



**Northside Waterfront Access and
Circulation Study
Draft Final Report**



Evaluation of multi-modal access and circulation improvements for future, potential development opportunities to benefit the community.



March 26, 2008

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1.0 Introduction

1.1 STUDY PURPOSE AND BACKGROUND

The Tompkins County Planning Department received Federal Transportation, Community and Systems Preservation (TCSP) funding to develop a multi-modal transportation circulation plan for the Northside Waterfront area in the City of Ithaca. There is a significant potential for development in this area and this study addresses transportation concerns for automotive, transit, pedestrian and bicycle access and circulation, as well as parking.

The current road network does not adequately serve existing businesses and destinations in the study area. Access to new high-technology offices and other businesses in the area is less than optimum, limiting future development potential for a range of appropriate waterfront uses. This is evident by the remaining vacant parcels in Carpenter Business Park. At the south end of the study area, access to waterfront business and to Ithaca's most popular lake tour boat, the MV Manhattan, is through driveways on private property.

There are four major vehicular access points from State Route 13 to the Northside Waterfront area. However, the area is divided into four distinct transportation zones confined by physical barriers and not connected internally. One of the most important objectives of the study is to improve the internal circulation system. These transportation zones are further defined in Section 1.2.

There are no sidewalk or trail facilities in the study area between the railroad line and the Cayuga Inlet. Some sidewalks exist east of the railroad tracks including sidewalk along the Aldi property on Third Street, sidewalk along Carpenter Business Park Road, sidewalks on the edge of the study area on Routes 13 south of Cascadilla Street and both sides of Route 96 at Buffalo Street. Pedestrian crossings of Route 13 at both Dey and Third Streets are unimproved, unsafe, and heavily used during the approximately six-month long Farmers Market season. Also, there is some sidewalk between Cascadilla Street and Court Street providing crossings at these signalized intersections as well as the crossings at the unsignalized intersection of Esty Street and Fulton Street.

Numerous development and transportation projects are underway or being considered for the Northside Waterfront area. Transportation projects include the development of Phase 2 of the Cayuga Waterfront Trail and Route 13 pedestrian crossing upgrades at both Dey and Third Streets. Development proposals include a possible expansion of the Ithaca Farmers' Market, redevelopment of the NYSDOT Maintenance Facility site, development in Carpenter Business Park, and rebuilding of the Cornell University Boathouses.

Given the existing access, circulation, and parking problems and the potential for future development, this transportation study will take a closer look at the entire traffic and transportation system serving the area, including automotive, transit, pedestrian, and bicycle traffic.

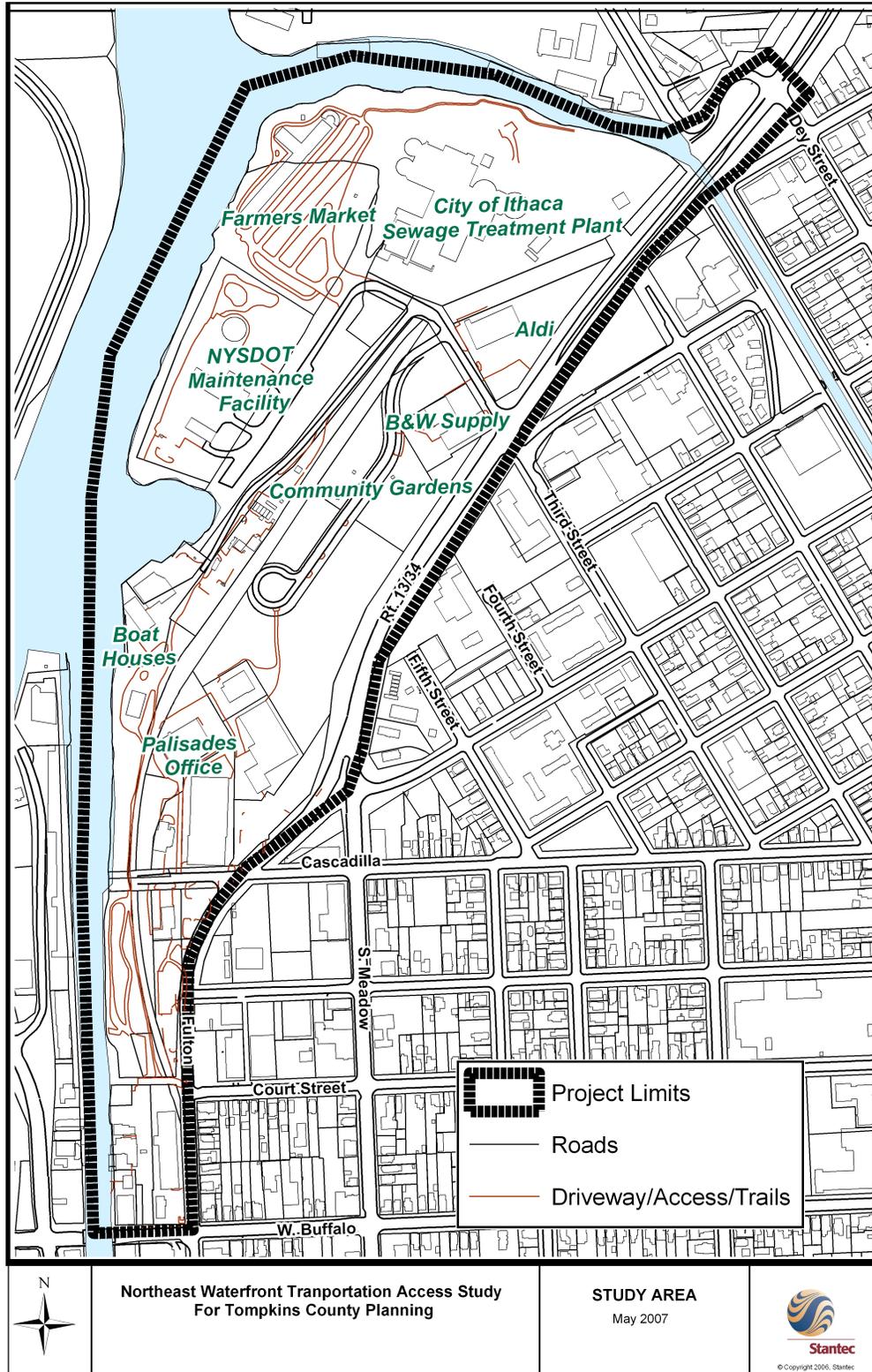
1.2 STUDY AREA

The study area is located in the western part of the City of Ithaca and is bounded by Buffalo Street to the south, State Route 13 to the east, Cascadilla Creek outlet on the north, and Cayuga Inlet on the west (see Map 1).

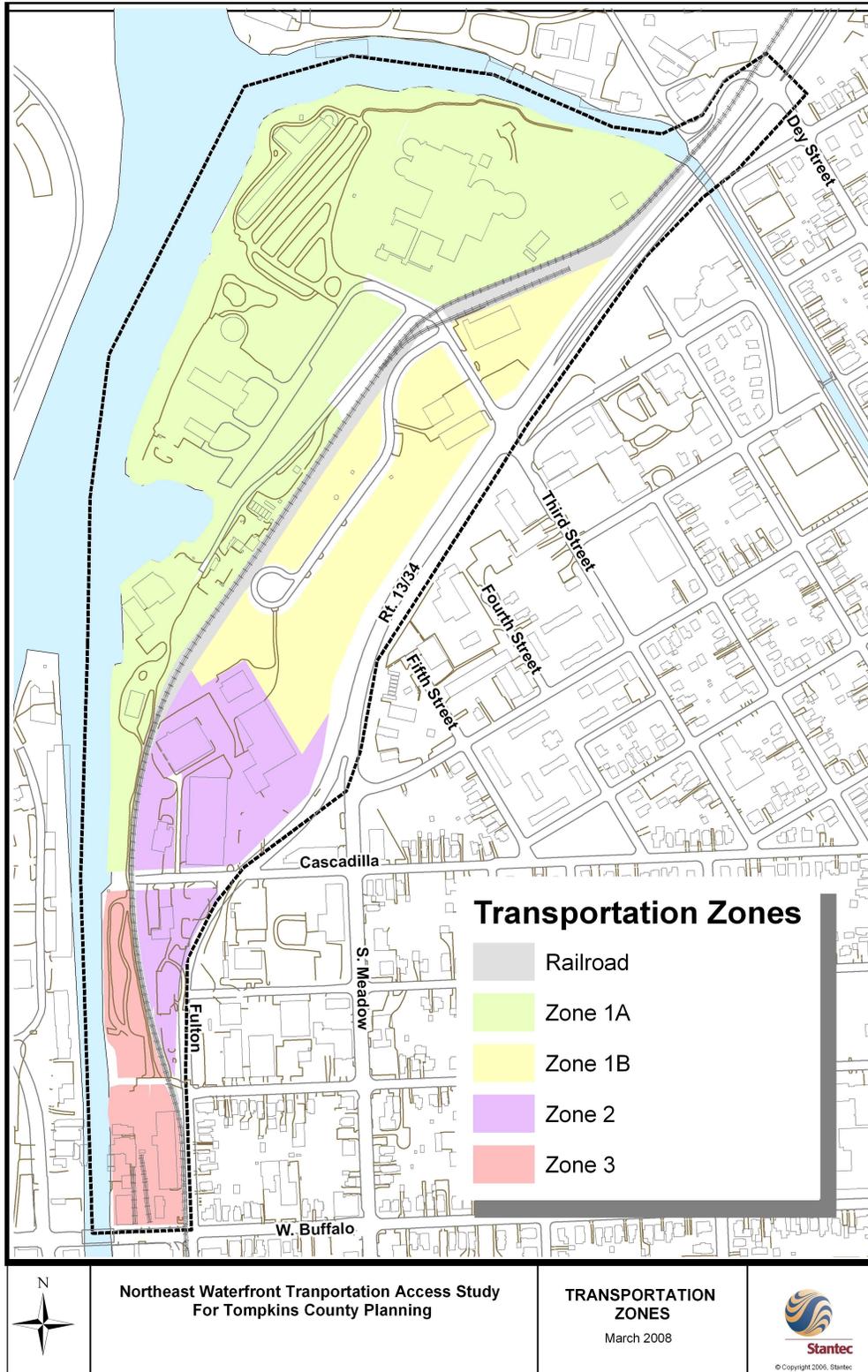
The study area is bisected by the Norfolk Southern Railroad shortline, a very significant barrier to area access and internal circulation. Within the study area limits, the railroad has only one public, signalized crossing at Third Street and a private, unsignalized crossing west of Court Street. These crossings serve only motor vehicles, with no sidewalk or delineated pedestrian accommodation. A public crossing is also located across Buffalo Street at Fulton Street, as part of the City street right-of-way, at the southwest corner of the study area. Some landowners have said that a crossing of the railroad line previously existed at Cascadilla Street that closed at some time in the 1960's or early 1970s.

For descriptive purposes, the area is sub-divided into four transportation zones (see Map 2).

- **Transportation Zone 1a – Market-Boathouse District** - is north of Cascadilla Street, west of the railroad, east of the Cayuga Inlet, and south of Cascadilla Creek. The only vehicular access to this portion of the waterfront study area is at Third Street. The Ithaca Area Wastewater Treatment Plant, Ithaca Farmers Market and NYSDOT facility all have driveways along Third Street. The college boathouses and Andree Petroleum are both located at the end of Third Street Extension, which runs in a north-south direction parallel to and west of the railroad line.
- **Transportation Zone 1b – Route 13 Commercial District** - is east of the Market-Boathouse District and is bounded by the railroad on the west and Route 13 on the east with access off of Third Street. This zone has no water frontage and has a mix of uses including commercial, warehouse, vacant and community garden. While this area is highly visible along Route 13, the only vehicular access point is located at Third Street.
- **Transportation Zone 2 – Route 13 Office and Warehouse District** - is located between Fulton Street and the railroad tracks and south of Carpenter Business Park. Access to this office and warehousing area is from Cascadilla Street off of State Route 13/Fulton Street.
- **Transportation Zone 3 – Port District** - is bounded by Cascadilla Street on the north, the railroad on the east, Cayuga Inlet on the west, and Buffalo Street on the south. From Buffalo Street, access is from the south on a privately-owned drive owned by the partnership that owns the dock landing and parking for MV Manhattan Tourboat and Bliss Catering (recently opened in the former Bistro Q building). From the east, access is provided at the intersection of Court Street and Fulton Street. The intersection is signalized, but the access driveway is not directly aligned with Court Street and the traffic signal only provides a flashing red signal for a “stop sign” operation for traffic exiting onto Fulton from the drive. This Court Street accessway is a gravel road that is in poor condition without pedestrian accommodation into the study area.



Map 1



Map 2

2.0 Existing Conditions in the Study Area

2.1 EXISTING LAND USE

The Northside Waterfront area has a combination of land uses indicative of a waterfront district in slow and mixed transition. Some existing land uses in the study area remain from the era when Ithaca's waterfront was primarily industrial in nature. Some newer uses are attracted to the waterfront's potential for recreational, commercial, residential, office or mixed-use development. A detailed description of existing land use by Transportation Zone follows (see Map 3).

- **Transportation Zone 1a - Market - Boathouse District** - is comprised of a mix of land uses that include several water accesses, two boathouses, ,petroleum supply, highway maintenance facility, farmers market, and sewage treatment plant. Access to this Transportation Zone is from Third Street and the Third Street Extension. The college boathouses are the longest tenured land uses in the study area which have been in their location since the late 19th century. The land on which the NYSDOT Facility and Farmers Market is located was dramatically reconfigured in the early 20th century when the Erie Canal was modernized to the New York State Barge Canal System.

Prior to the 1920s, this land area was on the west side of the Inlet and the Inlet channel was in the corridor now occupied by the north-south drainageway between the NYSDOT site and Third Street Extension. Andree Petroleum has been in its current location since the 1950s, the same period that the NYSDOT facility was located on its current waterfront site. The Ithaca Area Wastewater Treatment Plant was constructed in the early 1980s and the Ithaca Farmers Market moved to its current waterfront site in the late 1980s. The Ithaca Farmers Market is Ithaca's most popular waterfront attraction.

