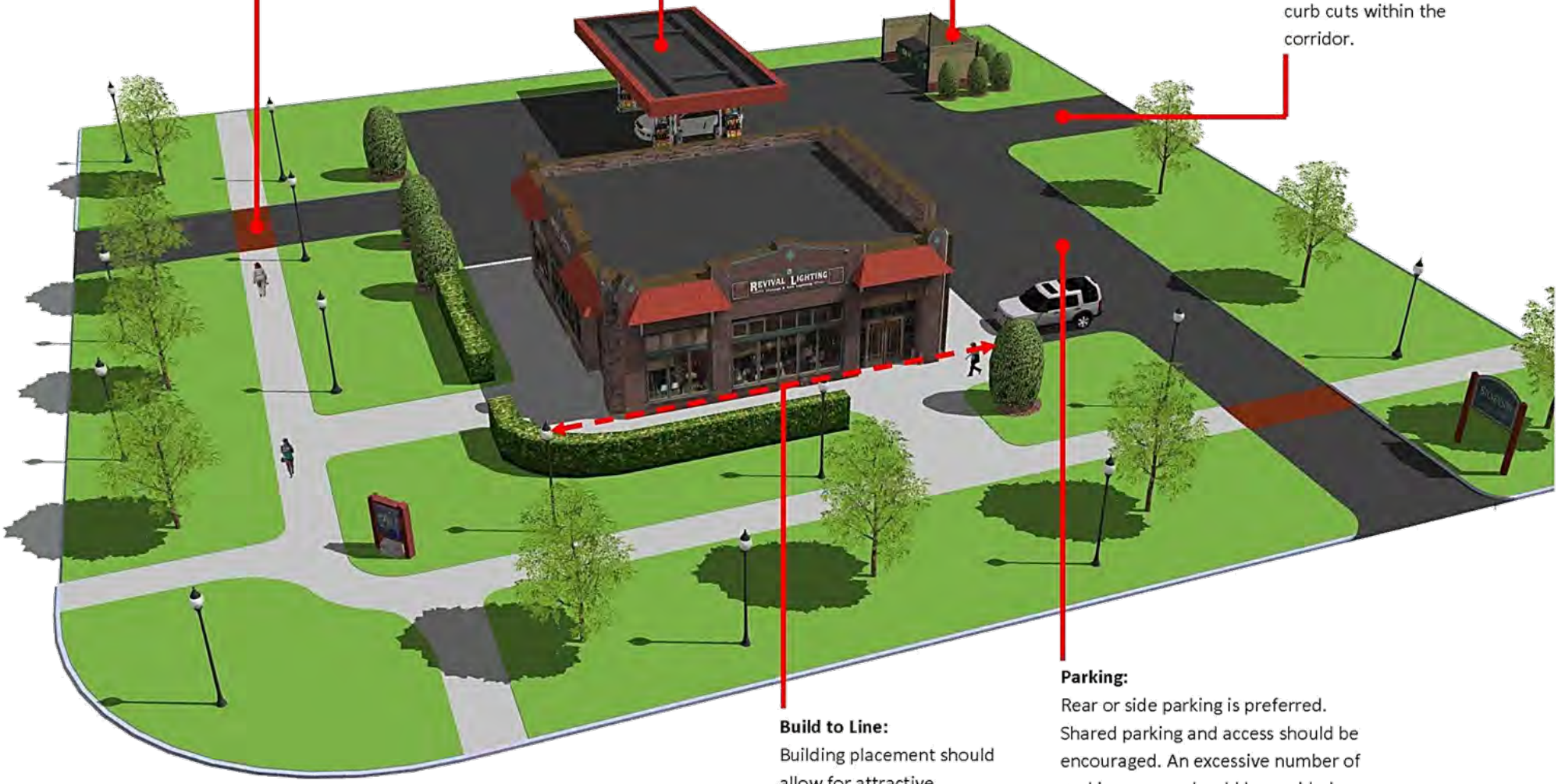
Recommended Site Design Concepts

Pedestrian Safety:
Well planned sidewalks, crosswalks and pedestrian connections should be incorporated throughout the site design.

Fuel Pump Locations:
Service station pumps should be placed in rear or side yard locations in order to minimize visual impacts.

Screening:
Unsightly utilities and land use features should be screened with attractive fencing and/or landscaping.

Access Management:
Access to adjoining land uses should be considered wherever possible in order to reduce the number of curb cuts within the corridor.



Build to Line:
Building placement should allow for attractive landscaping and encourage pedestrian mobility.

Parking:
Rear or side parking is preferred. Shared parking and access should be encouraged. An excessive number of parking spaces should be avoided.

Recommended Service Station Concepts

Funding & Cost Estimate

There are several potential funding sources that may be used to implement the Malta Round Lake Road Corridor Plan. However, no one source will likely fund the project in its entirety. As such, it is important to explore and leverage all funding opportunities. Given the variety of funding sources and strategies, it is important to continually examine priorities, possible alternatives, and implementation strategies to champion the Malta Round Lake Road Corridor Plan.

Funding Strategy

The overall 2012 project cost estimate for the Malta Round Lake Road Corridor (Preferred Roundabout Alternative) is approximately $4.75 million. A copy of the preliminary cost estimate is included as an Attachment.

Costs are summarized as follows:

Section	Cost
Bypass to Exit 11 Southbound Ramp Improvements	$500,000
Exit 11 Southbound ramps to the Ruhle/Raylinski Road Improvements	$2,000,000
Ruhle/Raylinski Road to Chango Drive Improvements	$2,000,000
Chango Drive to East Line Road Improvements	$250,000
Total	**4,750,000***

*Please note that these cost estimates are conceptual in nature. Additional cost associated with desired lighting type and placement, landscaping, and wayfinding signage may result in increased costs.

It is noted that some of the improvements will impact the right-of-way, particularly within the section of Round Lake Road between Ruhle/Raylinksi Road and Chango Drive intersections. As such, the Town should preserve the property needed for the identified improvements.

While the cost estimates are divided by roadway segment, there are additional funding strategies that the Town may consider. For example, the Town could divide the project into the following phases: 1) roadway improvements; 2) sidewalks, pedestrian connections, and landscaping; and, 3) lighting and utilities.

- **Roadway improvements** could include reconfiguration of select intersections and/or roadway segment (e.g., roundabouts, installation of turning lanes or medians, etc.).
- **Sidewalks, pedestrian connections, and landscaping** could be implemented as part of an overall transportation enhancement or corridor beautification initiative or divided into several site-specific improvement projects.
- **Lighting and utility improvements** would include the installation of utilities in preparation for new lighting or signals, modifications to existing stormwater facilities, and perhaps the undergrounding overhead facilities (not included in cost estimates). Utility work could be completed as a component of a municipal project or funded as a component of an environmental improvement project.

While there are many benefits to implementing the Round Lake Road Corridor Plan in phases, it is important to note that there is a slight increase in costs when breaking the project into phases, which is attributable to redundant mobilization and/or restoration activities.

Although no estimates were prepared for the Expanded Roadway Alternative, it is often assumed that such a configuration is less expensive because of the differences in cost to construct signalized intersections verses

roundabouts. However, it is important to note that the Expanded Roadway Alternative would necessitate an additional three-lane road segment (see Malta Round Lake Road Corridor Concept Plan B and C alternate renderings), which would increase the costs because it requires the construction of a wider roadway. Finally, the ongoing operational and maintenance cost of signalized intersections further reduces the overall return on investment when compared to roundabouts.

Potential Funding Sources

The Town should investigate the feasibility of funding sources to assist in implementation of the improvements outlined in the study. These could include:

- **Transportation Enhancement Program (TEP)** funds which require a minimum total project cost of $200,000 and maximum federal participation of $2.5 million. The next round of solicitations could be as early as spring 2012, pending Congressional action to extend or replace the **Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)**. (https://www.dot.ny.gov/programs/tep)
- The **National Grid Giving Program** which is intended to support programs that focus on energy and environment, education and skills, and community investment or the National Grid economic development grant. (http://www.nationalgridus.com/masselectric/about_us/giving.asp)
- The public benefit as part of a **Planned Development District (PDD)**. The requirements of PDDs include substantially benefiting the Town in a manner not otherwise available. These requirements provide an opportunity for establishing flexibility in identifying the Town benefit.
- Utilize transportation funds obtained through the **Town Generic Environmental Impact Statement (GEIS)** mitigation fees to implement high priority improvements in the Round Lake Road Corridor.

- For long-term funding apply for locally administered federal aid highway funds through the **Capital District Transportation Committee's (CDTC) Transportation Improvement Project (TIP)** process. This is a competitive selection process and is dependent on fund levels and categories authorized and appropriated by the US Congress (http://www.cdtcmpo.org/).
- The Town of Malta and Village of Round Lake should explore the potential use of **SAFETEA-LU High Priority Program Funds** appropriated under DEMO NY347 in Public Law 109-59.
- **The NYS Environmental Facility Corporation (EFC) Green Innovation Grant Program** is a highly competitive grant program that uses funding from the US Environmental Protect Agency and is administered under the Clean Water State Revolving Fund. The Green Innovation Grant Program 2010 (GIGP 2010) will provide seed money for projects which spur green innovation, build green capacity, and facilitate technology transfer throughout the State. Eligible projects will improve water quality and demonstrate sustainable wastewater infrastructure in communities across the State. The design grant maximum is $50,000 per project, and a grant match of 50 percent is required. The construction grant maximum is $750,000 per project, and a grant match of 10 percent is required **(**http://www.nysefc.org/home/index.asp?page=1046).
- **The NYS Department of Environmental Conservation Urban and Community Forestry Grants Funding** seeks to encourage and assist municipalities as they develop and implement sustainable local urban forestry programs. Grants are designed to encourage communities to actively enhance tree cover along their streets and in their parks, to properly care for and maintain their community trees, to develop tree inventories and management plans, and to inform their residents of the value and benefits of urban trees.