- **Transportation Zone 1b - Route 13 Commercial District** - is comprised of a mix of commercial, warehouse, vacant, and community garden uses. Zone 1b has two significant businesses, Aldi Grocery Store on the north of Third Street and B&W Kitchen

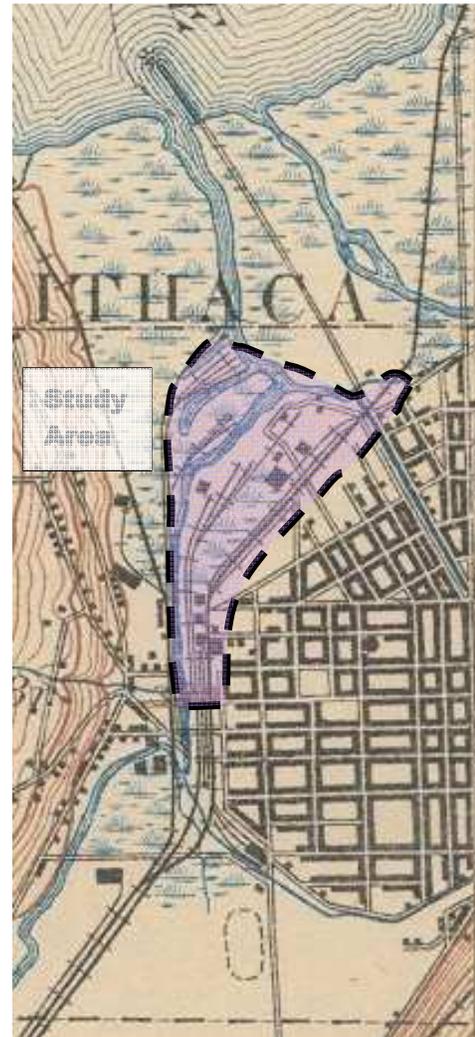


Figure 1

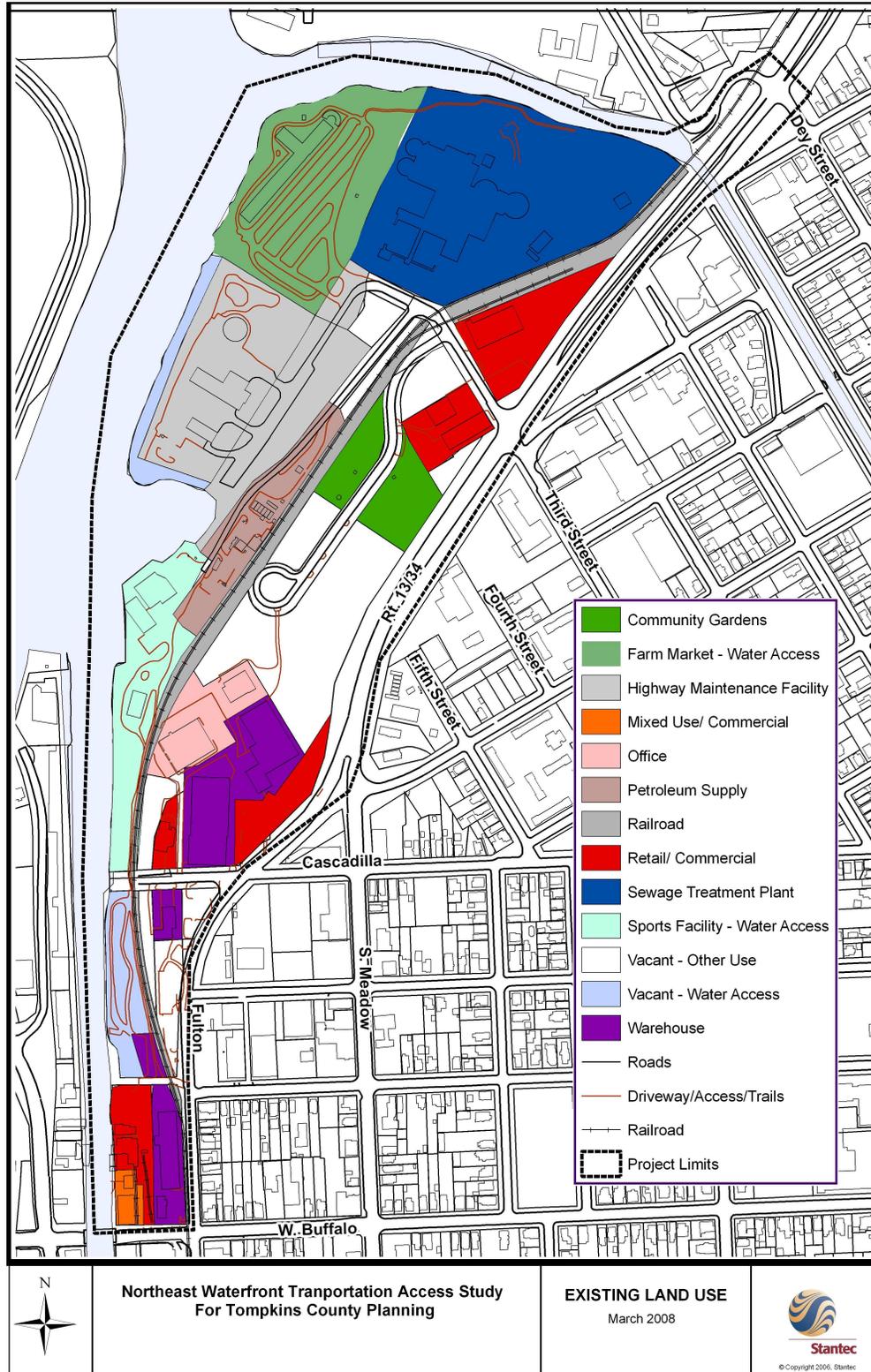
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Supply Company located across Third Street from Aldi. The Ithaca Community Gardens was relocated from the Northside neighborhood to its current site in late 1980s and the Carpenter Business Park was constructed in the early 1990s in hopes of encouraging development of retail or industrial development. The business park site, now owned by Aeon Development Corporation, has been vacant since it was formed.

- **Transportation Zone 2 - Route 13 Office and Warehouse District** - has a number of warehouses, offices, and light manufacturing businesses all with access off Cascadilla Street. These include Palisade Software Company, Cornell University Press, Atlantic Dental Company, and Rick's Rental. A Citgo Gas Station and Convenience Store with a driveway off of Fulton Street is also located in this area.
- **Transportation Zone 3 - Port District** - has a mix of businesses including a mixed use/commercial area comprised of the MV Manhattan Tourboat, Bliss Catering (in former Bistro Q building), Puddledockers Canoe and Kayak Rental, Instant Printing, Ithaca Cheese Steak, and Audio Hearing Center and Enterprise Rent-a-Car. A large metal warehouse along the west edge of the railroad track houses Class Act Tile and Hardwood Supply, and Greenstar Cooperative Market warehouse and office space. The northern half of the site, between Court Street and Cascadilla is a long and narrow piece of vacant land with water access that is currently used primarily for parking by the MV Manhattan patrons and a few boat owners. Enterprise Rent-a-Car also uses some of this gravel parking space for overflow rental car storage.



	<p>Northeast Waterfront Transportation Access Study For Tompkins County Planning</p>	<p>EXISTING LAND USE March 2008</p>	 <p>© Copyright 2008, Stantec</p>
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Map 3

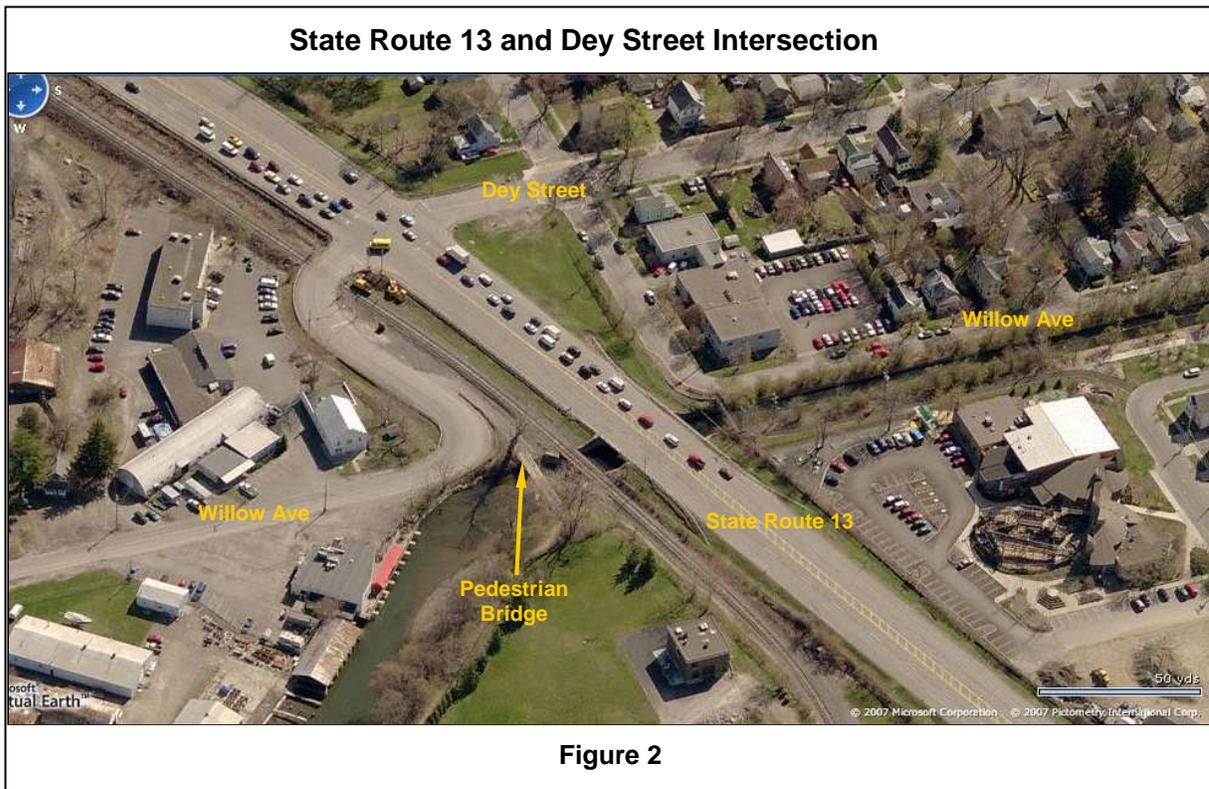
2.2 EXISTING ACCESS

Vehicular access to the study area can be found at five points. Two points from the eastern edge are located along the undivided section of State Route 13 at Dey and Third Streets. Two points from Fulton Street, the one-way, southbound State Route 13 corridor, are located at Cascadilla and Court Streets. Access from the south is from one point on Buffalo Street. There is also one pedestrian/bicycle access point from the north that crosses Cascadilla Creek to reach Willow Avenue.

Following is a more detailed description of each study area access point:

State Route 13/34 – North Meadow Street

- 1. Dey Street Intersection:** Although not a direct access point to the study area for vehicular traffic, many pedestrians and bicyclists cross Route 13 at this signalized intersection to access the Farmers Market. Pedestrian facilities at this crossing are substandard, with no sidewalks leading to traffic signal actuation buttons, no crosswalk minimal signal timing for a safe crossing, and frequent, illegal use of road shoulders as turning lanes, increasing vehicle- pedestrian conflict and an increased potential for accidents involving pedestrians. A signalized railroad track crossing, with no pedestrian access is next to the highway. Pedestrians and bicyclists can turn south on a gravel shoulder between Willow Avenue and the railroad track to access an existing trail bridge over Cascadilla Creek. The trail bridge is parallel to the railroad track at the northeast corner of the Wastewater Treatment Plant property.



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- 2. **Willow Avenue:** At one time, Willow Avenue was a continuous street from downtown Ithaca traveling northwesterly parallel to Cascadilla Creek to the warning beacon currently at the north end of the inlet. The street is split into two portions by State Route 13/34 where southeast of the corridor the street wraps around from parallel to Cascadilla Creek to parallel with SR 13/34 intersecting at Dey Street. Then, northwest of the SR 13/34 corridor, the remainder of Willow Avenue continues ending adjacent to the golf course. The pedestrian/bicycle trail bridge at the north end of the study area is accessed from this northwesterly portion.
- 3. **Third Street Intersection:** This signalized, fully directional intersection is the main access point to the northern half of the study area, Transportation Zones 1a and 1b. The crossing has poorly placed traffic signal actuation buttons for pedestrians with no adjacent sidewalks and no crosswalks across the highway. Access driveways to the B&W Restaurant Supply store and Aldi's store are relatively close to the intersection and queuing traffic blocks the driveways. A sidewalk exists along the south edge of the Aldi property, but the sidewalk does not connect to other walkways. Despite the high volume of pedestrian traffic to the market and crew teams runs to and from their boathouse facility, no other sidewalk or trail exists in this area. Carpenter Circle is privately owned roadway, west of the B&W driveway that provides access to the Ithaca Community Gardens and the vacant business park. West of Carpenter Circle is a public, signalized railroad crossing for vehicles, with no specific accommodations for pedestrians. Third Street Extension intersects Third Street west of the railroad providing vehicular access to both the Cornell and Ithaca College boathouses and to Andree Petroleum. Third Street continues a short distance to the west to provide access the Farmers Market and the NYSDOT Maintenance Facility.

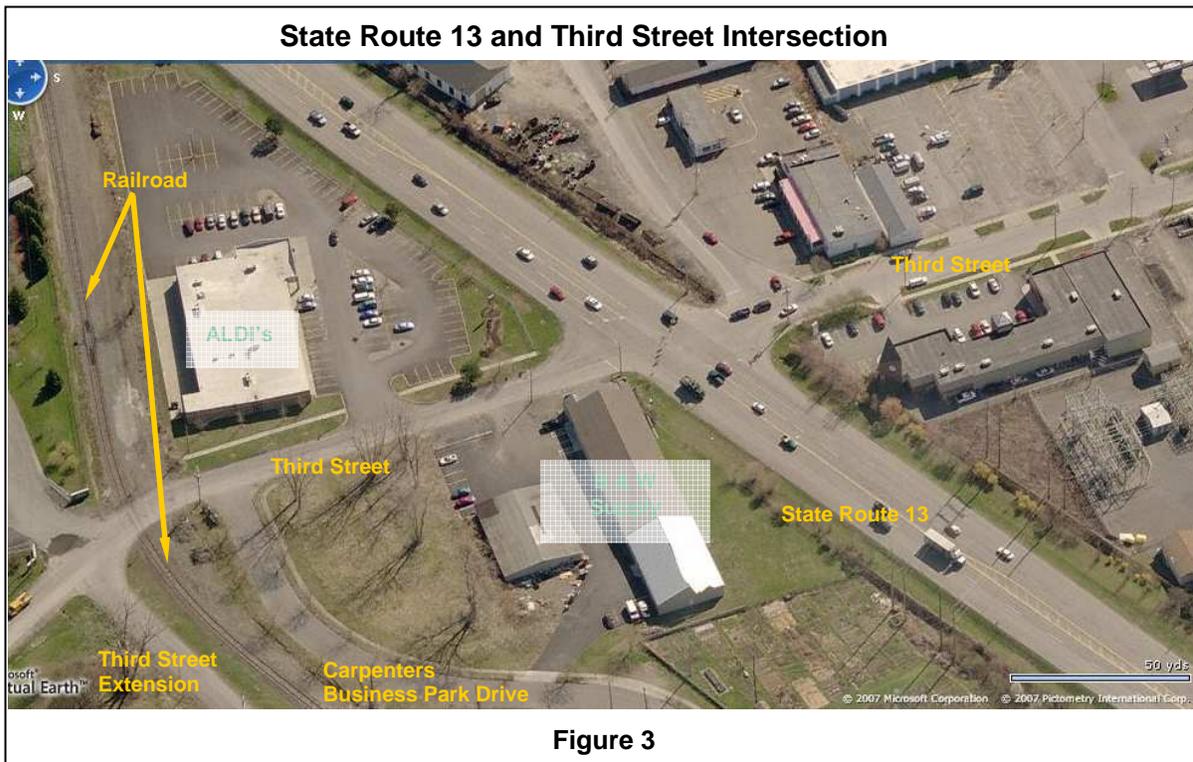


Figure 3

State Route 13/34 - Fulton Street

1. **Cascadilla Street Intersection:** This is a signalized, semi-directional intersection, since Fulton Street is one-way southbound. Cascadilla Street dead ends at the railroad track and provides access to the middle portion of the study area, east of the railroad tracks Transportation Zone 2. Pedestrian crossing of Fulton Street was improved in the late 1990's when the Route 96 project was completed. Sidewalk ends on the west side of Cascadilla Street, but continues south along both sides of Fulton Street. North of Cascadilla Street there is no sidewalk along Fulton Street.



2. **Access Drive at Court Street Intersection:** The access driveway across from Court Street is apparently a private driveway that begins at the signalized intersection at Court and Fulton. The driveway is located slightly offset to the north of the Court Street alignment. The tax maps of the area suggest that this may be a narrow public right-of-way and the ownership and dimensions of the access should be investigated further and is beyond the scope of this report. Exiting from this driveway, eastbound into Court or Fulton Street, the signal is a flashing red indication. Motorists using this flashing red indication must yield to all other

State Route 13 & Court Street/Access Dr



traffic resulting in a potential for an unsafe movement. Pedestrians have an actuated walk signal to use on the north side of the intersection, which can also be used by bicyclists. There is no sidewalk continuing from the Fulton or Court Street sidewalk network westbound into the study area. This driveway has a private railroad crossing immediately west of Fulton Street. West of the railroad track, the drive intersects a parking lot aisle that provides a linkage to Buffalo Street and to a gravel, unimproved parking lot to the north that is used for overflow MV Manhattan parking.

State Route 96 - Buffalo Street

1. Two private driveway curb cuts access the mixed-use commercial businesses on the south end of study area. The western curb cut provides private access to all businesses and properties south of Cascadilla Street and west of the railroad track. The eastern curb cut accesses the corner parcel at the intersection of Fulton Street and Buffalo Street, a parking area for Enterprise Car Rental and Greenstar office and warehouses.

Transit Access

Currently, there is only one bus route that directly serves the study area. TCAT Bus Route 13 runs from the Commons to the waterfront (stopping at Aldi) and then to the Village of Lansing commercial area, returning on the same route in reverse. In addition, TCAT Bus Route 16 runs from the Commons to Fall Creek and over to the TCAT offices located on Willow Avenue. Passengers would be able to leave the bus and cross the pedestrian bridge from Willow Avenue into the northern end of the study area.

Portion of TCAT Route 13

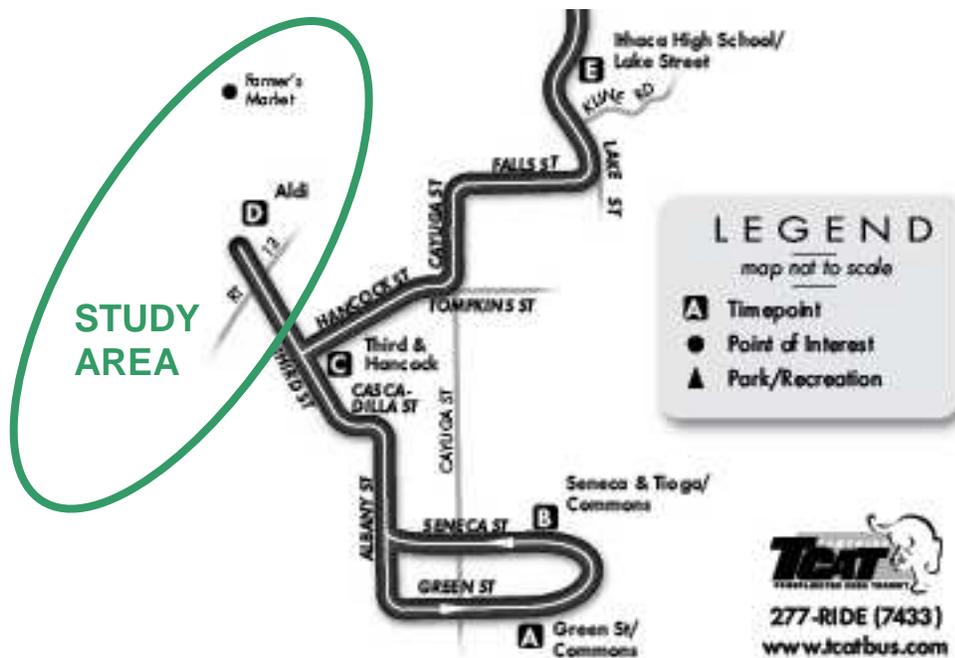


Figure 6

2.3 EXISTING ACCESS AND CIRCULATION

Traffic volume information for the roadway network adjacent to the study area was received from several sources including the City of Ithaca Department of Public Works (DPW) and New York State Department of Transportation (NYSDOT). NYSDOT data included Saturday turning movement counts at Third Street/Route 13 intersection, mechanical tube counts for Third Street near the Farmers Market for a Thursday and a Saturday event during the month of July, and mechanical tube counts for the Route 13 corridor to establish the Annual Average Daily Traffic volumes.

The City DPW provided an uncalibrated network model of the Route 13 corridor south of Third Street, using Synchro¹ software. Additional turning movement counts were performed to supplement this information so that the Synchro² model could be calibrated and used as a planning tool to provide a benchmark level of service measure for existing traffic and estimate the future levels of service for potential developments and determine mitigation strategies for the future improvements.

The next step was to calibrate the base traffic condition to match existing traffic volumes at the access drives with the assumed vehicle trips generated from the existing land uses. The existing land uses as shown on Map 3 – Existing Land Uses was used as our reference to determine vehicle trips generated based on land uses published in the ITE Trip Generation Manual³ and accompanying software Trip Generation Version 5.0⁴.

The existing land use and building sizes are shown in Table 1 and was used to determine the entering and exiting trips for the existing conditions. The referenced trip generation land use number is shown in parentheses in the table. The traffic generated by the land uses was divided into the different transportation zones within the project area. That is, Transportation Zones 1a and 1b use the Third Street access point, Zone 2 uses Cascadilla Street access and Zone 3 is split between the driveway on Buffalo Street and the access drive across from Court Street.

The trips generated for each zone was compared to the existing volumes entering and exiting the project area to match the trip generation at each access point with the existing traffic volumes in the Synchro⁵ model. Table 1 also shows these volumes and the assumed access drive utilization based on the access zones. This table was reviewed by the steering committee and revised with their input to adjust the traffic composition and land uses.

The traffic volumes were input into the Synchro⁶ model and operating levels of service were determined for each access point of the study area. Synchro⁷ analysis provides a level of service as a measure of effectiveness based on the 2000 Highway Capacity Manual⁸.

The 2000 Highway Capacity Manual⁹ provides the definition of intersection level of service for signalized and unsignalized intersections. The Level of Service for signalized intersections is defined in terms of delay. Delay is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. Specifically, Level of Service (LOS) criteria for traffic signals are stated in terms of the average control delay per vehicle, typically for a 15-minute analysis period.

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Control or Signal delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. Typically, signalized LOS 'E' or 'F' is considered unacceptable.

The Signalized Intersection Level of Service Definitions, the ranges are:

A - Little or No Delay	(≤ 10.0 sec)
B - Minor, Short Delay	(10.1 to 20.0 sec)
C - Average Delays	(20.1 to 35.0 sec)
D - Long, but Acceptable Delays	(35.1 to 55.0 sec)
E - Long, Approaching Unacceptable Delays	(55.1 to 80.0 sec)
F - Long, Unacceptable Delays	(> 80.0 sec.)

Level of Service for unsignalized intersections is also defined in terms of delay. However, the delay criteria employed are different than those for a signalized intersection. The primary reason for this difference is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection. The total delay threshold for any given Level of Service is less for an unsignalized intersection than for a signalized intersection. A LOS 'F' is considered failing.

For the Unsignalized Intersection Level of Service Definitions, the ranges are:

a -	≤ 10.0 sec
b -	10.1 to 15.0 sec
c -	15.1 to 25.0 sec
d -	25.1 to 35.0 sec
e -	35.1 to 50.0 sec
f -	> 50.0 sec

These measures of effectiveness will be used to evaluate relative changes in level of service to review potential improvements to the roadway network and circulation within the study area. When development occurs, the permitting process for the development will require a traffic study to be performed for each specific development and further evaluation of specific roadway improvements to mitigate the effects of the development will be considered at that time.

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TRIP GENERATION FOR EXISTING LAND USES							
Region		Description	Development Size	Trips Generated			
				AM	PM	SAT	
Transportation Zone 1 – Market-Boathouse & Route 13 Commercial District							
Third Street	Grocery Store	ALDI's Supermarket	18,000 SF Discount Supermarket (854) 110 Parking Spaces	59	188	194	
	Retail	B&W Restaurant Supply	25,000 SF Specialty Retail Ctr (814)	0	68	88	
	Open Areas	Community Gardens & Waterfront Area	Estimated	0	10	20	
	Oil Supply	Petroleum Supple/Dist. Center	2 positions @ 6 veh/position Gas Station (944)	12	12	12	
	Plant	Sewage Treatment Plant	2.0 ac & 15-20 empl. Utility (170)	10	10	5	
	Municipality	NYSDOT Maintenance Building	15,000 SF Utilities (170)	13	11	9	
	Market	Farmers Market (Seasonal)	July 2006 Traffic Counts	25	160	600	
TOTAL:				119	459	928	
Transportation Zone 2 – Route 13 Office and Warehouse District							
Cascadilla	Water Access	Riverfront Area No Traffic Generated	-	0	0	0	
	Office Building	Existing Office Building	15,000 SF General Office Bldg (710)	23	23	12	
	Indust. Building	Industrial Dentist Supplies Manufacturer	6,000 SF Gen. Light Indust.(110)	10	10	7	
	Rental Shop	Small Rental Shop	1,500 SF Specialty Retail (814)	0	25	30	
	Warehouse	2 Existing Warehouses	70,000 SF Warehousing (150)	32	33	7	
TOTAL:				65	91	56	
Transportation Zone 3 – Port District							
Access @ Buffalo	Mixed Commercial Use	Restaurants, Shops, Cruise Line	33,000 SF	10,000 SF Restaurants (931)	8	75	108
				13,000 SF Shops (814)	2	35	33
				Dinner Cruise Line (931)	8	75	108
	Warehouse	Large Exist Warehouse	17,000 SF Warehousing (150)	24	16	0	
TOTAL:				42	201	249	

Table 1

The access point levels of service are shown in Table 2.

Level of Service For Existing Traffic									
Intersection	Approach and Movement		Existing 2007		Existing 2007		Existing 2007		
			AM		PM		SAT		
			LOS		LOS		LOS		
Third Street & Route 13 <i>(Traffic Signal)</i>	SEB	L-T-R	C	C	E	E	F	F	
	NWB	L-T-R	D	D	C	C	C	C	
	NEB	L	D	B	D	A	D	C	
		T	A		B		C		
		R	A		A		B		
	SWB	L	D	A	D	C	D	C	
		T	A		C		C		
	Overall				C		C		D
	W. Buffalo & Entrance <i>(Unsignalized)</i>	EB	T-L	a	a	a	a	a	a
		WB	T-R	a	a	a	a	a	a
SB		L-R	b	b	d	d	c	c	
Overall				a		c		b	
Cascadilla & Fulton <i>(Traffic Signal)</i>	EB	T-R	B	B	C	C	B	B	
	WB	T-L	D	D	D	D	C	C	
	SB	T-L	A	A	A	A	A	A	
		R	A		A		A		
	Overall				A		A		B

Table 2

This analysis reflects the very poor operation of Third Street approach during the Saturday and PM time periods when the Farmers Market is in operation.

2.4 BARRIERS TO FUTURE TRANSPORTATION IMPROVEMENTS

There are several barriers to some of the more traditional approaches to improving circulation and access in the Northside Waterfront area.

2.4.1 Railroad Alignment

The current railroad alignment was once a side spur to the mainline rail that ran along what is now Fulton and North Meadow Street. This rail was retained for service of the short line rail system and the other track was removed. However, the rail line bisects the study area and access across the rail line is restricted to two locations. Only the north crossing at Third Street is a public, signalized crossing. The south crossing near Court Street is a private, unsignalized crossing.

Additional crossings or conversion of a private to a public crossing is a legal process between the railroad, NYSDOT Rail Division and the landowner. Typically a crossing cannot be added unless one is relocated or abandoned at another location.

2.4.2 Route 13 Right-of-way Access restrictions

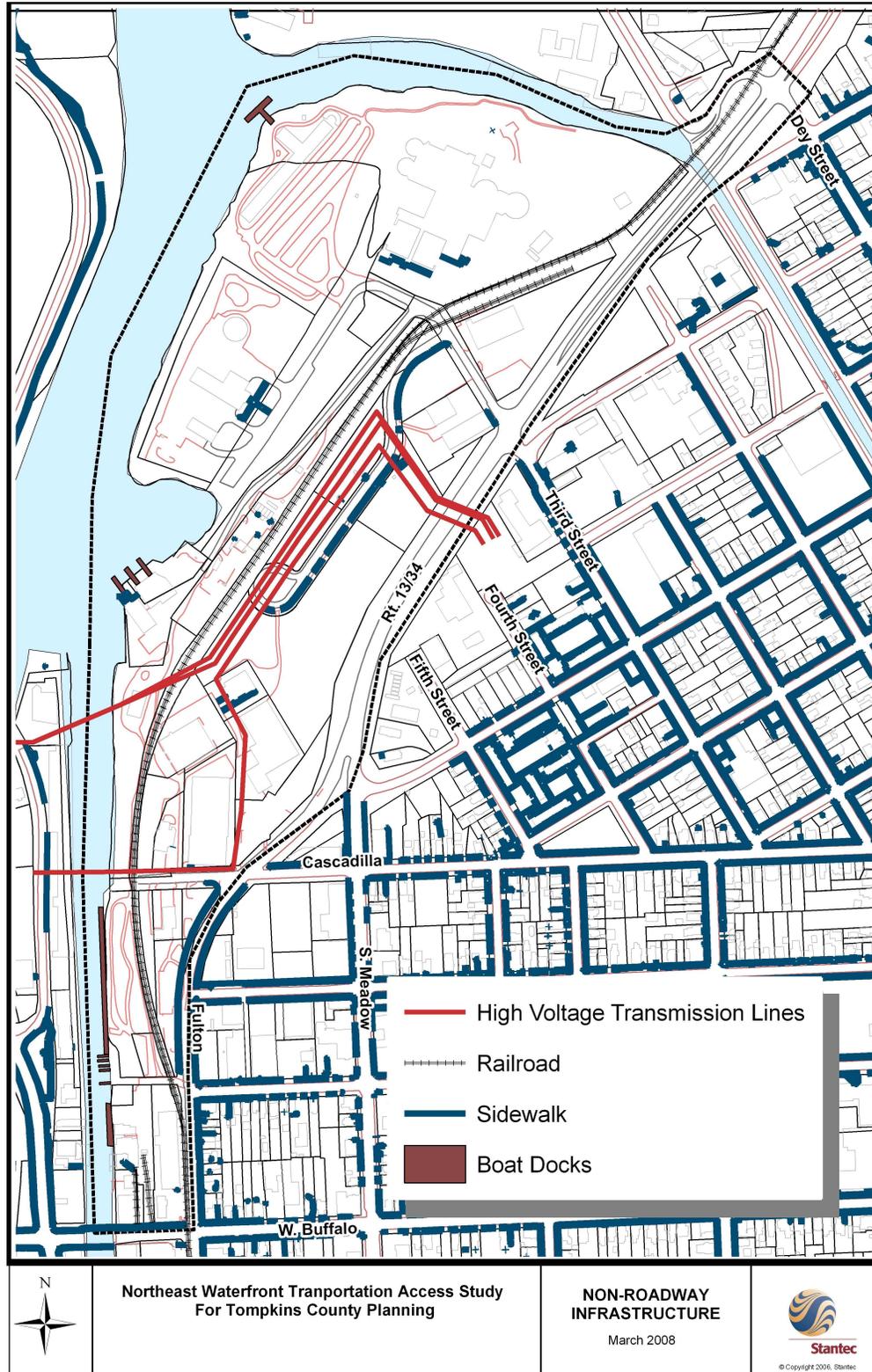
The Route 13 right-of-way north of Hancock Street (at the Route 13 split) and south of Third Street is a limited access roadway on both sides of the road. The break-in-access process needs support from the Regional NYSDOT office as well as Main Office in Albany. The approval process requires preparation of a justification report and a benefit analysis to demonstrate the need for the break-in-access.