Attachments:

Malta Round Lake Round Traffic Impact Study

Stakeholder Meeting & Public Workshop Summaries

Malta Round Lake Road Corridor Concept Plan

Traffic Impact Study

Round Lake Road Corridor

Town of Malta, New York

CME Project No. 111-129

Prepared For:

The Town of Malta
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CHAPTER I
INTRODUCTION

This report summarizes the results of a Traffic Study completed for impacts associated with growth in and around the Round Lake Road Corridor in the Town of Malta and Village of Round Lake. This study was funded by the Town of Malta and has been overseen by an Advisory Committee consisting of representation from residents and Town staff. The study includes Round Lake Road and Curry Road from the intersection of East Line Road through the roundabout controlled intersection with the Round Lake Bypass. The project location is shown on Figure 1.1.

A. Study Purpose and Study Area

The Round Lake Road Corridor provides access to I-87 Exit 11 for area residents to travel north to northern Saratoga County and Warren County and to travel south to southern Saratoga County and Albany County. I-87 Exit 11 is located within the Town of Malta and the Village of Round Lake but the interchange also serves adjacent communities like the Towns of Ballston and Stillwater as well as the City of Mechanicville.

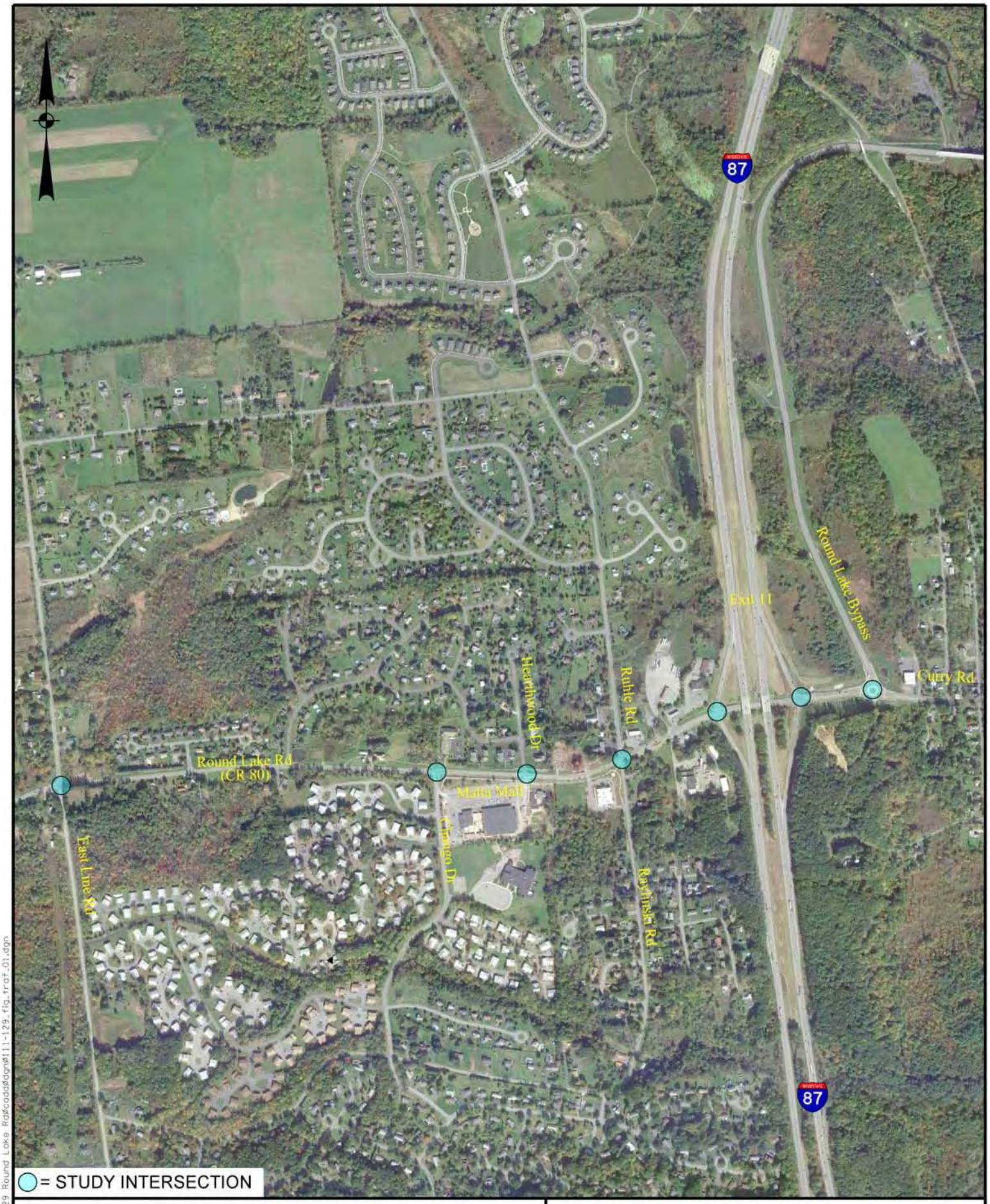
In 2005, the Town of Malta completed and adopted a town wide Generic Environmental Impact Statement (Town GEIS) identifying improvements associated with growth throughout the Town. Since that time, trips associated with approved developments within the Round Lake Road Corridor neighborhood and planned developments in neighboring communities (especially the Town of Ballston) has exceeded projections included in the Town GEIS.

In addition, current best practice within the planning and transportation communities recommend designing and constructing facilities that plan for all modes of transportation and consider sustainability and quality of life concerns like creating complete streets. This transportation study will compare the growth and improvements identified in the Town GEIS with additional growth and any potential improvements experienced since completion of the Town GEIS.

The study area includes the following intersections:

- Round Lake Road/East Line Road
- Round Lake Road/Chango Drive
- Round Lake Road/Hearthwood Drive/Malta Mall Driveway
- Round Lake Road/Ruhle Road/Raylinski Road
- Round Lake Road/I-87 Exit 11 SB
- Curry Road/I-87 Exit 11 NB
- Curry Road/Round Lake Bypass

These intersections were evaluated to identify existing and potential future conditions with various geometric improvements.



PROJECT LOCATION

ROUND LAKE RD CORRIDOR
TOWN OF MALTA AND VILLAGE OF ROUND LAKE,
NEW YORK

Creighton Manning

PROJECT: 111-129	DATE: 2/2012	FIGURE: 1.1

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CHAPTER II

EXISTING CONDITIONS

A. Roadways Serving the Site

- Round Lake Road – Round Lake Road is a county road (CR 80) providing east-west travel in Saratoga County from Lake Road in the Town of Ballston to Curry Road at the Village of Round Lake village line. The roadway consists of two travel lanes and paved shoulders of varying widths. Segments of sidewalk are provided on both sides of the roadway. The posted speed limit on Round Lake Road is 45-mph near East Line Road and 40-mph on the rest of the road.

- Curry Road – Curry Road (NYS Route 911U) provides east-west travel in the Village of Round Lake from the west village line to George Avenue. The roadway consists of two travel lanes in each direction with paved shoulders and sidewalks on all approaches to the Round Lake Bypass. The posted speed limit on Curry Road is 40-mph at I-87 Exit 11 Northbound and 20-mph east of the Round Lake Bypass.

B. Study Area Intersections

- Round Lake Road/East Line Road – This is a four-leg intersection located at the west end of the study corridor and operating under traffic signal control. All approaches to the intersection consist of a single lane for shared travel movements. There are no sidewalks or pedestrian accommodations at the intersection.

- Round Lake Road/Chango Drive – This is a three-leg intersection operating under stop sign control on the northbound Chango Drive approach to Round Lake Road. All approaches to the intersection consist of a single lane for shared travel movements. Sidewalks are provided in the southeast quadrant of the intersection with the current construction at the Malta Mall. There are no crosswalks at the intersection.

- Round Lake Road/Hearthwood Drive/Malta Mall Driveway – This is a four-leg intersection operating under stop sign control on the northbound Malta Mall Driveway and southbound Hearthwood Drive approaches to Round Lake Road. All approaches to the intersection consist of a single lane for shared travel movements. Sidewalks are provided along the north side of Round Lake Road and on the south side on Round Lake Road with reconstruction of the Malta Mall. There are no crosswalks at the intersection.

- Round Lake Road/Ruhle Road/Raylinski Road – This is a four-leg intersection operating under traffic signal control. All approaches to the intersection

consist of a single lane for shared travel movements. Sidewalks are provided in the southwest quadrant of the intersection. Sidewalks will be constructed in the northwest quadrant as part of the Adirondack Trust project. There are no crosswalks at the intersection.

- Round Lake Road/I-87 Exit 11 SB – This is a four-leg intersection operating under stop sign control on the southbound I-87 Exit 11 Southbound off-ramp approach to Round Lake Road. The eastbound approach provides a through lane and a right-turn lane, the westbound approach provides a left-turn lane and a through lane, and the southbound approach provides a single lane with a wide flare that allows left-turning vehicle to queue next to the right-turning vehicles. The fourth leg of the intersection is the I-87 Exit 11 Southbound on-ramp and provides a single lane away from Round Lake Road. There are no sidewalks or crosswalks at the intersection.

- Curry Road/I-87 Exit 11 NB – This is a four-leg intersection operating under traffic signal control. The eastbound approach provides a left-turn lane and a through lane, the westbound approach provides a through lane and a right-turn lane, and the northbound approach provides individual left and right-turn lanes. The fourth leg of the intersection is the I-87 Exit 11 Northbound on-ramp and provides a single lane away from Curry Road. There are no sidewalks or crosswalks at the intersection.

- Curry Road/Round Lake Bypass – This is a three-leg intersection operating under roundabout control with single lane approaches. Sidewalks are provided surrounding the roundabout with crosswalks on all intersection approaches.