2.4.3 High Voltage Utility Corridors

There is a high voltage electric line corridor that begins at the substation on the east side of Route 13 just north of Fourth Street crossing west over the highway over the Community Gardens and crossing over Carpenter Circle. The lines proceed south parallel to the railroad and change direction just north of the building complex adjacent to Cascadilla Street. One line continues east as a transmission line and the other weaves through the warehouse area to Cascadilla Street and then proceeds west to Inlet Island along the north side of Cascadilla and over the inlet. Building construction is not allowed under the transmission line within the Carpenter Business Park. However, this area could support parking under the electric line configuration.

2.4.4 Existing development Impeding circulation

The area just north of Cascadilla Street includes small parcels, narrow drives between buildings, and inconsistent building orientation, combining to provide an impediment to traffic circulation. For example, in the area just north of Cascadilla, two buildings are oriented north-south and two adjacent buildings are oriented at a 45 degree angle from the others. Plus the buildings are positioned fairly close together restricting the ability to provide a right-of-way to construct a connecting roadway to the north.



Map 4

2.4.5 Waterways

The Northside Waterfront area is bounded on two sides by water bodies, Cayuga Inlet to the west and Cascadilla Creek to the north. Docks for boat access exist along the inlet adjacent to the Port district, adjacent to the Ithaca and Cornell boathouses, and at the Farmers Market.

2.4.6 Cost to remedy barriers

Some of the apparent remedies to the identified barriers could be to relocate the rail line to NYSDOT right-of-way, to purchase land to consolidate parcels, to relocate the electric transmission lines, or to construct bridges over waterways. The cost of these types of activities to the public agencies guiding the future development would far outweigh the benefits of any potential development of this area.

2.5 EXISTING ACCESS AND CIRCULATION IMPROVEMENTS

The traffic operations for existing conditions from Section 2.3 were reviewed and improvements to the traffic operation were considered for the traffic movements with unsatisfactory LOS. The Third Street intersection with Route 13 is the main vehicular point of entry to the site and also is the location with the lowest LOS. In order to improve the operation at this intersection several recommended improvements could be implemented to improve the existing unsatisfactory LOS.

The traffic signals at Route 13/Dey Street and Route 13/Third Street are to be upgraded by NYSDOT in 2008. This upgrade will reassess the operation of the traffic signal to provide a more efficient operation and address pedestrian signals and timing concurrent with the City's grant funding to upgrade the pedestrian facilities at these intersections.

Capacity improvements for the Third Street approach exiting the study area will also improve the LOS. A second right turn only lane should be constructed for the eastbound Third Street approach to increase capacity of the approach. This would increase the volume of traffic during the traffic signal phase and by separating the through/left traffic and the right turn movement, a right turn arrow would operate in conjunction with the westbound left turns. The existing right-of-way is approximately 60' wide and one additional lane could be accomplished. Pedestrian facilities, tree lawn areas and insufficient building setback for the B&W Supply building would limit the amount of capacity improvements at on this approach. Additionally, although the Farmers Market is a heavy traffic generator on Saturdays, the seasonal nature of the operation may not justify further improvements but capacity improvements should be revisited as development occurs in the study area. Table 3 summarizes the level of service results with these improvements.

Pedestrian and bicycle access concerns are also evident under existing conditions. Two improvements, already in the planning stages, are recommended to address these concerns: (1) construction of the Cayuga Waterfront Trail – Phase II and (2) Route 13 pedestrian crossing improvements at Dey and Third Streets. The Cayuga Waterfront Trail will provide an internal pedestrian and bicycle route through the study area and would be mostly separate from traffic circulation. The proposed trail would extend from Buffalo Street to the south end of the study

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area and progress northward paralleling the Cayuga Inlet south of Cascadilla Street. Then the trail would parallel the railroad bed by the boathouses and then traverse the waterfront by the current NYSDOT Maintenance Facility and Farmers Market. Then the trail will connect to the existing trail along the north edge of the study area crossing Cascadilla Creek at the Willow Avenue Bridge. The Cayuga Waterfront Trail will provide a safe and efficient route for pedestrians and bicyclists through the Northside Waterfront area and also help reduce the number of vehicle trips to and through the study area.

The City of Ithaca has received grant funds to implement improvements at both intersections of Route 13 with Dey Street and with Third Street. These intersections support a large volume of pedestrian crossings, primarily on Saturday Farmers Market days. The City of Ithaca is currently beginning the design process to prepare plans for constructing the improvements, which could be complete within the 2009 construction season. Coincidental improvements by NYSDOT and will include the traffic signal replacements.

Level of Service For Existing Traffic with Improvements								
Intersection	Approach and Movement		Existing with Improvements*		Existing with Improvements*		Existing with Improvements*	
			AM		PM		SAT	
			LOS		LOS		LOS	
Third Street & Route 13 <i>(Traffic Signal)</i>	SEB	L-T-R	D	C	D	C	D	C
		R	B		B		C	
	NWB	L-T-R	D	D	D	D	D	D
		NEB	L	D	A	D	B	D
	T		B	B		C		
	R		A	A		B		
	SWB	L	D	A	D	C	D	C
		T	A		C		C	
	Overall			B		C		C
	W. Buffalo & Entrance <i>(Unsignalized)</i>	EB	T-L	No Improvements		No Improvements		No Improvements
WB		T-R						
SB		L-R						
Overall								
Cascadilla & Fulton <i>(Traffic Signal)</i>	EB	T-R	No Improvements		No Improvements		No Improvements	
	WB	T-L						
	SB	T-L						
		R						
	Overall							

* - Improvements to the existing volumes consisted of the following: adding an additional EB right turn lane exiting the development area and modifying signal operations.

Table 3

3.0 Future Conditions in the Study Area

3.1 FUTURE LAND USE SCENARIO

Future development of the Northside Waterfront area hinges on developing a multi-modal transportation circulation plan for the study area. As noted in the previous section even under existing levels of development, there are issues with vehicular, pedestrian, and bicycle access.

There has been a number of development proposals talked about for this area of the City of Ithaca by government officials and private interests. However, there has not yet been an analysis of the impacts of all of these proposals on the transportation system. Projects that have been talked about include expansion of the Ithaca Farmers Market, development of the Carpenter Business Park, redevelopment of the NYSDOT Facility site, and expansion of the Cornell University and Ithaca College boathouses on the Inlet.

In order to evaluate the impact of future development on the transportation system, a future land use scenario was developed. This scenario was developed based on individual interviews with landowners in the study area, discussions with the Project Steering Committee, consideration of site barriers and constraints, and review of existing plans and regulations related to the study area.

3.1.1 Landowner Interviews

Each of the landowners within the study area was contacted to notify them that this project was underway, to discuss their current concerns, future plans and ideas to improve access and circulation in the study area. While not all the landowners provided input, the majority of the landowners participated in these interviews. The detailed results of the meetings and phone interviews are provided in section 5.1 of the Appendices.

Twelve of the sixteen private property owners within the corridor were contacted to discuss this project. These twelve landowners we reached are listed in Table 4 below and the ones not reached are listed in Table 5 below.

In general, the discussions with landowners did not lead to any major changes in the Steering Committee land use assumptions, either existing or future, or result in any significant new transportation improvements that were overlooked by the committee. However many general concerns were expressed and many of the Steering Committee perceptions were reinforced by the views of the landowners and their representatives. Following are some of the points deemed most relevant from these discussions:

- In general, landowners were intimately aware of the traffic circulation and parking problems in the study area. Area traffic congestion and the poorly planned and incomplete road network does impede access to their properties. They consistently noted the lack of adequate parking space. There was an overall concern expressed about potential negative impacts on their properties and plans from future district-wide improvements.

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LANDOWNERS/CONTACTS INTERVIEWED					
ENTITY	OWNER/CONTACT	CURRENT USE	PARCEL	ACRES	TRANSPORT DISTRICT
Andree Holding Corp.	Robert Andree	Gas & Conv Store	43.-2-8	1.12	1a
Andree Petroleum	Robert Andree	Fuel Depot	37.-1-4.1	2.00	1a
Argyle Associates, LLC	Andy Foster	Pier Area	58.-4-1.2	0.12	3
Argyle Associates, LLC	Doug Foster	Restaurant	58.-4-2.2	0.95	3
Argyle Associates, LLC	William Foster	Vacant	43.-2-10	0.59	3
Dr. Robert Baker, Sr.	Robert Baker	Parking	52.-3-3	0.35	2
Dr. Robert Baker, Sr.	Robert Baker	Professional Bldg	52.-3-2	0.39	2
Hoyt Benjamin	Hoyt Benjamin	Store - B&W Supply	36.-1-4	1.13	1b
Cornell University	Thomas Livigne	Entrance to NYSDOT	23.-2-2	0.42	1a
Elvira Digiacommo	Elvira Digiacommo	Mixed Commercial	58.-4-1.13	0.07	3
Marina Realty of Ithaca	Steven Flash	Pier Area	43.-2-11	0.07	3
Rick's Rental	Glenn Rick	Store	43.-2-4	0.48	2
Elaine Stephens	Elaine Stephens	Pier Area	43.-2-2.2	0.04	3
Templar, LLC	Cynthia Yahn	Vacant/Bus. Park	36.-1-2	0.90	1b
William Watt	Joel Abrams, Lama Realty	Warehouse	59.-1-2	1.30	3
Palisade Corporation	Steven Hunt	Office	43-2-1.2	1.15	2

Table 4

LANDOWNERS/CONTACTS NOT INTERVIEWED					
ENTITY	OWNER/CONTACT	CURRENT USE	PARCEL	ACRES	TRANSPORT DISTRICT
ALDI Inc.	Not Contacted	Store	25.-1-8	2.15	1b
Marvin Freedman	Not Contacted	Vacant	52.-3-17	0.72	2
Inlet Alchemy, LLC	Not Contacted	Parking/Paved Area	43.-2-5.23	0.08	2
Pennsylvania Lines (Norfolk Southern)	Not Contacted	Railroad	525.-6-1	31.79	RR

Table 5

- Marina Realty Owner Steven Flash discussed the importance of connecting the study area to Inlet Island, suggesting the proposed trail bridge at Buffalo Street, while a start, may not be a strong enough linkage, particularly after Inlet Island development occurs.
- Cornell University's main concern is not allowing a public road between Cascadilla Street and Third Street Extension to pass through the boathouse property. They are willing to try and accommodate the Waterfront Trail, but are interested in having Ithaca College students access the IC boathouse from the south on a new access road from either Cascadilla or Court Street.
- Cynthia Yahn's suggested that parking structures were essential to increase development density in the waterfront district. She suggested that Carpenter Circle be linked to Cascadilla Street and this was reinforced by Palisade representative Steven Hunt. Finally she suggested that the high voltage lines be consolidated tighter to the railroad corridor to increase developable area.
- Hoyt Benjamin, Owner of B&W Restaurant Supply, said that when traffic is heavy on Third Street, especially when the Farmers Market is operating on a Saturday, vehicles cannot easily enter and exit the parking lot for his store. This property does have frontage and a driveway on Carpenter Circle, so an alternate access point is available.

3.1.2 Project Steering Committee

The Project Steering Committee met and discussed possible land use scenarios for the Northside Waterfront study area. It is important to note that this study did not attempt to identify a 'preferred' land use scenario or a 'recommended' land use plan. Rather, the purpose was to develop a reasonable land use scenario in order to evaluate likely access and circulation issues and identify potential solutions based on a certain level of traffic generation considering the land uses.

One of the first determinations made by the Steering Committee was to "fix" certain long-term land uses. That is, the land uses that were unlikely to change, however, they may be altered or expanded.

- Ithaca Area Wastewater Treatment Plant on the north end of the study area
- Ithaca Community Gardens on both sides of the north end of Carpenters Business Park
- Cornell and Ithaca College Boathouses on the waterfront
- Ithaca Farmers Market at the northwest corner of the study area

3.1.3 Selected Scenario

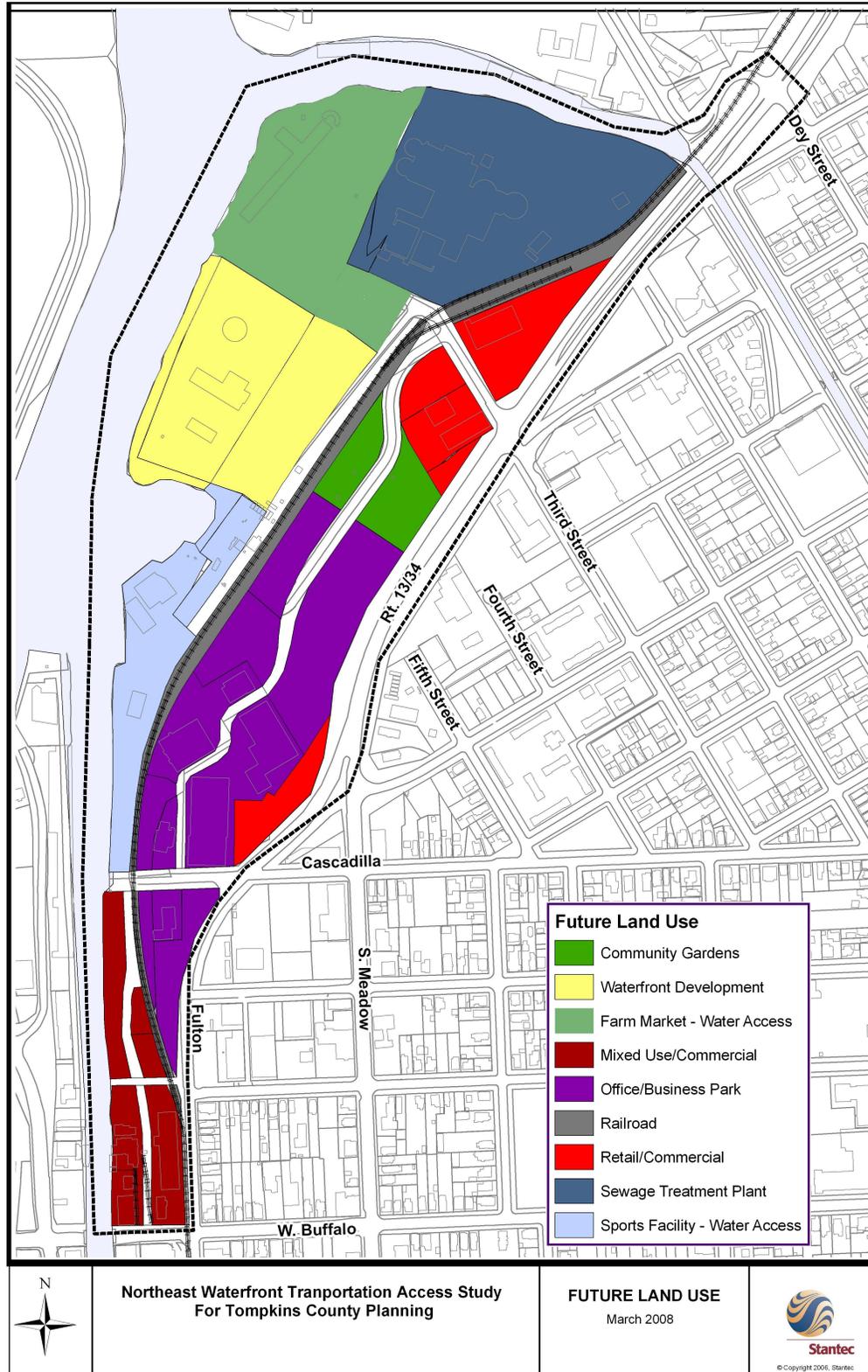
Several possible future land use scenarios were discussed. The final selection was based on the results of the interviews with the landowners, discussions with the Steering Committee and the development potential of the study area. The selected future land use scenario is shown on Map 5 and is described below:

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Map 5

1. Transportation Zone 1a – Market-Boathouse District

As noted above, the Ithaca Area Wastewater Treatment Plant, the Ithaca Farmers Market, and the Cornell and Ithaca College Boathouses would remain in this district.

The property most likely to change use is the current NYSDOT Maintenance Facility. The County has been working for many years to relocate this facility to a new location in Dryden that will serve both Tompkins and Cortland Counties. According to NYSDOT officials, it now looks as though this relocation will occur in 5 to 10 years. There is an agreement in place that once NYSDOT has vacated the 6± acre waterfront site, the land will be transferred to the County. The County's intention is to seek a developer to redevelop this valuable waterfront property.

For the purposes of the traffic analysis, the land use scenario assumed this site would be mixed use with buildings that would be configured to provide lower level retail and upper level residential and/or office uses. The benefits of preserving public access to water edge and a possible waterfront civic gathering space were discussed and should be considered during the development process. A hotel and conference center has also been considered as a possible use for this site, but already exists in the City CBD.

• Transportation Zone 1b – Route 13 Commercial District

The Ithaca Community Gardens will remain on site. Carpenter Business Park will develop with a mix of retail north of the Community Gardens and office space south of the Community Gardens. The remainder of the Route 13 Commercial District will remain in commercial and retail use.

The area under the transmissions lines, if not relocated, would only be used for surface parking. This land use would also provide for shared parking opportunities to provide waterfront event and Farmers Market overflow parking.

• Transportation Zone 2 – Route 13 Office and Warehouse District

The Route 13 Office and Warehouse District will continue to support similar development in the future with a potential for additional office space but provide a link to Transportation Zone 1b.

• Transportation Zone 3 – Port District

The Port District will continue to support mixed-use commercial including restaurants, watercraft rental and access, small retail, and waterfront related uses. Since the current driveway and parking is not well defined, this will be a critical step in the mixed-use development as well as the Waterfront Trail development.

A potential organization of this area is shown in Figure 7.

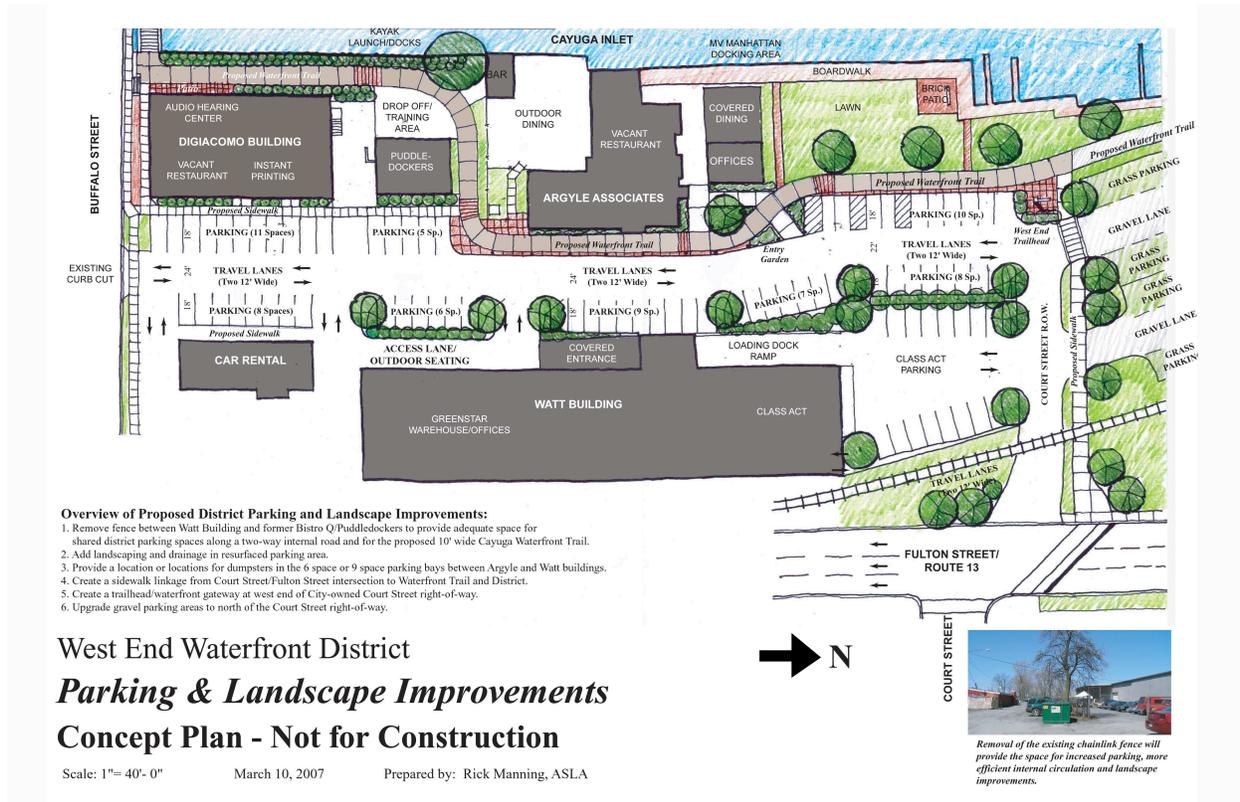


Figure 7

3.2 FUTURE ACCESS AND CIRCULATION IMPROVEMENTS

As noted earlier, interviews with landowners in the study area included a discussion of future access and circulation issues. Based on these discussions, the Steering Committee outlined a series of steps that could be taken in the future to address these issues. These improvements are described more fully in a later section.

The future access and circulation improvements are shown on Map 5 with the land use scenario – providing a picture of land use and transportation facilities in the future. Several of the illustrated improvements are described below.

- **Transportation Zone 1a – Market-Boathouse District**

In order to improve access and parking and maximize the area for future waterfront development on and adjacent to the NYSDOT site, Third Street Extension would be relocated eastward, along and parallel to the railroad. This would necessitate the relocation of the existing fuel depot. There are no current plans to relocate this facility, however, should the opportunities arise, this alternative should be explored more fully. There could also be

an improved access to this district via an access driveway extending south to Cascadilla Street.

- **Transportation Zone 1b – Route 13 Commercial District**

Parking would be developed under the overhead transmission lines, between Carpenter Circle and railroad tracks. Future considerations may include a parking deck with a pedestrian bridge connection to the waterfront area over the railroad tracks.

- **Transportation Zone 2 – Route 13 Office and Warehouse District**

Carpenter Circle would be extended south through this district to connect with Cascadilla Street to provide for better access and improved connectivity within the study area. This connection would also be dedicated to the City as public right-of-way.

- **Transportation Zone 3 – Port District**

The existing private driveway system would be extended northward to Cascadilla Street. The existing railroad crossing opposite Court Street could be closed in favor of locating a new crossing at Cascadilla Street. Any railroad crossing changes would need to be reviewed by the rail line as well as NYSDOT. The intersection of Cascadilla Street would need to operate as an intersection, that is, a 90 degree angle between the access road and Cascadilla Street, due to the proximity to the inlet.

Parking issues in this area would include extensive improvements in the design of the shared parking area in the center of this transportation zone. The parking improvements would require cooperation from all the landowners in the area. The City of Ithaca has established a small source of funds to help implement such improvements.

However, if access to Cascadilla Street is determined to be infeasible due to inability to gain public access or geometric constraints, then formal access should be pursued at Court Street providing a public crossing at the railroad, aligning the driveway with Court Street and including the access in the operation of the traffic signal. Based on the tax maps, a public right-of-way may exist from Fulton Street to the inlet and at this rail crossing and the jurisdiction should be investigated further by the City.

- **Route 13 Corridor**

The Route 13 corridor is the eastern boundary of the study area and the success of redevelopment of the waterfront area hinges on the access and operation of this major highway facility. A meeting with NYSDOT occurred on March 9, 2007 at NYSDOT Regional offices in Syracuse. The meeting minutes are included in section 5.2 of the Appendices.

NYSDOT considered the addition of any breaks for access driveways or street connections a last resort traffic improvement strategy. Route 13 serves an important function as a traffic arterial to and through the City of Ithaca. Additional access points to serve adjacent land uses would decrease this primary function of the highway,

However, NYSDOT was generally open to enhancing the character of the State Route 13 corridor to create an urban boulevard. Such improvements would enhance the relationship of the Northside Waterfront area with the Northside neighborhood as well as the rest of the City. By changing the character of the highway, it will act less as a barrier to neighbors and more a part of the urban fabric of the city. Additional benefits will also accrue to the city, as a boulevard will provide a more attractive gateway entrance to the City of Ithaca along one of its most highly traveled entrances.

- **Transit/Other Mode Improvements**

Transit improvements would include providing a loop through the site once the internal circulation improvements are made. Several transit routes could be modified to better serve the study area including TCAT Route 13, by using the Cascadilla Street access point and the future connection to Carpenters Circle as a loop through the northeast portion of the study area. Other routes include the downtown TCAT Route 19 connecting to the Northwest Ithaca area and TCAT Route 21, which is a suburban route connecting Trumansburg in the northwest corner of the County. These two routes could be modified to stop on Buffalo Street adjacent to the south end of the study area or loop through the southern portion.

Given the water access and docks along the waterfront in the study area, there are several boat shuttle possibilities. This could include a ferry service to other destinations around the inlet area, such as Cass Park.

3.3 FUTURE TRAFFIC OPERATIONS

Traffic Generation for the proposed land use scenario was determined through an iterative process. Volumes were incrementally increased for the access drives to determine the LOS and capacity for future growth. By maintaining a minimum LOS "D", volumes at the driveways were determined and a corresponding development mix was applied to match the volumes. The development possibility and corresponding trip generation volumes are shown in Table 6.

Given these volumes at the driveways, and the already assumed access and circulation improvements, the following mitigation measures were applied to provide at least a LOS "D" under the future land use scenario. :

- Route 13 corridor improvements to provide a context sensitive design to calm traffic from the expressway section and provide a gateway to the City.
- Additional upgrade of the traffic signal at Third Street to add protected and permissive left turns for Third Street left turns. This builds on the improvement listed in Section 2.5.
- Adding a left turn lane exiting the development area at the Third Street intersection to provide a total of three lanes. This assumes a right turn lane was already added to address existing traffic conditions listed in Section 2.5.
- Additional right turn lane exiting the study area at the Cascadilla intersection.

The Level of Service table for these improvements is shown in Table 7.

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Region		Description	Development Size	Trips Generated		
				AM	PM	SAT
Transportation Zone 1 – Market-Boathouse & Route 13 Commercial District						
Third Street Access	Grocery Store	ALDI's Supermarket	18,000 SF Supermarket (110 Parking Spaces)	59	188	194
	Retail	B&W Restaurant Supply	25,000 SF Specialty Retail Ctr (814)	0	68	88
	Open Areas	Community Gardens & Waterfront Area	-	0	10	20
	Condominium/ Waterfront Development	3-Story Buildings w/ Commercial on 1st floor, Residential units on 2nd & 3rd Floors	160 units (230) 80% of Traffic Generated	86	100	96
			32,000 SF (814) 80% of Traffic Generated	0	78	108
	Oil Supply	Petroleum Supple/Dist. Center	Gas Station - 2 positions @ 6 veh/position	12	12	12
	Plant	Sewage Treatment Plant	2.0 ac & 15-20 empl. Utility (170)	10	10	5
	Municipality	NYS DOT Maintenance Building	15,000 SF Utilities (170)	13	11	9
	Various Options	Office/Warehouse/ Light Ind./Manufacturing Combinations	Mixed Uses 40% of Traffic Generated	436	420	52
	Retail	Potential Future Free- Standing Retail	10,000 SF Free-Standing Store (813)	18	39	51
Market	Expanded Farmers Market (Seasonal)	25% Volume Growth on Existing Traffic Counts	31	200	750	
			TOTAL:	665	1136	1385
Transportation Zone 2 – Route 13 Office and Warehouse District						
Cascadilla Street Access	Office Building	Existing Office Building	15,000 SF General Office Building (710)	23	23	6
	Indust. Building	Industrial Dentist Supplies Manufacturer	6,000 SF Gen. Light Indust.(110)	10	10	10
	Rental Shop	Small Rental Shop	1,500 SF Specialty Retail (814)	0	25	30
	Condominium/ Waterfront Development	3-Story Buildings w/ Commercial on 1st floor, Residential units on 2nd & 3rd Floors	160 units (230) 20% of Traffic Generated	21	25	24
			32,000 SF (814) 20% of Traffic Generated	0	20	27
	Various Options	Office/Warehouse/ Light Ind./Manufacturing combinations	Mixed Uses 60% of Traffic Generated	654	660	102
Warehouse	2 Existing Warehouses	70,000 SF Warehousing (150)	32	33	10	
			TOTAL:	740	796	209

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Transportation Zone 3 – Port District							
Buffalo Street Access	Mixed Commercial Use	Restaurants, Shops, Cruise Line	33,000 SF	10,000 SF Restaurants (931)	8	75	108
				13,000 SF Shops (814)	0	35	33
				Dinner Cruise Line (931)	8	75	108
	Warehouse	Large Exist Warehouse	17,000 SF Warehousing (150)		24	16	0
				TOTAL:	40	201	249

Table 6

Level of Service Comparison Tables									
Intersection	Approach and Movement		Maximum Volumes w/ Improvement**		Maximum Volumes w/ Improvements**		Maximum Volumes w/ Improvements**		
			AM	PM	SAT				
			LOS	LOS	LOS				
Third Street & Route 13 <i>(Traffic Signal)</i>	SEB	L-T	C	B	E	D	D	C	
		R	A		C		B		
	NWB	L-T-R		C	C	C	C	D	D
		NEB	L	C	B	E	C	C	C
	T		B	C		C			
	R		A	A		B			
	SWB	L	C	B	D	D	B	C	
		T	B		D		C		
		R	B		A		C		
			Overall		B		D		C
W. Buffalo & Entrance <i>(Unsignalized)</i>	EB	T-L	a	a	a	a	a	a	
	WB	T-R	a	a	a	a	a	a	
	SB	R	d	d	d	d	d	d	
			Overall		b		c		c
Cascadilla & Fulton <i>(Traffic Signal)</i>	EB	T-R	C	C	C	C	C	C	
		R	C		D		C		
	WB	T-L	D	D	D	D	D	D	
	SB	T-L	B	B	B	B	A	A	
		R	A		A		A		
			Overall		C		B		B

Table 7

3.4 DISCUSSION OF OTHER TRAFFIC IMPROVEMENTS

The speed of traffic in the Route 13/34 corridor adjacent to the study area, is higher than the posted 30 mph and 40 mph, which is attributable to the “expressway” nature of the roadway south of Dey Street to the Fulton Street Meadow Street split. That is, the wide shoulders and open right-of way south of Dey Street does not look much different than the expressway section north of Dey Street.