C. Existing Conditions

Intersection turning movement counts were conducted at the study area intersections in November 2009, January 2011, and October 2011 during the morning and afternoon peak commuter periods. The traffic volumes were seasonally adjusted to represent average annual conditions and balanced throughout the network. The 2011 Existing Traffic Volumes are illustrated on Figures 2.1 and 2.2 and form the basis for all traffic forecasts.

The following observations are evident based on the existing traffic volume data:

- The morning peak hour of adjacent street traffic occurred from 7:00 to 8:00 a.m. The afternoon peak hour of adjacent street traffic varied but generally occurred from 4:30 to 5:30 p.m.

- The two-way traffic volume on Round Lake Road near Ruhle Road/Raylinski Road is about 1,050 vehicles during the AM peak hour and about 1,250 vehicles during the PM peak hour.

- Heavy vehicles and school buses accounted for approximately 3% of two-way traffic on Round Lake Road near Ruhle Road/Raylinksi Road during the AM peak hour. During the PM peak hour heavy vehicles and buses accounted for approximately 1% of two-way traffic.

D. Pedestrian/Bicycle Accommodations and Environment

Along the Round Lake Road/Curry Road corridor, there is a system of disconnected sidewalks. Generally in the western end of the corridor there are no sidewalks or crosswalks and the sidewalks become more connected in the central portion of the corridor near Ruhle Road/Raylinksi Road then pick up again at the Round Lake Bypass at the eastern end of the corridor.

On Round Lake Road bicyclists either share the travel lanes with passenger vehicles or use narrow shoulders to travel the corridor. There are connections to the Zim Smith Trail on Ruhle Road about 1 ½ miles north of Round Lake Road, on East Line Road about 2 ½ miles north of Round Lake Road, and 200 yards east of the Bypass.

E. Transit

Public transit service on Round Lake Road is provided by the Capital District Transportation Authority (CDTA) through the Northway Express and a Saratoga County Shuttle. The transit stop is located within the Malta Mall. The Northway Express provides service to Albany on a daily basis while the Saratoga County Shuttle provides service through Saratoga County on Wednesdays.

2011 EXISTING AM PEAK HOUR
TRAFFIC VOLUMES

ROUND LAKE RD CORRIDOR
TOWN OF MALTA AND VILLAGE OF ROUND LAKE,
NEW YORK

Creighton Manning

PROJECT: 111-129	DATE: 11/2011	FIGURE: 2.1

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2011 EXISTING PM PEAK HOUR
TRAFFIC VOLUMES

ROUND LAKE RD CORRIDOR
TOWN OF MALTA AND VILLAGE OF ROUND LAKE,
NEW YORK

Creighton Manning

PROJECT: 111-129	DATE: 11/2011	FIGURE: 2.2

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CHAPTER III
TRAFFIC FORECASTS

To evaluate the impact of the growth in and around the Round Lake Road corridor, traffic projections were prepared for the year 2021 which represents a ten-year build-out scenario. These future traffic volumes include a regional traffic growth rate and specific projects in the Town of Malta, Village of Round Lake, Town of Ballston, and City of Mechanicville.

A. Future Traffic Volumes

Future traffic volumes consist of normal growth plus future traffic from specific development projects. Based on information provided by the Capital District Transportation Committee and historical traffic data published by NYSDOT in the *2009 Traffic Data Report*, a growth rate of 0.5% per year was applied to the 2011 existing traffic volumes to account for background growth. Over the ten year study period this results in a 5% increase in background traffic volumes.

Several approved developments are currently planned or under construction within and around the corridor that will effect on future traffic volumes in the study area. The following major private development projects were considered in developing the future traffic volume estimate:

- Hannaford and Trustco Bank at the Malta Mall
- Adirondack Trust and office building near Ruhle Road
- 450-unit PUDD in the Town of Ballston
- 99-unit PUDD in the Town of Ballston
- Global Foundries (two chip fabrication facilities)
- Victorian Landings south of the Round Lake Bypass
- Mechanicville Intermodal and Automotive Handling Facility

These developments are all expected to influence traffic movements during the design life of any recommended transportation improvements. The 2021 Future Traffic Volumes include the background growth rate and trips associated with the projects identified above. The anticipated future traffic volumes are shown on Figures 3.1 and 3.2.

B. Future Traffic Volume Comparison

Table 3.1 compares the traffic volumes contained in the Town GEIS with the 2021 Future Traffic Volumes shown on Figures 3.1 and 3.2. The table compares only those intersections that were evaluated in the Town GEIS (East Line Road, Ruhle Road/Raylinski Road, I-87 Exit 11 SB, and I-87 Exit 11 NB) for both the AM and PM peak hours.

Table 3.1 – Corridor Growth Comparison

Intersection	AM Peak Hour			PM Peak Hour		
	Town GEIS	Round Lake Rd Corridor	Percent Change	Town GEIS	Round Lake Rd Corridor	Percent Change
East Line Rd	1,265	1,370	8%	1,635	1,520	-8%
Ruhle Rd/ Raylinski Rd	1,555	1,900	18%	2,080	2,315	10%
Exit 11 SB	1,550	1,970	21%	2,250	2,430	7%
Exit 11 NB	1,115	1,335	16%	2,015	2,125	5%
Total	**5,485**	**6,575**	**17%**	**7,980**	**8,390**	**5%**

The traffic volume comparison shows that the primary difference between the Town GEIS and the projections in the current study occur during the AM peak hour in which intersection volumes increase by and average of 17% over the Town GEIS. Traffic volumes during the PM peak hour are more comparable to the Town GEIS with only a 5% average increase in corridor volumes. The difference between the Town GEIS and the projections in this study, appear to be primarily linked to commercial growth currently occurring along Round Lake Road that was not anticipated in the Town GEIS and the location of the residential growth in the area which is generally located along Ruhle Road.

2021 FUTURE AM PEAK HOUR
TRAFFIC VOLUMES

ROUND LAKE RD CORRIDOR
TOWN OF MALTA AND VILLAGE OF ROUND LAKE,
NEW YORK

Creighton Manning

PROJECT: 111-129	DATE: 11/2011	FIGURE: 3.1

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2021 FUTURE PM PEAK HOUR
TRAFFIC VOLUMES

ROUND LAKE RD CORRIDOR
TOWN OF MALTA AND VILLAGE OF ROUND LAKE,
NEW YORK

Creighton Manning

PROJECT: 111-129	DATE: 11/2011	FIGURE: 3.2

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CHAPTER IV
ANALYSIS

A. Capacity/Level of Service Analysis

Intersection Level of Service (LOS) and capacity analysis relate traffic volumes to the physical characteristics of an intersection. Intersection evaluations were made using Synchro7 software and Sidra Intersection software (version 5.0) which automates the procedures contained in the *2000 Highway Capacity Manual*. Evaluations were also completed using SimTraffic7 simulation software. Levels of service range from A to F with level of service A conditions considered excellent with very little delay while level of service F generally represents conditions with very long delays.

Tables 4.1 and 4.2 compare two different corridor alternatives to the Null condition which includes improvements associated with known developments in the corridor and the Town GEIS condition which includes improvements identified in the GEIS. The two new alternatives are:

- Two-Way Left-Turn Lane (TWLTL) Alternative – The TWLTL alternative includes evaluation of a two-way left-turn lane on Round Lake Road from Chango Drive through to Exit 11 SB creating a three-lane section for a segment of the corridor.

- Roundabout Alternative – The roundabout alternative includes evaluation of roundabouts at Chango Drive and Ruhle Road/Raylinski Road with a narrow raised median between the two roundabouts. East of Ruhle Road/Raylinksi Road the roadway cross-section widens to include a two-way left-turn lane to the southbound ramps and a 3-lane section under I-87.

The relative impact of the improvement alternatives can be determined by comparing the levels of service during the 2021 design year for the Null, Town GEIS, TWLTL, and Roundabout alternatives. The levels of service reported in the table represent the overall levels of service for signal controlled and roundabout controlled intersections. The levels of service reported for stop controlled intersections are the controlled approaches with the lowest level of service. Appendix A contains levels of service for each intersection and lane group.

Table 4.1 – AM Peak Hour Level of Service Summary

Intersection	Control	2011 Existing	2021			
			Null	GEIS	TWLTL	Round-about
Round Lake Rd/East Line Rd	S	B (10.5)	B (12.8)	B (11.3)	B (14.1)	B (13.1)
Round Lake Rd/Chango Dr	TW	C (16.8)	D (25.9)	D (25.9)	C (23.2)	---
	R	---	---	---	---	B (10.1)
Round Lake Rd/Hearthwood Dr/ Malta Mall Dwy	TW	D (32.7)	**F (217)**	**F (214)**	D (33.7)	C (20.9)
Round Lake Rd/Ruhle Rd/Raylinski Rd	S	B (12.2)	C (21.2)	C (20.9)	B (17.9)	---
	RA	---	---	---	---	C (30.9)
Round Lake Rd/Exit 11 SB	TW	C (20.3)	**F (51.5)**	---	---	---
	S	---	---	A (9.9)	A (8.9)	B (13.0)
Round Lake Rd/Exit 11 NB	S	A (8.0)	B (10.6)	B (12.8)	B (11.7)	B (10.1)
Round Lake Rd/Bypass/Curry Rd	RA	A (9.2)	B (11.1)	B (11.1)	B (11.1)	B (11.1)

S, AW, TW, R = Signalized, All-Way Stop, Two-Way Stop, or Roundabout controlled intersection
X (Y.Y) = Level of service (Average delay in seconds per vehicle)
--- = Not Applicable