The existing ROW is very wide, approximately an 8-rod width (132'±), and the possibility of NYSDOT giving up any of the ROW to increase development area and potential is very unlikely.

During the meeting with NYSDOT, several ideas for converting the section from Dey Street to the south into a “gateway” to the City to calm traffic, and to enhance pedestrian and bicycle access, were discussed. NYSDOT was willing to entertain such improvements to the corridor. However, when the discussions involved providing more access points into the study area to support new development, NYSDOT discouraged these ideas since the current regional preference is to retain the limited number of access points along this corridor.

Some of the other ideas discussed with NYSDOT that received positive responses included:

1. Relocating the railroad to abut Route 13/34.
2. Constructing a roundabout at the Dey Street intersection, which would provide a “gateway” to the City and provide a traffic calming feature while maintaining continuous traffic flow.
3. Providing a break-in-access as a right-in/right-out access driveway to the undeveloped Carpenter Business Park, adjacent to Route 13.

As noted above, a break-in-access of the current right-of-way would be a last resort if no other solution could be found and traffic volumes generated by the site would be more than existing access could handle plus factoring the economic development potential (i.e. increase in tax base, job creation, and public benefit) to justify increase access needs.

4.0 Recommended improvement Plan

4.1 IMPROVEMENT PROJECTS – SHORT TERM (1 - 5 YEARS)

The short-term transportation improvements described below are intended to enhance access for existing land uses in the study area as no major land use changes or development projects are expected during this short-term window. However, the City and County departments should continue to seek opportunities to create the internal circulation connections for the future land use changes and developments in association with projects in the area and if funding becomes available. Map 6 shows all the short-term improvements. The recommended short-term improvements include:

4.1.1 Dey Street and State Route 13 Intersection Improvements

As noted in a previous section, the City of Ithaca has received a Transportation Enhancement Program (TEP) grant to improve pedestrian access at this intersection. The City is currently finalizing the agreements with the design firm and will commence design early in 2008. This design will provide safer pedestrian approaches to and the intersection and high visibility pedestrian crossings to improve the safety at these intersections for pedestrian and also bicycle traffic crossing State Route 13 and Dey Street. This design effort should also include the link across the railroad tracks to connect to the existing trail bridge over Cascadilla Creek on the west side of Route 13 as well as a link to the pedestrian bridge over Cascadilla Creek near the ScienCenter. NYSDOT will be replacing the traffic signal in 2008 and incorporate pedestrian signals and timing.

4.1.2 Third Street and State Route 13 Intersection Improvements

As noted before, the City of Ithaca has received a Transportation Enhancement Program (TEP) grant to improve this intersection also. The City is currently finalizing the agreements with the design firm and will commence design early in 2008. This design will provide safer pedestrian approaches to and the intersection and high visibility pedestrian crossings to improve the safety at these intersections for pedestrian and also bicycle traffic crossing State Route 13 and Third Street. The TEP project will fund the construction of a hard-surface trail linkage from the Third Street intersection to the Farmers Market area. NYSDOT will be replacing the traffic signal in 2008 at this intersection also and incorporate pedestrian signals and timing.

4.1.3 Third Street Widening

In addition to the traffic signal and pedestrian improvements discussed above, the existing Third Street approach from east has some operational issues. Third Street is the major entrance to the Ithaca Farmers Market, the NYSDOT Maintenance Facility, the Cornell and Ithaca Boathouses and Carpenters Circle. Capacity improvements need to be made now to increase the capacity of the link between Route 13 and the Farmers Market. The traffic improvement grant at the intersection does not include this type of improvement. However, the existing right-of-way is about 60' at the intersection, which would restrict the ability to add lanes and include

pedestrian facilities with a tree lawn area. An additional lane should be added to the eastbound approach (from the Farmers Market) to increase capacity of the approach. A right turn lane could be added to Third Street to accommodate turning movements onto southbound Route 13 in order to improve traffic operations at this intersection and should commence as close to Carpenters Circle as possible. Signal timing should be adjusted to ensure better traffic operations at this intersection, particularly during Saturday Farmers Market hours. An overlap phase concurrent with the northbound Route 13 left turns should be included.

Further improvements should address the enhancement of pedestrian safety along Route 13. Median refuge islands for pedestrian safety between these proposed turning and through lanes could be added at both the northwest and southwest corners of the intersection. Refuge islands would allow adequate space for north-south through bicycle travel on Route 13. East of the intersection, Franklin Street intersects Third Street very close to Route 13 and should be reconfigured to enhance pedestrian and vehicular safety. While technically outside the study area of this report, improved operations at the Franklin Street intersection should improve the overall operation of the Route 13/Third Street intersection. Design alternatives should be explored during the design phase of the TEP project to consider other possible improvements to be added to the effort scoped in the TEP grant projects. See figure 8 below showing these improvements.

4.1.4 Cayuga Waterfront Trail – Phase 2

Phase 2 of the Cayuga Waterfront Trail is planned to connect Cass Park and Inlet Island to the Ithaca Farmers Market. The trail route is planned to pass through Transportation Zone 3 (Port District) and Transportation Zone 1a (Market–Boathouse District). A preliminary route has been approved by the City of Ithaca and NYSDOT. Negotiations to secure the needed right-of-way from six landowners are currently underway. No timeline for easement acquisition has been established. This project will provide an accessible, 10' wide asphalt multi-use trail linkage to accommodate bicyclists and pedestrians and create a much needed non-motorized linkage within the Northside Waterfront study area.

4.1.5 Farmers Market Shuttle and Improved TCAT Access to the Waterfront

TCAT service to the Northside Waterfront study area is very limited with only TCAT Bus Route 13 serving Aldi from Third Street and TCAT Route 16 passing by the northeast tip of the study area along Willow and Dey Street. Other TCAT routes that pass by the study area to the south include TCAT Routes 19 and 21. TCAT and the Ithaca Farmers Market should explore the feasibility of creating a Farmers Market Shuttle that can pick up market patrons from remote parking locations throughout Ithaca and drop them at the market or at a location within easy walking distance of the market. TCAT should explore other route alternatives to better serve waterfront destinations within, and beyond, the Northside Waterfront study area.

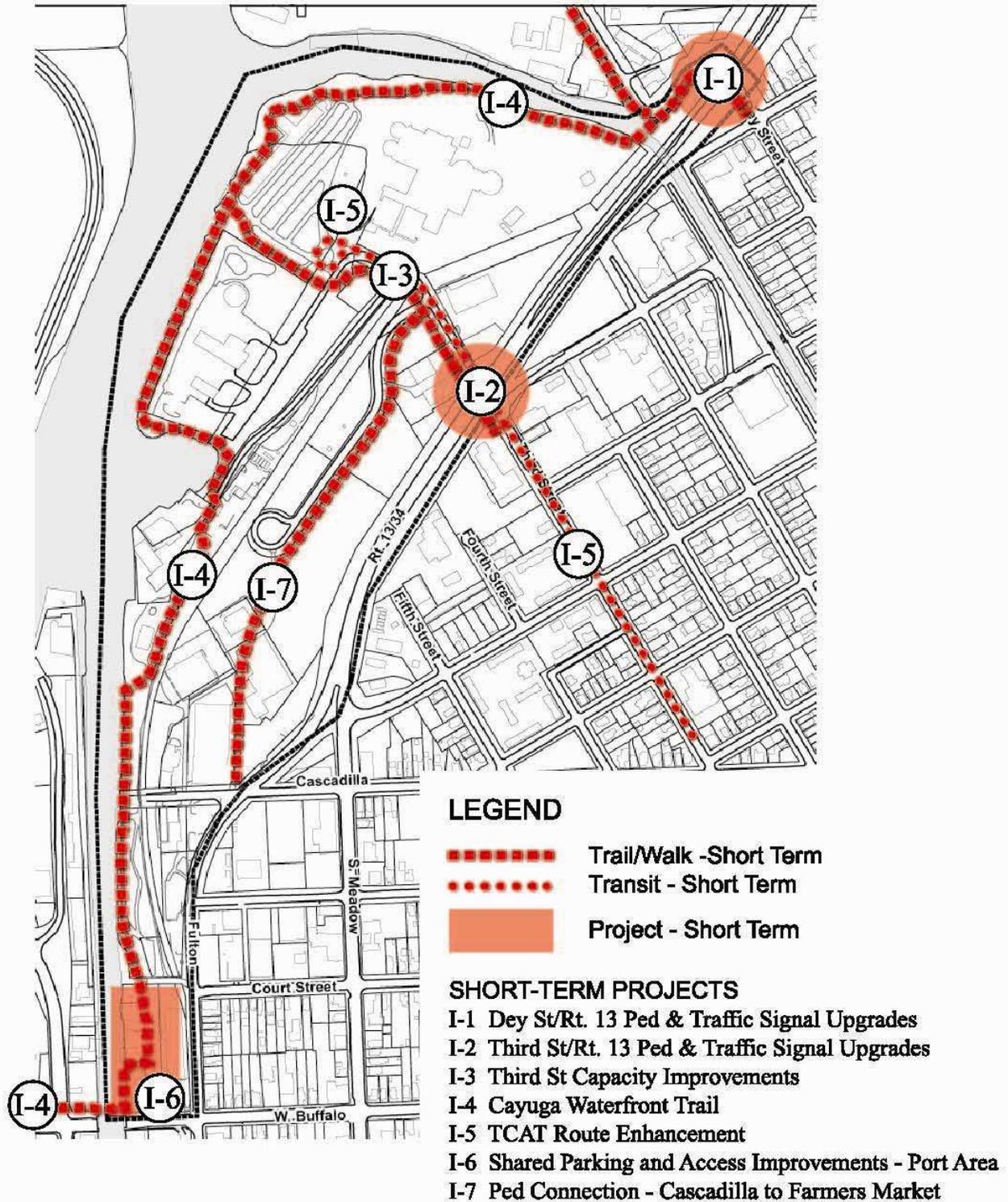
4.1.6 Shared Parking, Pedestrian and Auto Access Improvements in Port Area

Related to the discussion above, Ithaca's Port area which is home to the MV Manhattan, Puddledockers Canoe and Kayak Rental, among other small businesses has a poorly planned and run down parking and roadway network. In addition there are no sidewalks for safe and

comfortable pedestrian access. The construction of the Waterfront Trail will address some, but not all of these issues. The City should work with area landowners and businesses to develop ideas and implementation strategies that are viewed as positive improvements. It may, however, be possible that the City will need to acquire the access drive to make the required improvements. As part of the Cayuga waterfront Trail development, shared parking in the port district can be implemented similar to Figure 7 from Section 3.1.

4.1.7 Create Pedestrian Connection from Cascadilla Street to Farmers Market

A new pedestrian linkage from the existing sidewalk network at Cascadilla and Fulton Streets to the Farmers Market could use the existing Carpenter Circle sidewalk and the proposed Third Street to Market trail linkage. This would serve downtown residents in the Washington Park neighborhood and strengthen pedestrian linkages between the downtown and the waterfront. No specific route has been identified, but the trail linkage could be a predecessor of the proposed road connector between Cascadilla and Third Streets through Carpenter Business Park. As the pedestrian routes are contemplated, the public right-of-way and/or easement issue needs to be addressed to provide access for the public.



Map 6

4.2 IMPROVEMENT PROJECTS: MID-TERM 5 – 10 YEARS

The transportation improvements described below will require a longer time period to study their feasibility, prepare designs, grant applications, and/or get required approvals. It is possible that during this five to ten year period, some development projects may come to fruition in the Northside Waterfront area, within Carpenter Business Park or redevelopment of the NYSDOT Facility site. Such developments will necessitate some of the more aggressive transportation improvements outlined here. Map 7 shows all the mid-term improvements.

4.2.1 State Route 13 Corridor Boulevard Improvements

The Route 13 corridor is a limited access expressway north of Dey Street and restricts use of the roadway to pedestrians and bicyclists. The speed limit changes to 40 miles per hour in the southbound direction just north of the Dey Street intersection, and drops to 30 miles per hour between the Dey Street and the Third Street intersections. In the northbound direction, the speed limit increases to 40 mph just north of the Third Street intersection and to 55 miles per hour just north of the Dey Street intersection. However, the wide lanes and shoulders continue between the Dey Street intersection and the Fulton Street/Meadow Street split. This section of Route 13 from the Fulton Street / Meadow Street split should be improved to create a more urban arterial. Context Sensitive Design guidelines should be used to provide a proper transition from the expressway to the City street network. The Institute of Transportation Engineers has prepared several “fact sheets” on Context Sensitive Solutions and number 8 demonstrates guidelines for “Design of Major Priority Thoroughfares”. The website link to the information is and Fact Sheet 8 is included in Section 5.3 of the Appendices.

The Dey Street intersection should be the gateway to the City of Ithaca along this corridor. Context Sensitive Design would provide better visual cues for the motorists and calm traffic. At a minimum, signs should be posted to alert motorists that they are entering the City’s street network and they can anticipate multi-modal users. NYSDOT is open to improving the corridor to create a City gateway and provide a more urban feel to the roadway section as shown in Figure 9. Elements of the design could include curbing, sidewalk, bicycle lanes, street lighting, a median, and tree plantings.

4.2.2 Dey Street and State Route 13 Intersection Improvements:

In addition to the corridor improvements listed above, a right turn lane could be added to northbound Route 13 at the Dey Street intersection. Currently, many motorists illegally use the existing wide shoulder as a turning lane, which compromises pedestrian and bicycle safety at the intersection. As a continuation of the TEP improvements reported in the short-term projects, a median refuge between the turning lane and the northbound travel lane would enhance pedestrian safety by shortening the crossing distance and increasing visibility.

The new sidewalk along Dey Street and crosswalk on Route 13 will occur on the west (southwest) side of Dey Street. Pedestrians should be directed with clear signage to this side of the street at the raised Lincoln Street intersection. Signal timing should be adjusted to ensure that pedestrians have adequate crossing time. Figure 8 shows these improvements.

Route 13 and Dey Street Short- plus Mid-Range Improvements**Figure 8****4.2.3 Third Street and State Route 13 Intersection Improvements**

In addition to the corridor improvements listed above, right turn lanes could be added to both the northbound and southbound Route 13 approaches at the Third Street intersection. This would provide increased capacity to the mainline of Route 13, provide for right turning vehicles and provide refuge islands for pedestrians. Figure 9 shows these improvements.

4.2.4 Cass Park to Farmers Market Ferry

The dock infrastructure will be in place within two years to allow the operation of a small ferry between a proposed dock in Cass Park and the existing dock at the Market. This would allow West Hill residents the opportunity to park in Cass Park and take a water ferry or taxi to the market. The distance is so short that it could likely be operated as an on-demand ferry. In the future other ferry stops could be added such as at the proposed Stewart Park Pier and at the MV Manhattan's landing area.

Route 13 and Third Street Short- plus Mid-Range Improvements**Figure 9****4.2.5 New Connector Road – Cascadilla Street to Third Street**

To support development in the study area east of the railroad track, it is critical to link Transportation Zone 1b (Route 13 Commercial District) and Transportation Zone 2 (Route 13 Office and Warehouse District) with an internal public road that provides motor vehicle, bicycle and pedestrian facilities. A connector road from Cascadilla Street to tie into Carpenters Circle should be developed. With Route 13 a limited access highway in this area, the internal connection to link Third and Cascadilla Streets becomes essential to create a visible, safe and accessible district for development. Also, this would need to be a public right-of-way.