Table 4.2 – PM Peak Hour Level of Service Summary

Intersection	Control	2011 Existing	2021			
			Null	GEIS	TWLTL	Round-about
Round Lake Rd/East Line Rd	S	A (9.5)	B (17.4)	C (20.7)	C (22.5)	C (29.7)
Round Lake Rd/Chango Dr	TW	D (27.1)	**F (63.2)**	**F (63.2)**	C (20.5)	
	RA					D (35.6)
Round Lake Rd/Hearthwood Dr/ Malta Mall Dwy	TW	D (33.5)	**F (***)**	**F (***)**	**E (38.6)**	C (18.9)
Round Lake Rd/Ruhle Rd/Raylinski Rd	S	B (10.2)	D (53.8)	B (15.6)	B (16.2)	
	RA					B (19.7)
Round Lake Rd/Exit 11 SB	TW	**F (58.1)**	**F (137)**			
	S			A (9.3)	B (13.5)	B (15.8)
Round Lake Rd/Exit 11 NB	S	B (19.4)	**F (93.3)**	**E (60.4)**	**E (63.2)**	**E (61.0)**
Round Lake Rd/Bypass/Curry Rd	RA	A (9.2)	B (10.5)	B (10.5)	B (10.5)	B (10.5)

S, AW, TW, R = Signalized, All-Way Stop, Two-Way Stop, or Roundabout controlled intersection
X (Y.Y) = Level of service (Average delay in seconds per vehicle)
--- = Not Applicable
*** = Approach delays greater than 250 seconds

It is noted that the Exit 11 NB intersection was recently reconstructed to provide two lanes on all approaches. The analysis shows that this intersection will experience level of service E/F conditions during the PM peak hour under all scenarios which indicates a need for additional capacity improvements. However, further expansion of the intersection is limited by the bridge structure carrying I-87 over Round Lake Road at

I-87. The bridge is currently in non-deficient condition and there are no plans for replacement or rehabilitation over the next ten years. It is expected that additional capacity and multi-modal improvements in the corridor (as identified in the remainder of the report) will help to offset delays experienced at this intersection.

The Null condition includes construction of two-lane approaches on the northbound Chango Drive and Malta Mall Driveway approaches to Round Lake Road as part of the Malta Mall project. The null condition also includes the addition of a fourth leg to the Round Lake Bypass roundabout as part of the Victorian Landings project. With these improvements, the study area intersections will experience level of service D/F conditions with the exception of the East Line Road and Round Lake Bypass intersections.

In addition to the improvements identified in the Null condition, the GEIS condition includes construction of northbound and southbound left-turn lanes at East Line Road, construction of eastbound and westbound left-turn lanes at Ruhle Road/ Raylinski Road, and installation of a traffic signal at Exit 11 SB. With these improvements the Chango Drive, Malta Mall Driveway/Hearthwood Drive, and Exit 11 NB intersections will experience level of service E/F conditions.

As previously discussed, the TWLTL alternative includes construction of a two-way left-turn lane from Chango Drive to the Exit 11 southbound ramps. With construction of a center two-way left-turn lane, vehicles waiting to turn left into and out of land use parcels along Round Lake Road could wait within the center turn lane and not block other traffic. This type of improvement is beneficial to passenger vehicles, but it creates a wider corridor which makes crossing intersections more time consuming and intimidating for pedestrians due to the wider road. The three-lane section also limits the amount of roadway width available for bicyclists. The analysis shows that with construction of a TWLTL the Malta Mall Driveway/Hearthwood Drive and Exit 11 NB intersections will experience level of service E conditions. It is noted that although the Hearthwood Drive approach to Round Lake Road will experience level of service E conditions, the change represents a delay reduction of over 200 seconds resulting in average delays of less than 40 seconds.

The final alternative summarized in Tables 4.1 and 4.2 maintains a two-lane corridor between Chango Drive and Ruhle Road/Raylinski Road with construction of roundabouts at these two intersections. Left-turns in this segment of the corridor would be physically restricted with the presence of a narrow, raised median and in lieu accommodated by us of the roundabouts. It is important to specifically note that with these improvements, left-turns at the existing Hearthwood Drive/Malta Mall Driveway intersection would be eliminated and that vehicles wishing to turn left at these locations would need to access the roundabouts at Ruhle Road/Raylinski Road and Chango Drive. The eastern portion of the corridor includes a three-lane section allowing vehicles to turn left into and out of the land uses between Ruhle Road/Raylinski Road and the I-87 southbound ramps. With these improvements, only the Exit 11 NB intersection would operate at level of service E conditions, which was discussed previously.

B. Alternatives Comparison

Review of available tax parcel information shows that the approximate public right-of-way for the corridor is 46 feet from East Line Road through the Ruhle Road/Raylinski Road intersection. The right-of-way widens out through the interchange and the Round Lake Bypass but is restricted by the width of the bridge structures carrying I-87 over Round Lake Road at Exit 11.

Typically, all public facilities are contained within the public right-of-way. However, recently constructed and approved developments in the corridor have included sidewalks constructed outside of the public right-of-way. This provides a unique opportunity to connect the existing sidewalk segments outside of the right-of-way while potentially allowing greater flexibility in determining the appropriate roadway cross-section within the right-of-way. Round Lake Road currently has open drainage which requires greater space but is less costly than a closed drainage system and easier to maintain.

As the two alternatives are compared, the right-of-way, multi-modal accommodations and connectivity, and present and future drainage needs must be considered. Construction of a TWLTL or a series of roundabouts will generally result in

similar levels of service at the study area intersections. However, the two alternatives will create a distinctly different character. Conversations with the Advisory Committee highlighted the importance of character within the study area. The Committee identified the Roundabout Corridor as the preferred alternative primarily due to the opportunity to improve the character and access to the neighborhood commercial uses on Round Lake Road. The inclusion of sidewalks, bicycle lanes, and the roundabouts create a traffic calming effect on the corridor while emphasizing the importance of and ability to utilize multiple modes of travel for this neighborhood in Malta.

C. Cost Estimates and Funding

A number of study area improvements were identified to mitigate impacts associated with growth in and around the Round Lake Road Corridor study area. Conceptual planning level cost estimates were prepared for the recommended mitigations measures. The estimates are shown in Table 5.1. Cost estimates represent order-of-magnitude costs using current bid prices (2011), and require additional review before programming specific improvements. For future planning, programming, and funding uses, the cost estimate calculations are included in Appendix B.

Table 4.3 – Mitigation Measures and Cost Estimates

Improvement	Cost
Close open drainage and construct sidewalks on both sides of Round Lake Rd from the bypass to Exit 11 Southbound ramps	$500,000
Widen Round Lake Rd to create a 3-lane section from Exit 11 SB ramps to the Ruhle Rd/Raylinski Rd intersection and construct a single-lane roundabout at Ruhle Rd/Raylinksi Rd intersection. Close the existing open drainage and construct sidewalks along both sides of Round Lake Road and at the roundabout.	$2,000,000
Construct a roundabout at the Chango Dr/Round Lake Rd intersection with sidewalks. Construct a narrow raised median from Chango Dr to Ruhle Rd/Raylinski Rd. Close the existing open drainage.	$2,000,000
Construct a sidewalk on the north side of Round Lake Rd from Chango Drive to East Line Rd.	$250,000
Total	**4,750,000**

The recommended improvements for the corridor total $4,750,000 at current prices. It is noted that some of the improvements will impact right-of-way; especially in the southeast quadrant of the Round Lake Road/Ruhle Road/Raylinksi Road

intersection and at the Round Lake Road/Chango Drive intersection. The Town should preserve the property needed for the identified improvements.

The Town should also investigate the feasibility of other funding sources to assist in implementation of the improvements outlined in the study. These could include:

- Transportation Enhancement Program (TEP) funds which require a minimum total project cost of $200,000 and maximum federal participation of $2.5 million. The next round of solicitations could be as early as spring 2012, pending Congressional action to extend or replace the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). (https://www.dot.ny.gov/programs/tep)
- The National Grid Giving Program which is intended to support programs that focus on energy and environment, education and skills, and community investment or the National Grid economic development grant. (http://www.nationalgridus.com/masselectric/about_us/giving.asp)
- The public benefit as part of a Planned Development District (PDD). The requirements of PDDs include substantially benefiting the Town in a manner not otherwise available. These requirements provide an opportunity for establishing flexibility in identifying the Town benefit.
- Utilize transportation funds obtained through GEIS mitigation fees to implement high priority improvements in the Round Lake Road Corridor.
- For long-term funding apply for locally administered federal aid highway funds through the CDTC Transportation Improvement Project (TIP) process. This is a competitive selection process and is dependent on fund levels and categories authorized and appropriated by the US Congress.
- The Village and Town should explore the potential use of SAFETEA-LU High Priority Program Funds appropriated under DEMO NY347 in Public Law 109-59.

CHAPTER V
CONCLUSIONS AND RECOMMENDATIONS

This report summarizes the results of a traffic study completed for impacts associated with growth in and around the Round Lake Road Corridor in the Town of Malta and Village of Round Lake. Land use changes occurring in the corridor over the last few years and the traffic volume growth projections identified in this study indicate the need for transportation network improvements. As identified by the Advisory Committee, these changes need to focus on multiple modes of transportation to provide greater connectivity for residents in this part of Malta and in the Village of Round Lake to access existing neighborhood commercial uses like the Stewart's Shop, Rite Aid Pharmacy, Hannaford supermarket, Adirondack Trust bank, and others. While local connectivity is very important, it should be balanced with vehicular mobility as traffic volumes in the corridor continue to increase in concert with construction of Global Foundries in the Town, multiple residential projects outside of the Town, and the presence of I-87 Exit 11 in the corridor, to name a few.

The study analyzed a TWLTL Alternative and a Roundabout Alternative for the corridor. The level of service analysis indicated that traffic volumes in the corridor would be comparable with these two corridor alternatives. The Roundabout Alternative has been identified as the preferred alternative due to the greater opportunity it provides to balance local, pedestrian and bicycle connectivity with regional passenger vehicle travel. Preliminary planning level cost estimates show that the corridor improvements will cost approximately $4,750,000. Multiple funding sources like TEP, private business grant opportunities, PDD public benefit, TIP, High Priority Program, and GEIS funds, should be investigated to implement the recommended improvements.