4.2.6 Route 13 Right-in/Right-out Access

Another possibility to address future study area access to the Carpenters Business Park area and relieve concentrated traffic egress at Third Street would be to break the existing without access on the east side of Route 13 near the current circle of Carpenters Circle to provide a right-in/Right-out access point to facilitate southbound traffic. This improvement assumes that

the median is installed as listed in improvement 4.2.1 and that NYSDOT would allow the break-in-access. Justification for the access point would require a traffic impact study for the specific development or developments.

4.2.7 Surface Parking Lot under Utility Lines in Carpenter Business Park

High-voltage overhead utility lines between Carpenter Park Road and the railroad make a significant area of the business park not suited for buildings. This area could be developed as shared surface parking that can serve the Farmers Market, the college rowing programs during race events, and development that occurs in this area. As pedestrian and bicycle connections are improved in the Northside Waterfront area, remote shared parking facilities become a viable strategy for addressing parking needs.

4.2.8 Shared Surface Parking Lots for Market and NYSDOT Redevelopment

For dense, mixed-use development to occur successfully on the NYSDOT site, providing an adequate parking supply and multi-modal access to the site will be critical. It is assumed that surface parking, if deemed the only affordable option for parking, at least in the short term, should be located on the land side of the development and accessed either off of Third Street Extension, an internal private drive or both. Ideally such a parking lot can be shared so that it serves market patrons on Saturday and Sunday mornings during the market season.

4.2.9 Create a Public Railroad Crossing

Historically, there may have been a railroad crossing at the west end of Cascadilla Street. Current policy within NYSDOT, which oversees all railroad crossings in the state, is that new crossings are not allowed and a new location can be established if another location is abandoned. Adding a crossing at Cascadilla would require that the current private access crossing adjacent to Court Street would be abandoned. The Cascadilla Street location that could meet at a T-intersection with a proposed boathouse access road from the north and would greatly enhance waterfront access.

The intersection at Route 13 and Cascadilla Street is properly aligned and may be much less expensive to upgrade than the private crossing at Court Street. If a vehicular crossing was not viable, a pedestrian crossing would enhance access to the waterfront and Waterfront Trail for city residents and also allow trail users safe access to Purity Ice Cream, the Citgo Convenience Mart, and other area attractions and services.

If access at Cascadilla Street is not allowed, then the Court Street private crossing should be pursued to make this crossing a public crossing. For the Court Street entrance to the Port area to function safely and efficiently, the private entry drive would become a public access road and have to be properly aligned with Court Street. This would require property acquisition and result in the loss of some parking at the entrance to Class Act Tile and Hardwood.

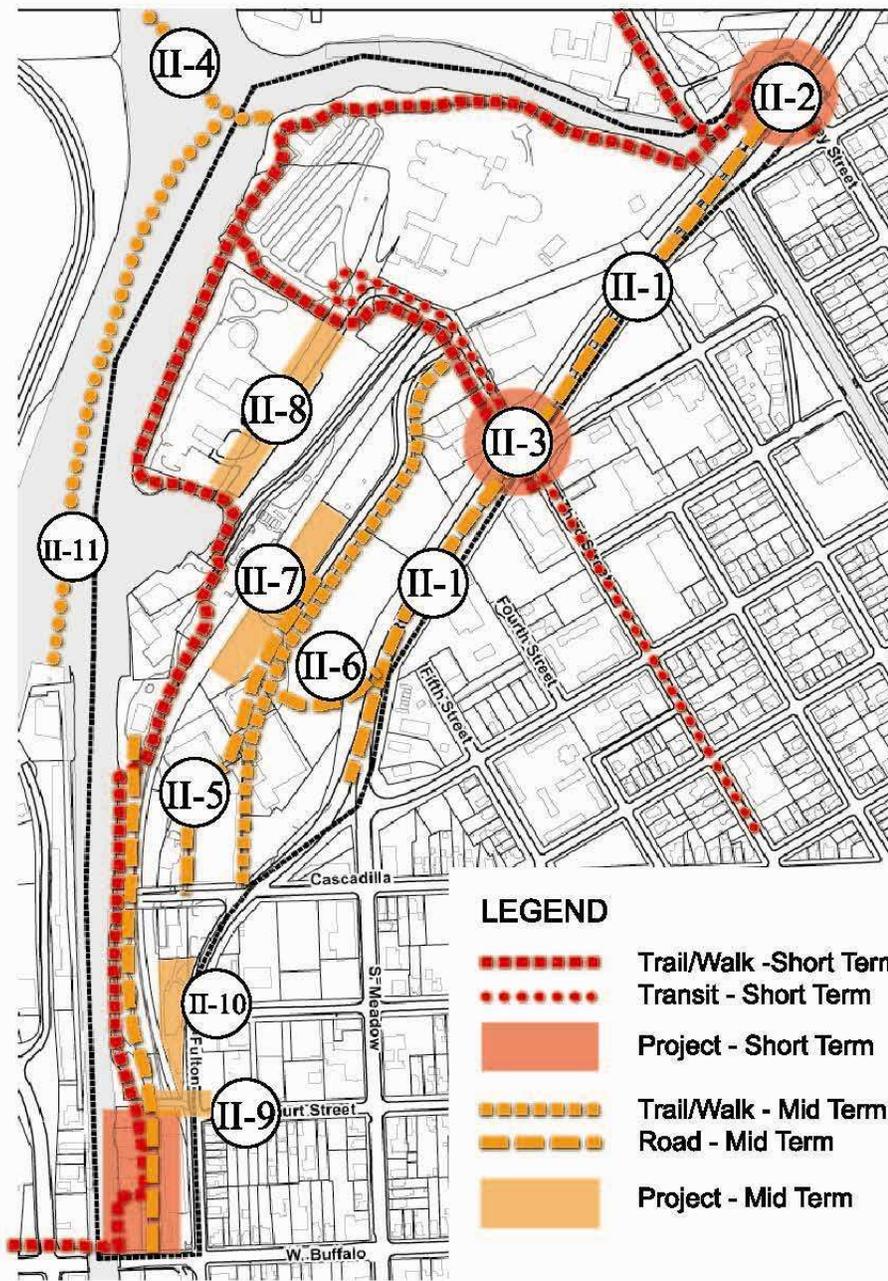
4.2.10 Municipal Parking Area adjacent to Fulton Street in Zone 2

There are two parcels, Tax Parcel Numbers 52.-3-17 and 52.-3-18, which form a narrow, triangular area seemingly suitable only for parking located between the railroad and Fulton

Street at the south end of zone 2 just north of the Court Street intersection. This lot was recently purchased by a local business man, however, discussions with the Steering Committee and City representatives indicates that the area may be a suitable location for a municipal parking area. There are currently two curb cuts on Fulton Street to access the area.

4.2.11 Ferry System Expansion

Continue exploring the viability of developing a ferry system to link the market to numerous other waterfront destinations, both in the Inlet and at the south end of the Lake. The most important connections are to link Cass Park to the Farmers Market, as described earlier, and to create a ferry linkage between the northern end of Inlet Island and the Waterfront Trail along the east bank of the Inlet.



MID-TERM PROJECTS

- II-1 Rt. 13 Corridor Improvements
- II-2 Rt. 13/Dey St. NB RT Lane
- II-3 Rt. 13/Third Str. NB & SB RT Lane
- II-4 Ferry Between Farmers Market & Cass Park
- II-5 Connector Road from Cascadilla to Third St.
- II-6 Right-In/Right-Out for Business Park Access

- II-7 Shared Parking Under Transmission Lines
- II-8 Shared Parking Between Development and Farmers
- II-9 Public Railroad Crossing
- II-10 Municipal Parking
- II-11 Other Ferry Enhancement

Map 7

4.3 IMPROVEMENT PROJECTS: LONG-TERM 10 – 20 YEARS

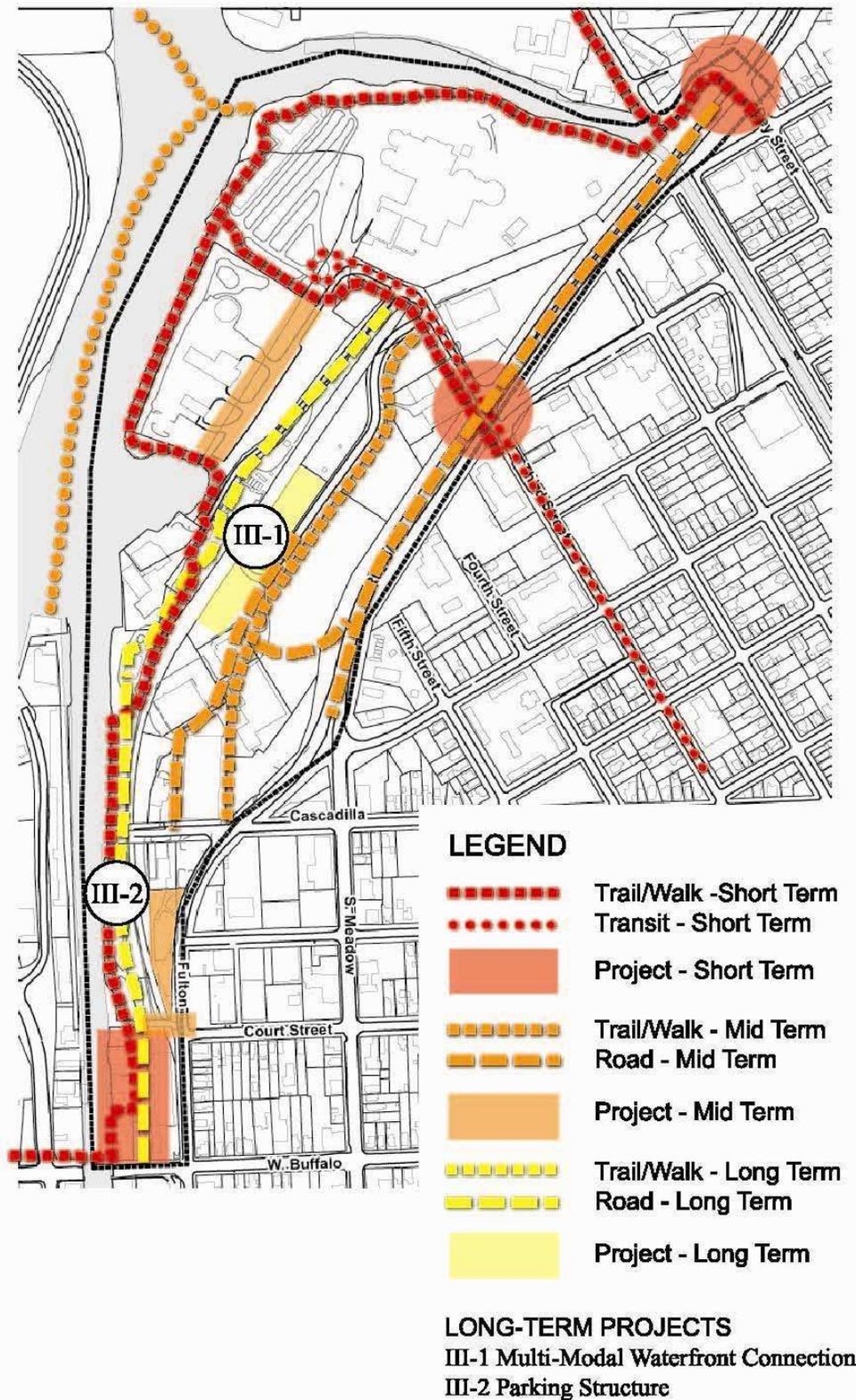
Some of the transportation improvements described below may become necessary or viable if dense urban development occurs. Map 8 shows all the long-term improvements.

4.3.1 Multi-Modal Corridor Linking Zones 1a and 3 along Water Edge

The Waterfront Trail – Phase 2 and a boathouse access road are likely to be developed in the narrow waterfront corridor west of the railroad track. Cornell, owner of the boathouse property, has indicated that they would like to develop an access road from the south to service Ithaca College's boathouse and reduce motor vehicle traffic in front of the Cornell Boathouses. It would be beneficial to use this access road for a waterfront trolley or bus that would enhance connectivity between waterfront destinations without introducing through traffic with single-occupancy vehicles. A gate could provide limited through access for transit, emergency and maintenance vehicles and at the same time restrict motor vehicle access.

4.3.2 Parking Structure in Carpenter Business Park

The land in Zone 1a, the Market – Boathouse district, has great development potential due to its location on the waterfront edge. To maximize the development potential of the land on the water side of the railroad track and to meet parking demand related to the Farmers Market, Boathouses and NYSDOT site redevelopment consideration should be given to constructing a multi-level parking structure east of the railroad track in the Carpenter Business Park. The existing overhead utility lines would have to be relocated or integrated into site development plans. A bridge crossing of the railroad track could be constructed from the upper level of the parking structure to an upper level of the waterfront development to allow for a public walk from the garage to the Waterfront Trail, rowing course viewing area, and the Farmers Market. This structure could also provide needed parking requirements for development along the west side of Route 13.



Map 8

4.4 POSSIBILITIES BEYOND 20 YEAR HORIZON

4.4.1 Additional Trail Bridge from Inlet Island to East Bank of the Inlet (Zone 3 of Waterfront District)

Creating a Cayuga Lake Port in the Historic Cayuga Inlet between Inlet Island and Zone 3 (east bank of Inlet between Cascadilla and Buffalo) would benefit from additional pedestrian crossings of the Inlet, north of the proposed Cayuga Waterfront Trail Bridge north of the Buffalo Street Bridge. The bridge would have to be high enough to meet Canal Corporation standards (15') and to allow for tourboats to pass below. The bridge could be integrated into the upper levels of new marina and condominium development along the east edge of Inlet Island.

4.4.2 Route 13 Corridor Access Improvements

In the mid-term improvements, the enhancing of the multi-modal functioning and creation of an urban boulevard of Route 13 between Dey Street, Third Street and Cascadilla Street was presented.

The next step in the improvement process is to review the possibility of breaking some of the “without access” along the corridor. In meetings with NYSDOT, breaking of the “without access” right-of-way would not be allowed without substantial justification.

As development occurs and opportunities for development are realized within Transportation Zones 1b (Route 13 Commercial District) and 2 (Route 13 Office and Warehouse District), traffic impact studies for the developments may provide justification to break the without access as a right-in/right-out only configuration with access on the west side of a median only or full access intersection to add a link from the City area to the east with the study area. Adding an additional signalized crossing at 5th Street would enhance waterfront access for neighborhood residents and increase access to the Carpenter Business Park area to serve, or help stimulate, development in that area.

**Context Sensitive Design
Boulevard Layout**

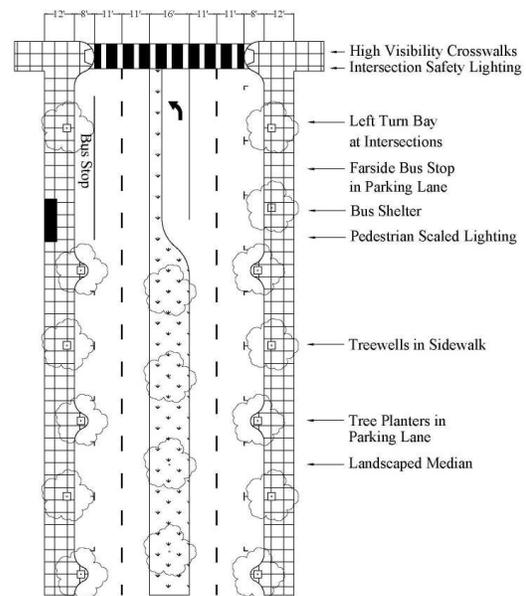


Figure 10

4.4.3 Railroad Track Relocation

Route 13 was constructed in, or very near, the main railroad corridor and the mainline of the railroad was abandoned from Dey Street to Court Street and the line was relocated to its current location in a railroad line spur. As has been discussed earlier, the railroad now bisects the waterfront district, creating many obstacles for site development and waterfront access. The

Northside Waterfront Access and Circulation Study

Draft Final Report

Recommended improvement Plan

March 26, 2008

costs, impacts and potential benefits of relocating the railroad close and parallel to Route 13 along the Carpenter Business Park area could be analyzed to determine if this would significantly enhance the waterfront development potential of the study area and particularly the NYSDOT site.