Appendix A

Level of Service Summary

Traffic Impact Study
Round Lake Road Corridor
Town of Malta and Village of Round Lake, New York

Table 4.1 – AM Peak Hour Level of Service Summary

Intersection		Control	2011 Existing	2021			
				Null	GEIS	TWLTL	Round-about
Round Lake Rd/East Line Rd		S					
Round Lake Rd EB	LTR		A (8.1)	B (11.0)	A (6.9)	B (12.2)	B (10.7)
Round Lake Rd WB	LTR		B (10.4)	B (14.1)	A (3.4)	A (7.0)	B (10.9)
East Line Rd NB	(L)TR		A (9.1)	A (10.2)	B (18.6)	C (27.7)	B (19.9)
	(TR)		---	---	B (19.9)	C (32.1)	C (22.0)
East Line Rd SB	(L)TR		B (12.6)	B (14.4)	C (28.5)	B (18.2)	B (15.8)
	(TR)		---	---	B (20.0)	B (16.7)	B (12.6)
Overall			B (10.5)	B (12.8)	B (11.3)	B (14.1)	B (13.1)
Round Lake Rd/Chango Dr		TW					
Round Lake Rd WB	(L)T		A (2.0)	A (3.1)	A (3.1)	A (9.6)	
	(T)		---	---	---	A (0.0)	---
Chango Dr NB	LR (L,R)		C (16.8)	D (25.9)	D (25.9)	C (23.2)	
Round Lake Rd EB	TR	RA					A (9.7)
Round Lake Rd WB	LT		---	---	---	---	A (7.3)
Chango Dr NB	LR						B (17.3)
Overall							B (10.1)
Round Lake Rd/Hearthwood Dr/ Malta Mall Dwy		TW					
Round Lake Rd EB	(L)TR		A (0.0)	A (0.0)	A (0.0)	A (8.8)	
	(TR)		---	---	---	A (0.0)	
Round Lake Rd WB	(L)TR		A (0.9)	A (2.9)	A (2.9)	B (10.8)	---
	(TR)		---	---	---	A (0.0)	
Malta Mall Dwy NB	LTR		B (13.4)	C (22.0)	C (22.0)	C (20.3)	
Hearthwood Dr SB	LTR		D (32.7)	**F (217)**	**F (214)**	D (33.7)	
Malta Mall Dwy NB	R	TW	---	---	---	---	C (20.9)
Hearthwood Dr SB	R						B (13.4)
Round Lake Rd/Ruhle Rd/Raylinski Rd		S					
Round Lake Rd EB	(L)TR		B (11.2)	C (22.0)	A (5.2)	A (5.5)	
	(TR)		---	---	B (16.4)	C (20.1)	
Round Lake Rd WB	(L)TR		A (8.7)	B (11.1)	A (4.2)	A (4.8)	---
	(TR)		---	---	A (8.3)	A (6.2)	
Raylinski Rd NB	LTR		B (14.0)	C (24.4)	B (18.7)	C (28.4)	
Ruhle Rd SB	LTR		C (20.9)	D (40.3)	**E (67.5)**	D (35.1)	
Overall			B (12.2)	C (21.2)	C (20.9)	B (17.9)	
Round Lake Rd EB	LTR	RA					D (51.0)
Round Lake Rd WB	LTR		---	---	---	---	A (6.1)
Raylinski Rd NB	LTR						C (26.4)
Ruhle Rd SB	LTR						B (19.8)
Overall							C (30.9)
Round Lake Rd/Exit 11 SB		TW					
Round Lake Rd WB	L		B (10.7)	B (14.7)			
Exit 11 SB	L		C (20.3)	**F (51.5)**	---	---	---
	R		B (11.4)	B (14.4)			
Round Lake Rd EB	T	S			A (6.9)	A (7.7)	B (16.5)
	R				B (11.9)	A (3.3)	B (11.9)
Round Lake Rd WB	L		---	---	A (4.4)	A (6.6)	A (4.5)
	T				A (2.2)	A (4.8)	A (3.0)
Exit 11 SB	L				C (22.7)	C (27.9)	C (23.2)
	R				C (23.4)	C (28.6)	C (23.8)
Overall					A (9.9)	A (8.9)	B (13.0)
Round Lake Rd/Exit 11 NB		S					
Round Lake Rd EB	L		A (4.4)	A (7.2)	A (8.0)	A (3.2)	A (1.7)
	T		A (3.3)	A (4.5)	A (6.4)	A (2.6)	A (1.2)
Round Lake Rd WB	T		A (9.3)	B (14.5)	B (12.8)	B (11.3)	B (12.1)
	R		B (13.3)	B (13.8)	C (21.4)	C (25.8)	C (21.7)
Exit 11 NB	L		B (15.8)	B (15.7)	C (24.1)	C (29.0)	C (24.5)
	R		B (13.5)	B (14.4)	C (22.2)	C (26.5)	C (22.4)
Overall			A (8.0)	B (10.6)	B (12.8)	B (11.7)	B (10.1)

Table 4.1 – AM Peak Hour Level of Service Summary (cont'd)

Intersection		Control	2011 Existing	2021			
				Null	GEIS	TWLTL	Round-about
Round Lake Rd/Bypass/Curry Rd		RA					
Round Lake Rd EB	LT(R)		B (10.1)	B (11.8)	B (11.8)	B (11.8)	B (11.8)
Curry Rd WB	(L)TR		A (6.4)	A (9.0)	A (9.0)	A (9.0)	A (9.0)
Victorian Landings NB	(LTR)		---	B (11.9)	B (11.9)	B (11.9)	B (11.9)
Round Lake Bypass SB	L(T)R		B (10.3)	B (11.0)	B (11.0)	B (11.0)	B (11.0)
Overall			A (9.2)	B (11.1)	B (11.1)	B (11.1)	B (11.1)

S, AW, TW, R = Signalized, All-Way Stop, Two-Way Stop, or Roundabout controlled intersection
NB, SB, EB, WB = Northbound, Southbound, Eastbound, or Westbound intersection approaches
L, T, R = Left-turn, Through, and/or Right-turn intersection movements
LT(R) = LT represents the existing approach geometry and LTR represents the future approach geometry
X (Y.Y) = Level of service (Average delay in seconds per vehicle)
--- = Not Applicable

Table 4.2 – PM Peak Hour Level of Service Summary

Intersection		Control	2011 Existing	2021			
				Null	GEIS	TWLTL	Round-about
Round Lake Rd/East Line Rd		S					
Round Lake Rd EB	LTR		A (6.9)	A (9.1)	B (11.9)	B (12.0)	B (14.1)
Round Lake Rd WB	LTR		A (7.8)	C (22.7)	B (10.6)	B (15.2)	D (50.0)
East Line Rd NB	(L)TR		B (12.2)	B (15.4)	D (36.0)	D (36.0)	B (17.5)
	(TR)		---	---	D (54.5)	D (54.0)	C (24.3)
East Line Rd SB	(L)TR		B (15.0)	C (22.2)	D (37.9)	D (37.6)	B (13.8)
	(TR)		---	---	C (28.0)	C (27.9)	B (11.9)
Overall			A (9.5)	B (17.4)	C (20.7)	C (22.5)	C (29.7)
Round Lake Rd/Chango Dr		TW					
Round Lake Rd WB	(L)T		A (5.7)	A (8.5)	A (8.5)	B (11.4)	
	(T)		---	---	---	A (0.0)	---
Chango Dr NB	LR (L,R)		D (27.1)	**F (63.2)**	**F (63.2)**	C (20.5)	
Round Lake Rd EB	TR	RA					F (87.5)
Round Lake Rd WB	LT		---	---	---	---	A (8.7)
Chango Dr NB	LR						B (11.2)
Overall							D (35.6)
Round Lake Rd/Hearthwood Dr/ Malta Mall Dwy		TW					
Round Lake Rd EB	(L)TR		A (0.2)	A (0.3)	A (0.2)	B (11.3)	
	(TR)		---	---	---	A (0.0)	
Round Lake Rd WB	(L)TR		A (2.0)	A (4.4)	A (4.4)	A (9.8)	---
	(TR)		---	---	---	A (0.0)	
Malta Mall Dwy NB	LTR (LT,R)		B (13.6)	**F (73.1)**	**E (38.7)**	C (16.7)	
Hearthwood Dr SB	LTR		D (33.5)	**F (***)**	**F (***)**	**E (38.6)**	
Malta Mall Dwy NB	R	TW	---	---	---	---	C (16.1)
Hearthwood Dr SB	R						C (18.9)
Round Lake Rd/Ruhle Rd/Raylinski Rd		S					
Round Lake Rd EB	(L)TR		A (7.8)	A (9.3)	A (6.7)	B (10.8)	
	(TR)		---	---	A (6.5)	B (11.8)	
Round Lake Rd WB	(L)TR		A (9.4)	**F (84.6)**	A (4.9)	A (4.6)	---
	(TR)		---	---	B (11.7)	B (12.0)	
Raylinski Rd NB	LTR		B (15.2)	C (34.5)	D (36.2)	C (34.8)	
Ruhle Rd SB	LTR		B (17.8)	D (50.6)	**E (68.0)**	D (53.3)	
Overall			B (10.2)	D (53.8)	B (15.6)	B (16.2)	
Round Lake Rd EB	LTR	RA					B (16.7)
Round Lake Rd WB	LTR		---	---	---	---	A (9.9)
Raylinski Rd NB	LTR						B (16.4)
Ruhle Rd SB	LTR						**F (89.7)**
Overall							B (19.7)
Round Lake Rd/Exit 11 SB		TW					
Round Lake Rd WB	L		B (10.1)	C (16.0)			
Exit 11 SB	L		**F (58.1)**	**F (734)**	---	---	---
	R		C (21.7)	**F (137)**			
Round Lake Rd EB	T	S			A (4.1)	B (12.1)	B (17.8)
	R				A (1.6)	A (3.9)	B (11.2)
Round Lake Rd WB	L		---	---	A (6.4)	B (18.1)	B (16.7)
	T				A (4.9)	A (4.0)	A (4.4)
Exit 11 SB	L				D (36.9)	D (38.2)	D (38.2)
	R				D (44.9)	D (51.9)	D (51.9)
Overall					A (9.3)	B (13.5)	B (15.8)
Round Lake Rd/Exit 11 NB		S					
Round Lake Rd EB	L		C (23.3)	**F (99.5)**	**F (109)**	**F (89.1)**	**F (107)**
	T		A (7.3)	A (7.8)	A (10.0)	B (16.5)	B (16.6)
Round Lake Rd WB	T		C (22.5)	**F (182)**	**E (57.0)**	**E (71.2)**	**E (57.0)**
	R		B (10.6)	B (12.4)	C (25.4)	C (25.5)	C (25.4)
Exit 11 NB	L		C (22.2)	D (51.3)	**E (77.8)**	**E (79.0)**	**E (77.8)**
	R		B (10.9)	B (12.9)	C (26.3)	C (26.4)	C (26.3)
Overall			B (19.4)	**F (93.3)**	**E (60.4)**	**E (63.2)**	**E (61.0)**

Table 4.2 – PM Peak Hour Level of Service Summary (cont'd)

Intersection		Control	2011 Existing	2021			
				Null	GEIS	TWLTL	Round-about
Round Lake Rd/Bypass/Curry Rd		RA					
Round Lake Rd EB	LT(R)		A (9.6)	A (10.0)	A (10.0)	A (10.0)	A (10.0)
Curry Rd WB	(L)TR		A (6.5)	A (7.8)	A (7.8)	A (7.8)	A (7.8)
Victorian Landings NB	(LTR)		---	B (12.4)	B (12.4)	B (12.4)	B (12.4)
Round Lake Bypass SB	L(T)R		B (10.3)	B (12.0)	B (12.0)	B (12.0)	B (12.0)
Overall			A (9.2)	B (10.5)	B (10.5)	B (10.5)	B (10.5)

S, AW, TW, R = Signalized, All-Way Stop, Two-Way Stop, or Roundabout controlled intersection
NB, SB, EB, WB = Northbound, Southbound, Eastbound, or Westbound intersection approaches
L, T, R = Left-turn, Through, and/or Right-turn intersection movements
LT(R) = LT represents the existing approach geometry and LTR represents the future approach geometry
X (Y.Y) = Level of service (Average delay in seconds per vehicle)
--- = Not Applicable
*** = Approach delays greater than 250 seconds

Appendix B

Planning Level Cost Estimates

Traffic Impact Study
Round Lake Road Corridor
Town of Malta and Village of Round Lake, New York

CALCULATED BY:	CDF	DATE:	12/6/2011
CHECKED BY:	DA	DATE:	2/6/2012

111-129d - Round Lake Road
6-Dec-11

Description of Major Improvements:
- Construct Sidewalk between Southbound Exit 11 Ramps and Round Lake Bypass

Approximate ROW required: **0** **SF** **0.0000** **Acres**

ITEM DESCRIPTION	UNITS	PRICE	QUANTITY	TOTAL
UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	$20.00	750	$ 15,000.00
EMBANKMENT IN PLACE	CY	$16.00	700	$ 11,200.00
CONCRETE SIDEWALKS	SF	$5.75	10,000	$ 57,500.00
CONCRETE CURB	LF	$35.00	1,100	$ 38,500.00
CLEARING AND GRUBBING	LS	$5,000.00	1	$ 5,000.00
LANDSCAPING (INCLUDING TOPSOIL AND SEED)	LS	$15,000.00	1	$ 15,000.00
SIGNING AND STRIPING	LS	$10,000.00	1	$ 10,000.00
RELOCATING EXISTING SIGNS	LS	$2,500.00	1	$ 2,500.00
DRAINAGE BASINS	EA	$5,000.00	7	$ 35,000.00
18" SMOOTH INTERIOR PIPE	LF	$55.00	1,000	$ 55,000.00
STORMWATER MANAGEMENT ($50,000 /acre)	AC	$50,000.00	1.0	$ 50,000.00
EROSION CONTROL	LS	$5,000.00	1	$ 5,000.00

SUB-TOTALS		$299,700.00
CONSTRUCTION SUBTOTAL:	$	300,000
CONTINGENCY (25%)	$	75,000
MAINT.AND PROT. OF TRAFFIC (4%)	$	12,000
SURVEY AND STAKEOUT (2%)	$	6,000
CONSTRUCTION INSPECTION (10%)	$	30,000
CONSTRUCTION TOTAL:	$	423,000
4% MOBILIZATION		17,000
PROJECT SUBTOTAL:	**$**	**440,000**
DESIGN ENGINEERING (10%)	$	39,200
PERMITS (1.5%)	$	4,500
LEGAL/ADMIN (2%)	$	6,000
ROW	$	-
PROJECT TOTAL:	**$**	**490,000**

CALCULATED BY:	CDF	DATE:	12/6/2011
CHECKED BY:	DA	DATE:	2/6/2012

111-129d - Round Lake Road
6-Dec-11

Description of Major Improvements:

- Construct Roundabout at Ruhle Road/Round Lake Road Intersection
- Full Depth Box Out Widening along Round Lake Road between Ruhle Road and Exit 11 Southbound Ramps

Approximate ROW required: **14200** **SF** **0.3260** **Acres**

ITEM DESCRIPTION	UNITS	PRICE	QUANTITY	TOTAL
UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	$20.00	2,500	$ 50,000.00
EMBANKMENT IN PLACE	CY	$16.00	525	$ 8,400.00
FULL DEPTH PAVEMENT AND SUBBASE	SF	$8.50	25,500	$ 216,750.00
MILL AND FILL	SF	$1.50	19,500	$ 29,250.00
CONCRETE SIDEWALKS	SF	$5.75	8,400	$ 48,300.00
CONCRETE CURB	LF	$30.00	3,350	$ 100,500.00
CLEARING AND GRUBBING	LS	$15,000.00	1	$ 15,000.00
ROUNDABOUT (PAVEMENT, LANDSCAPING, PAVERS, ….)	EA	$ 150,000.00	1.00	$ 150,000.00
LIGHTING	EA	$ 6,000.00	8.00	$ 48,000.00
LANDSCAPING (INCLUDING TOPSOIL AND SEED)	LS	$60,000.00	1	$ 60,000.00
SIGNING AND STRIPING	LS	$36,000.00	1	$ 36,000.00
DRAINAGE BASINS	EA	$5,000.00	18	$ 90,000.00
18" SMOOTH INTERIOR PIPE	LF	$55.00	1,500	$ 82,500.00
STORMWATER MANAGEMENT ($50,000 /acre)	AC	$50,000.00	1.50	$ 75,000.00
UTILITY RELOCATION	EA	$12,000.00	3	$ 36,000.00
REMOVE EXISTION SIGNAL	LS	$15,000.00	1	$ 15,000.00
REESTABLISH DRIVEWAYS	EA	$5,000.00	2	$ 10,000.00
EROSION CONTROL	LS	$20,000.00	1	$ 20,000.00

SUB-TOTALS		$1,090,700.00
CONSTRUCTION SUBTOTAL:	$	1,091,000
CONTINGENCY (30%)	$	327,300
MAINT.AND PROT. OF TRAFFIC (4%)	$	43,700
SURVEY AND STAKEOUT (2%)	$	21,900
CONSTRUCTION INSPECTION (10%)	$	109,100
CONSTRUCTION TOTAL:	$	1,593,000
4% MOBILIZATION		63,800
PROJECT SUBTOTAL:	**$**	**1,656,800**
DESIGN ENGINEERING (10%)	$	147,900
PERMITS (1.5%)	$	16,400
LEGAL/ADMIN (2%)	$	21,900
ROW	$	48,900
PROJECT TOTAL:	**$**	**1,892,000**

CALCULATED BY:	CDF	DATE:	12/6/2011
CHECKED BY:	DA	DATE:	2/6/2012

111-129d - Round Lake Road
6-Dec-11

Description of Major Improvements:
- Construct Roundabout at Chango Drive/Round Lake Road Intersection
- Full Depth Box Out Widening and Raised Median along Round Lake Road between Chango Drive and Ruhle Road

Approximate ROW required: **24100** **SF** **0.5533** **Acres**

ITEM DESCRIPTION	UNITS	PRICE	QUANTITY	TOTAL
UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	$20.00	3,400	$ 68,000.00
EMBANKMENT IN PLACE	CY	$16.00	400	$ 6,400.00
FULL DEPTH PAVEMENT AND SUBBASE	SF	$8.50	36,000	$ 306,000.00
MILL AND FILL	SF	$1.50	13,750	$ 20,625.00
CONCRETE SIDEWALKS	SF	$5.75	4,500	$ 25,875.00
CONCRETE CURB	LF	$30.00	4,550	$ 136,500.00
CLEARING AND GRUBBING	LS	$10,000.00	1	$ 10,000.00
ROUNDABOUT (PAVEMENT, LANDSCAPING, PAVERS, ….)	EA	$ 150,000.00	1.00	$ 150,000.00
LANDSCAPING (INCLUDING TOPSOIL AND SEED)	LS	$50,000.00	1	$ 50,000.00
LIGHTING	EA	$ 6,000.00	6.00	$ 36,000.00
SIGNING AND STRIPING	LS	$40,000.00	1	$ 40,000.00
DRAINAGE BASINS	EA	$5,000.00	8	$ 40,000.00
18" SMOOTH INTERIOR PIPE	LF	$55.00	500	$ 27,500.00
STORMWATER MANAGEMENT ($50,000 /acre)	AC	$50,000.00	1.8	$ 87,500.00
UTILITY RELOCATION	EA	$25,000.00	1	$ 25,000.00
REESTABLISH DRIVEWAYS	EA	$5,000.00	3	$ 15,000.00
RELOCATE COMMERCIAL SIGN	EA	$7,500.00	1	$ 7,500.00
EROSION CONTROL	LS	$25,000.00	1	$ 25,000.00

SUB-TOTALS		$1,076,900.00
CONSTRUCTION SUBTOTAL:	$	1,077,000
CONTINGENCY (30%)	$	323,100
MAINT.AND PROT. OF TRAFFIC (4%)	$	43,100
SURVEY AND STAKEOUT (2%)	$	21,600
CONSTRUCTION INSPECTION (10%)	$	107,700
CONSTRUCTION TOTAL:	$	1,572,500
4% MOBILIZATION		62,900
PROJECT SUBTOTAL:	**$**	**1,635,400**
DESIGN ENGINEERING (10%)	$	146,000
PERMITS (1.5%)	$	16,200
LEGAL/ADMIN (2%)	$	21,600
ROW	$	83,000
PROJECT TOTAL:	**$**	**1,903,000**

CALCULATED BY:	CDF	DATE:	12/6/2011
CHECKED BY:	DA	DATE:	2/6/2012

111-129d - Round Lake Road
6-Dec-11

Description of Major Improvements:
- Construct Sidewalk between Chango Drive and East Line Road

Approximate ROW required: **0** **SF** **0.0000** **Acres**

ITEM DESCRIPTION	UNITS	PRICE	QUANTITY	TOTAL
UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	$20.00	550	$ 11,000.00
EMBANKMENT IN PLACE	CY	$16.00	100	$ 1,600.00
CONCRETE SIDEWALKS	SF	$5.75	14,000	$ 80,500.00
CLEARING AND GRUBBING	LS	$5,000.00	1	$ 5,000.00
LANDSCAPING (INCLUDING TOPSOIL AND SEED)	LS	$10,000.00	1	$ 10,000.00
RELOCATING EXISTING SIGNS	LS	$1,000.00	1	$ 1,000.00
STORMWATER MANAGEMENT ($50,000 /acre)	AC	$50,000.00	1.0	$ 50,000.00
EROSION CONTROL	LS	$5,000.00	1	$ 5,000.00

SUB-TOTALS		$164,100.00
CONSTRUCTION SUBTOTAL:	$	165,000
CONTINGENCY (15%)	$	24,800
MAINT.AND PROT. OF TRAFFIC (4%)	$	6,600
SURVEY AND STAKEOUT (2%)	$	3,300
CONSTRUCTION INSPECTION (10%)	$	16,500
CONSTRUCTION TOTAL:	$	216,200
4% MOBILIZATION		8,700
PROJECT SUBTOTAL:	**$**	**224,900**
DESIGN ENGINEERING (10%)	$	19,900
PERMITS (1.5%)	$	2,500
LEGAL/ADMIN (2%)	$	3,300
ROW	$	-
PROJECT TOTAL:	**$**	**251,000**

Meeting Summary

Town of Malta
Round Lake Road Corridor Plan Stakeholders Meeting
January 5, 2012 9:00AM

Represented Organizations/Entities:

Town of Malta, The Chazen Companies, Creighton Manning Engineering, Saratoga County Planning Department, Saratoga County Department of Public Works, Capital District Transportation Committee, Capital District Transportation Authority, NYS Department of Transportation

The following topics were discussed:

1. The stakeholders discussed previous Round Lake Road Corridor planning initiatives and the overall planning process.

2. Inventory and analysis information was presented to the stakeholders, including existing and future traffic conditions.

3. Stakeholders reviewed the draft Round Lake Road concept plan.

4. Stakeholders discussed the availability of historic traffic data that may provide figures for when the Malta Mall was last fully occupied. However, it was agreed that the level of information and assumptions used for the current traffic analysis were comprehensive and accurate.

5. It was noted that the fire department has discussed possible relocation to the west side of the Northway due to traffic delays under the Exit 11 Bridge.

6. Stakeholders discussed the possibility of Exit 11A. It was agreed that an 11A initiative would likely be delayed due to logistical issues and an overall lack of funding.

7. It was noted that most traffic related complaints along Round Lake Road were associated with the Ruhle and Raylinsky Road intersection. It was pointed out that while the LOS figures for the intersection are good, individual perceptions may be negative due to vehicular queuing during signal cycles.

8. Stakeholders noted that traffic is a regional problem and that municipal home rule can make mitigating such issues difficult.

9. Stakeholders asked the Town about its traffic mitigation fees and related funding opportunities. It was noted that there is likely a gap between funding and the

anticipated project costs.

10. Opportunities for the proposed project to be listed on the TIP were discussed. It was noted that funding for current TIP projects is limited and the listing of new projects is very unlikely. In addition, it was noted that if projects were previously submitted, but did not make it on the TIP, they would need to be resubmitted with new data for reconsideration

11. It was suggested that the plan include a prioritization of project components, which may help to fund certain phases or features of the project.

12. It was noted that the County solely focuses on maintaining a reasonably safe roadway, and that in some case it may be more practical for a local community to take over a particular roadway and/or section in order to achieve desired improvements.

13. It was noted that certain, perhaps small, aspects of the project could be funded through the CDTC's Spot Improvement and Bike and Pedestrian programs.

14. The Town noted that the project is intended to be a Comprehensive Plan amendment and that it may prepare a supplemental GEIS.

15. It was suggested that a left turn land at the Ruhle and Raylinsky intersection may be a temporary solution.

16. Stakeholders discussed sidewalk and/or trail maintenance and snow removal responsibilities. It was noted that the proposed multiuse trail along the western portion of the corridor would likely be seasonal use only.

17. Stakeholders discussed the possibility of municipal or privately funded improvements within the NYSDOT right-of-way. It was noted that the permitting procedures and long-term maintenance responsibilities would depend upon the location and the nature of the project. This includes the proposed walkway under the Northway.

18. It was noted that select off-site improvements may be funded as part of a PDD and that perhaps the Village of Round Lake may provide some assistance given the projects likely benefits to its residents.

19. Stakeholders discussed the existing CDTA Northway Express pickup and drop-off location at Malta Mall. It was noted that the service is desirable and that the Town supports the facility. It was also noted that the CDTC has be exploring other opportunities along NYSDOT owned properties Northway corridor, including property close to Exit 11 and the Round Lake Roundabout.

Notes prepared by P. Cummings
pcummings@chazencompanies.com

Meeting Summary

Town of Malta
Round Lake Road Corridor Plan Public Workshop
February 29, 2012 7:00pm

Chazen and Creighton Manning provided a presentation on the overall Round Lake Road Corridor planning process and draft concept plan. The following topics were discussed during the public workshop:

1. Participants were curious about the project timeline, including construction. It was noted that this planning initiative was a Comprehensive Plan amendment and that there was limited or no funding available for construction. However, if funding was available, and design, procurement, and mobilization moved efficiently, it could take anywhere from 3-5 years to complete.

2. A participant noted that they were pleased with the proposed roundabouts and suggested using them in place of traffic lights on either side of the Northway.

3. A participant noted that they do not like the proposed roundabouts. They stated that accidents have increased by as much as 42 percent at Exit 12. It was noted that the traffic and pedestrian safety numbers shown in presentation were for single-lane roundabouts, which operate very differently then the two-lane roundabouts at Exit 12.

4. A participant noted that a third (middle/turning) lane would make more sense from Chango Drive and Ruhle/Raylinski intersections, and that a raised median would make it difficult for Hearthwood residents. It was noted that there is less right-of-way along this section of Round Lake Road, and that a third lane may limit proposed pedestrian and bicycle amenities. Because of the proposed median, Hearthwood residents would have to make a right turn and go around the proposed Chango Drive roundabout in order to head east towards the Northway. In light of this hardship, it was noted the proposed configuration would be revaluated.

5. A Hearthwood resident noted that they would be happy to make only westerly turns because of the proposed configurations overall safety benefits. However, the resident expressed some concern about maintenance of the proposed pedestrian and streetscape amenities. It was noted that Round Lake Road is a County road and that they are currently responsible for maintenance. However, improvement projects like this may include a maintenance agreement where the Town would be responsible for some of the maintenance. As an alternative, the Town may assume full responsibility of the roadway in the future.

6. A participant asked if there were any plans or funds to address traffic issues that are the result of development projects outside of Malta. It was noted that the

Town had prepared a plan for the corridor in 1992, the Comprehensive Plan included land use, traffic, and pedestrian recommendations, and that the Town-wide Generic Environmental Impact Statement (GEIS) analyzed and provided site specific improvements. As part of the GEIS, the Town has been collecting mitigation fees to make such improvements. This planning initiative is part of an effort to re-evaluate the Town's previous plans.

7. It was asked if there was any consideration for reducing the speed limit. It was noted that it may be very hard to reduce the speed limit due to existing highway standards and procedures. More specifically, a lot of research and data is necessary to justify such reductions. However, the types of proposed improvements (median, roundabouts, crosswalks, curb bump outs, etc.) are intended to calm traffic and control vehicle speeds.

8. A participant asked if roundabouts with varying flows can be problematic with regard to traffic backup/cuing. It was noted that without a balanced flow traffic backups are a concern. In particular, traffic modeling indicates that the Ruhle Road intersection may experience such issues during morning and evening peak traffic hours. However, the intersection would likely experience similar delays with traffic lights.

9. A participant noted that they were in favor of roundabouts when traffic is light, but that there may be issues when traffic is heavy.

10. It was stated that the Route 67 roundabouts are very dangerous and that we need to avoid roundabouts where business entrances are nearby (e.g., the Malta Mall entrance along Chango Drive).

11. It was suggested that the NYSDOT conduct a public service campaign regarding roundabouts safety and use, which may resolve many issues. It was noted that NYSDOT has a tutorial on its website: www.dot.ny.gov/main/roundabouts

12. A participant stated that they like the proposed roundabouts, sidewalks, and bike paths, but that traffic problems may still exist during commuting hours. It was suggested that a left hand turning lane on Ruhle Road may provide some temporary relief.

13. It was suggested that the Chango Drive intersection be designated as a school crossing.

14. A Participant asked about the overall project costs and what was the price difference between traffic lights and roundabouts. It was noted that the final plan will include cost estimates, but that none are available at the moment. Signalized intersections may cost $150,000-$300,000. The addition of turning lanes can increase such costs. The cost for a single-lane roundabout is approximately $1.5 million.

15. A participant asked if previously appropriated monies were available to cover project costs. It was noted that such monies may be available, but that none have been allocated to any particular project at this time.

16. It was asked if roundabouts or turning lanes consume more space. It was noted that roundabout often consume more space at an intersection when compared to traffic lights; however, a turning lane often requires an increase in right-of-way, which may consume more overall space.

17. The Principal of Chango School noted that there are 22 buses arriving and leaving at the same time. Improved/expanded sidewalks and bike paths will help children that walk and ride their bikes to school. Because of sidewalk extensions along Chango Drive, the School plans to include additional bike safety programs. Chango School is expected to increase in size due to neighborhood and regional growth trends.

18. It was suggested that Malta Mall's entrance along Chango Drive may conflict with the proposed roundabout due to its close proximity. It was suggested the roundabout be moved down to Hearthwood.

19. The President of the Round Lake Hose Company noted that many volunteers live on the west side of the Northway. In response to 911 calls, it is standard protocol that all responding members report to the firehouse first. Therefore, responders have to drive their own vehicles (with only a courtesy light) through the corridor and stop at red lights. These members would need to go through roundabouts as well. Delays are most likely to occur during morning and evening rush hours. Because of possible delays, the proposed traffic lights at the Northway ramps should be discouraged. While roundabouts work well at low volumes, they can be problematic when traffic rates increase (people often pull over in the roundabouts). Raised medians can channelize traffic causing it to backup and/or block passage when people pull over. Mountable curbs really jostle members who are often gearing up during responses.

20. It was stated that many people avoid Exit 12 because of the roundabouts. It was suggested that truck traffic is avoiding them and causing more traffic at Exit 10. It was also suggested that more people driving down to Clifton Park to shop. It was noted that the proposed roundabouts are single-lane, which operate very differently then the exiting Exit 12 roundabouts.

21. A participant noted that they dislike driving through Clifton Park because of the numerous traffic lights, which cause too many traffic delays. The participant was in favor of roundabouts and suggested that more education about their safety benefits and use would improve public perception.

22. A resident asked about sidewalk placement along the south side of Round Lake Road from Chango to East Line Road. It was noted that the north side was selected because of existing stormwater management features and right-of-way limitations.

23. A participant asked if developers in other towns and nearby communities are responsible for addressing traffic issues that they may have created. It was noted that this is difficult topic. The County's position is that they are not responsible for mitigating impacts generated at the local level. In addition, there are few mechanisms that encourage/require intermunicipal coordination. However, Malta has tried to engage in such regional coordination. The Town's GEIS in an attempt equitably distribute responsibility for funding traffic improvements within the Town.

24. A participant asked if this planning process is slowing down or delaying improvements because of the proposed roundabouts. It was noted that there are no funds available for the project and that this planning initiative is trying to ensure that future funds are well allocated.

25. It was noted that the Stewarts access is too close to the proposed roundabout and that it may cause similar problems as the one that is located on the Route 9/Route 67/Dunning roundabout.

26. A participant expressed some concern that a three lane section would encourage truck (18-wheeler) traffic headed towards Rotterdam to use the corridor.

27. It was suggested that the Committee review a similar plan in Wells, Maine, where similar roundabouts were considered and it was decided that a three lane section would more beneficial (note: we have been unable to locate such a study since the public workshop).

28. It was suggested that bike and pedestrians access/amenities be moved into nearby parking lots and onto private property in order to accommodate a third lane between Chango Drive and Ruhle/Raylinski Road intersections. It was noted that the Committee has made an attempt to minimize such impacts to private property owners.

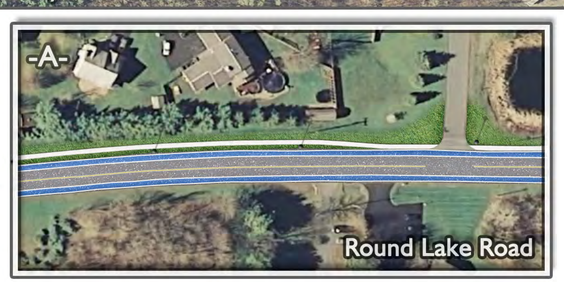
29. It was suggested that Committee contact Hannaford to discuss the draft concept plan. It was noted that all property owners received a letter regarding the draft concept plan and public workshop. However, individual tenants were not directly notified (note: the public workshop was posted in local papers of record and on the Town's website. Additionally, public workshop flyers were posted throughout Town).

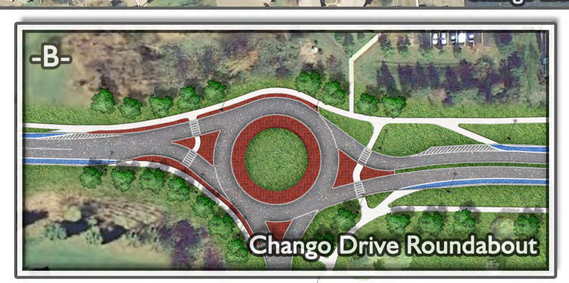
30. It was suggested that a multi-use path along the north or south side of Round Lake Road between Chango Drive and Ruhle/Raylinski Road intersections be

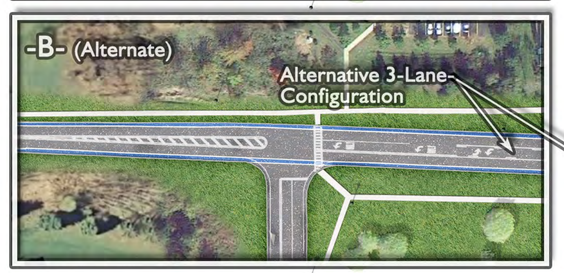
considered. Such a configuration may allow for a third lane as opposed to the proposed raised median configuration. It was noted that multi-use trails can consume an equal amount of space as sidewalks and bike lanes, but that such a configuration would be evaluated.

31. A participant asked what the Level of Service (LOS) differences were between traffic signals and the proposed roundabouts. It was noted that the roundabouts offer a better LOS and that their safety benefits complement the Complete Street approach to corridor planning.

Notes prepared by P. Cummings (pcummings@chazencompanies.com). Special thanks to Roseanne Clavin.







Sample Lighting & Wayfinding Signage

Key Concepts

Pedestrian Access, Safety and Mobility

Pedestrian access, safety and mobility are core components of the Malta Round Lake Road Corridor Plan. Design features include sidewalks and pathways throughout the corridor, curb bump-outs and pedestrian islands near the proposed roundabout, dedicated bike lanes, pedestrian signage, and crosswalks with high contrast paving.

Traffic Calming

Reduced vehicle speeds help to lessen the number of traffic and pedestrian related accidents. Reduced speeds are also more conducive to creating a walkable environment and offer more opportunities for motorists to notice local services and amenities. Traffic calming features such as curb bump-outs, signage, roundabouts, and well defined crosswalks have been incorporated throughout the proposed corridor improvements. In turn, these features will help encourage motorists to travel at posted speed limits and yield right-of-way to pedestrians.

Access Management

The goal of access management is to encourage orderly and well planned points of vehicular access to businesses. Clearly defining entrances and reducing the amount of paving creates a safer pedestrian environment and frees up space for sidewalks, landscaping, street trees, and amenities. Such improvement along Round Lake Road (particularly within the vicinity of Exit 11) will not only help improve vehicular and pedestrian safety, but will also help to create a better sense of place, improve quality of life, and inspire sound development.

Sustainable/Green Streets

Stormwater runoff can contribute to degraded water quality. The use of alternative stormwater management techniques, such as bio-retention areas, disconnected curbs, and wet and dry swales, promotes the direct infiltration of rain and stormwater. Specific locations for such improvements may include swales along less developed portions of the corridor and the use of pervious surfaces. In addition to stormwater benefits, such features as street trees act as carbon sinks and help to preserve road surfaces by shading them from the summer sun.

Streetscape Beautification

Streetscape beautification includes elements that promote a sense of place and add to its overall aesthetic quality and visual continuity. These elements also help create more pedestrian oriented spaces. Streetscapes elements would enhance the appearance of existing land uses and provide a more aesthetically pleasing and comfortable environment for pedestrians. As illustrated in the Concept Plan, these elements include large shade trees, landscaping, pedestrian and traffic scale lighting, and uniform signage.

Streetscape: Public right-of-ways and building setbacks should incorporate numerous pedestrian amenities and landscape elements.

Parking: Rear or side parking is preferred. Shared parking and access should be encouraged.

Landscaping: Decorative masonry work and landscaping should be used.

Signage: Appropriately scaled monument or post mounted signs are preferred. Multiple signs should be consolidated

Lighting: Period or decorative streetscape lighting is desirable. Site lighting should be downward facing.

THE Chazen COMPANIES
Engineers/Surveyors
Planners
Environmental Scientists

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Creighton Manning

MALTA - ROUND LAKE ROAD CORRIDOR
CONCEPT PLAN

MAP PREPARED FOR:
TOWN OF MALTA

Malta, Ny
May, 2012
31103.29