5.0 Appendices

5.1 LANDOWNER INTERVIEWS

Meeting Notes



Stantec

Summary of Interviews with Landowners

Northside Waterfront Transportation Circulation Study

Date: January 22, 2007

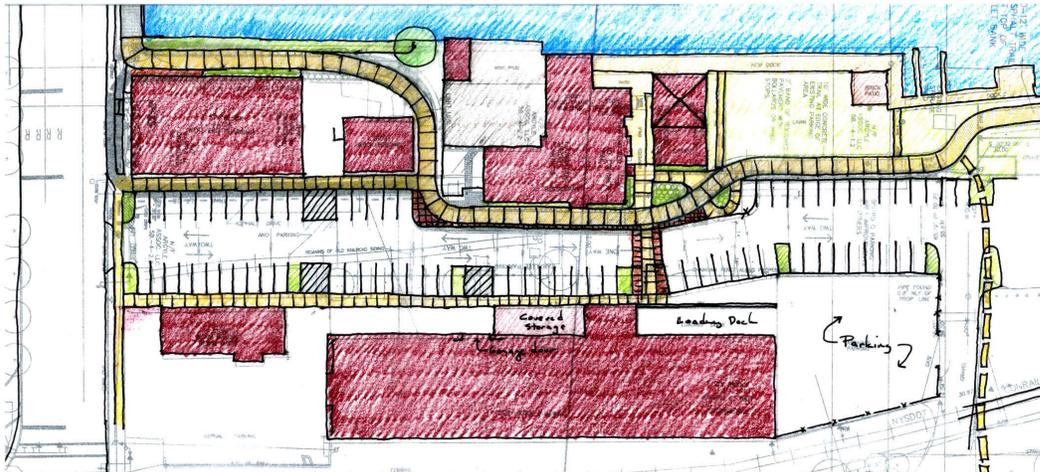
This is a summary of the interviews conducted with the landowners concerning the project and their input into possible future land use.

William Watt

Contact: Joel Abrams, Lama Realty

Summary of Discussion:

Discussed the project with Joel and he is arranging a meeting with Watt, Digiacom, and Fosters to review parking improvement plan that was developed as part of Waterfront Trail discussions. (See attached Sketch) Rick Manning to develop a more refined CAD drawing of parking and pedestrian improvements for review and discussion. Meeting time to be determined.



West End Parking Sketch Plan

Angelo Digiacom

Contact: Angelo Digiacom; 273-3535

Summary of Discussion:

Have discussed trail project concerning access for this project. See William Watt interview.

Andree Petroleum/Holding Company

Contact: Robert Andree; 272-2250;

Summary of Discussion:

Called, left messages.

Bruce Lane (formerly Marvin Freedman owned parcel)

Contact: Bruce Lane; 539-7294?

Summary of Discussion:

Have discussed trail project concerning access for this project. See William Watt interview.

Argyle Associates

Contact: Andy, Doug and William Foster; 272-8102

Summary of Discussion:

Talked to Andy Foster, emailed him information and need to followup with him after discussing project with Cynthia Yahn.

Dr. Robert Baker, Sr.

Contact: Robert Baker Sr. 272-3921;

Summary of Discussion:

Concerned about any impact on his business or associated site infrastructure and improvements. His property does not seem to be directly impacted by any of the proposed transportation improvement projects. I mailed him an information sheet on the project with contact information.

Ricks Rental

Contact: Glenn Rick, Owner; 277-1379

Summary of Discussion:

I presented the project and Glenn had no major concerns or issues to share other than to insure that his business is not negatively affected by any of the transportation proposals.

Elaine Stephens and Family

Contact: Elaine Stephens; 277-1379

Summary of Discussion:

Not contacted. She owns 20' wide sliver of former Cascadilla Street ROW, other half owned by Marina Realty (see below)

Marina Realty of Ithaca

Contact: Steve Flash; 277-1379; 592-0672; sflash@centralny.law.com

Summary of Discussion:

Steve Flash is a partner in the development company that has been designated as the preferred developer for the remaining undeveloped land on Inlet Island. He is very interested in making connections, vehicular and pedestrian, between the Northside area and Inlet Island. He would like to see a bridge over the Inlet, vehicular, pedestrian, or both, north of Buffalo Street in the vicinity of Court or Cascadilla Streets. Parking is a major issue for Inlet Island and for the Northside area, particularly south of Cascadilla Street. Cornell Real Estate office approached Steve about purchasing his narrow parcel at the west end of Cascadilla Street to help secure access to their boathouse parcel from the south.

Cascadilla LLC; Palisade Corporation

Contact: Sam McLafferty, Owner, and Steve Hunt, Facilities Manager; Meeting at Palisade 1, 2006;

Summary of Discussion:

Currently access to Palisade is on a driveway/access road at the end of Cascadilla Street, between Rick's Rental and a Cornell University Press warehouse. The office is essentially landlocked with no frontage on a public road. Plans are currently under development to improve this access road with the cost being shared by all property owners. However access to Palisade from Route 13, even with these improvements, are circuitous at best. Palisade owner Sam McLafferty is in favor of the development of a new road linking the Carpenter Business Park and Cascadilla Street. He is not sure whether a road can be developed without demolition of a building. He is also in favor of another access point off of Route 13 to both the Carpenter Park and to their facility. This would be either through a new Route 13 intersection at or near 5th street (preferred), or a one-way lane off of the southbound lane of Route 13 north of Purity Point that links to Carpenter Park Road.

In general they are interested in development that is compatible with their office building, either similar types of facilities (i.e. Waterfront High Tech) or retail establishments that enhance the district and serve their employees.

B&W Supply

Contact: Hoyt Benjamin; hoyt@bwsupply.com; 273-5300

Summary of Discussion:

Saturday access to B&W is severely hampered by market traffic; Aldi and B&W entries not aligned; BW entry is close to intersection and they have a ROW off Carpenter business park; Supports new entry off Route 13 at 5th street, either extending 5th street or just one way entry before gas station; Hoyt is very supportive of changing design of Route 13 to urban street section and feels that these improvements may be necessary to stimulate development.

Cornell University

Contact: Mina Amundsen, University Planner; Meeting at Cornell on November 1, 2006; 255-2000; mma29@cornell.edu.

Summary of Discussion:

Mina was very clear that extending a public roadway through the boathouse property would not be viewed favorably by Cornell University due to the lack of space and intensity of use by student athletes and visiting teams, fans, etc. Cornell is interested in pursuing access to Ithaca College's boathouse, which is on Cornell property from the south so that IC athletes and visiting teams do not have to cross Cornell facilities. A crossing of the railroad tracks at either Cascadilla Street (new) or use of existing private Court Street would be required to service a new access road from the south, ending at the IC Boathouse. Cornell administration is discussing this project and will issue their concerns in writing, according to Ms. Amundsen.

Templar, LLC

Contact: Cynthia Yahn; 273-8225; 227-3801(cell);

Summary of Discussion: (Meeting on Tuesday, 11-28-06 at 1pm)

Improving the crossing at Court Street is very important to enhance the development potential of land in this area. It would be best as a public crossing, this less vulnerable. Also geometry should be regularized and pedestrian crossing safety improved. Likewise, as crossing a Cascadilla Street would also enhance the development potential of this section of the waterfront.

Cynthia thinks that Meadow Street should be converted back to a 2-way street with Fulton being more of a local street. This would minimize traffic impacts on the West End waterfront district. Seneca Street should be converted to a 2-way street between meadow and fulton as well (outside of study area). This was done during construction and worked very well and enhances access to Tompkins Trust, AFCU and Greenstar.

Crossing the Inlet on a bridge at Court Street, as has previously been discussed during Octopus project to link directly into Route 89, would require a lot of land due to ramping requirements, etc. It would take up too much developable land, in her opinion.

A Route 13 bypass around the City of Ithaca would benefit the development potential of the West End properties by reducing the traffic that currently overwhelms this area. Also an east-west bridge, north of the farmers market would also reduce vehicular traffic in the heart of the West End and improve the area's development potential.

The overhead utility lines in Carpenter Business Park occupy valuable land. They should be consolidated onto one pole and placed adjacent to the RR corridor to free up land for development. Grant application was submitted for this at one time. Not sure about status of this, but not in the works at this time.

5th street extension across Route 13 is a good idea that would enhance the development potential of Carpenter Park. This area should be more urban – gridded, narrower streets with parking, multiple uses, etc. Extending the Carpenter Bus Pk Road should be considered and existing buildings should be considered expendable, in the long term.

At least 2 parking structures are needed in the study area. Structured parking is essential to address parking requirements of proposed development on the limited land that is available.

The foregoing is considered to be a true and accurate record of all items discussed. If any discrepancies or inconsistencies are noted, please contact the writer immediately.

STANTEC CONSULTING SERVICES INC.



Carl W. Ast, PE, PTOE
Associate
Transportation Planning and Traffic Engineering
cast@stantec.com

5.2 NYS DOT MEETING MINUTES

Meeting Notes



Stantec

Project Meeting with NYSDOT Planning

Northeast Waterfront Transportation Access Study / FILE 192500128

Date: March 9, 2007

Place/Time: NYSDOT State Office Bldg 7th Fl. Conference Room / 1:30 pm

Attendees: Mark Freshette, NYSDOT Region 3 Planning and Program Manager

Bill Egloff, NYSDOT Planning

Joan Jurkowich, Tompkins County Planning

Fernando de Aragon, ITCTC Executive Director

Tim Logue, City of Ithaca DPW

Carl Ast, Stantec

Distribution: Attendees

NE Waterfront Transportation Access Steering Committee

Item:

The following is a summary of items discussed:

A brief summary of the project was given referencing a project land use map a map showing the project limits and proximity of Route 13/34 to the project area. The project is sponsored by Tompkins County to review multimodal access and site circulation for possible future development of the study area. (See attached map).

An informational letter was sent to NYSDOT dated January 18, 2007 discussing the project and requesting feedback on possible improvements to Route 13/34 plus increased access scenarios to be discussed at this meeting. Feedback from NYSDOT will assist the project team to narrow possible improvements to be reviewed in the study and establish land use criteria for traffic generation of the future land use.

It was noted that the section from Third Street to the Fulton/Meadow one-way split is posted at 30 mph but with the very wide shoulders and the deep setback to the ROW fence, the road functions more like a high speed arterial. Also, the roadway seems to cutoff the study area from the rest of the City in this section due to the fence and wide ROW. Although there are wide shoulders, there is a low volume of pedestrians and bicyclists using this section of the roadway.

The highway currently carries about 35,000 AADT and NYSDOT noted that any changes to the highway cannot negatively impact the capacity of this important roadway.

The NYSDOT subresidency maintenance facility is currently located in the study area. There is a plan in place to consolidate the Ithaca subresidency and the

Cortland subresidency into one facility in Dryden. However, NYSDOT noted the consolidation project is not in the five year TIP. Given the priority of other road projects, the building of the new maintenance facility in Dryden may not occur until 10 to 20 years in the future.

Also, no improvements to this Route 34 corridor are currently in the 5-year TIP. However, there is a grant to improve pedestrian access and crossings at the Route 13/34 intersections with Dey Street and Third Street that will be implemented in the next 2 years.

The letter discussed four scenarios of increasing level of improvement to the corridor and some access changes:

“Scenario one would improve the corridor to create a more urban arterial comparable to the Route 9 model discussed above. This could include some or all of the following elements: curbing, sidewalk, bicycle lanes, street lighting, a median, and tree plantings. Other related improvements could include a roundabout at the Dey Street intersection, which would provide a “gateway” to the City and provide a slower but more continuous traffic flow.

Scenario two would require a break-in-access of the State right-of-way by providing an access road for southbound traffic to the undeveloped Carpenter Business Park, adjacent to Route 13.

Scenario three would enhance access to the study area by extending either Fourth Street or Fifth Street across Route 13/34 to provide another link to the study area and improve the connection between the downtown and the waterfront districts. This would provide better access in both directions and also require a break-in-access of the State right-of-way.

Finally, scenario four would be a more aggressive, ‘new urban’ approach to the corridor. This concept would create an urban street with on-street parking, sidewalks and street trees and new buildings close to the roadway, with parking and access from an access road behind the new development. This approach would extend the City character from Meadow Street, south of the study area, and create a boulevard appearance as typically presented in context sensitive design applications.”

NYSDOT is open to improving the corridor to create a City gateway and provide a more urban feel to the roadway section. However, a traffic study would have to be performed to provide justification for any improvements to the corridor and demonstrate maintaining adequate levels of service.

A break-in-access would be a last resort if no other solution could be found and traffic volumes generated by the site would be more than existing access could handle plus factoring the economic development potential (i.e. increase in tax base, job creation, and public benefit) to justify increase access needs.

Therefore, scenario four is not a viable option for the NYSDOT to consider and scenarios 2 and 3 would be a last resort approach.

The existing ROW is very wide, approximately an 8-rod width (132'±), and we discussed the possibility of giving up any of the ROW to increase development area

and potential. NYSDOT indicated that giving up ROW is very unlikely in this case. A suggestion was made that the railroad line could be relocated into the road ROW if financially practical as a way to increase the circulation and development potential of the study area.

The meeting adjourned at 3:45 pm.
The foregoing is considered to be a true and accurate record of all items discussed. If any discrepancies or inconsistencies are noted, please contact the writer immediately.

STANTEC CONSULTING SERVICES INC.



Carl W. Ast
Associate
cw.ast@stantec.com
March 27, 2007

cc: Attendees
Northside Waterfront Circulation and Access Study Steering
Committee Members

5.3 ITE CONTEXT SENSITIVE SOLUTIONS – FACT SHEET 8

Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities

The thoroughfare designer is challenged by the need to balance automobile mobility with the needs of pedestrians, bicyclists, transit, public space and urban design elements. While this report emphasizes CSS primarily in walkable, mixed-use residential and commercial urban areas, there are many urban areas with corridors or large districts that, by their nature, are low intensity and low density and do not provide the mix of uses, development patterns, or roadway networks conducive to walking. See **Figure 1** for a typical mobility priority thoroughfare. Transportation in these areas is primarily by motor vehicle, although transit and bicycling can be viable modes. These areas include commercial or industrial uses that rely on freight movement and, therefore, need to accommodate significant numbers of large vehicles. The streets serving these areas are “mobility priority thoroughfares” designed primarily to accommodate vehicle traffic, but must accommodate other modes as well.



Figure 1. A typical vehicle mobility priority thoroughfare serving a single use area. Source: Kimley-Horn and Associates, Inc.

Objectives of Designing Mobility Priority Thoroughfares

CSS applies as much for major thoroughfares in urban areas where vehicle mobility is a priority as it does to traditional urban areas. Stakeholder involvement continues to be an important part of the planning process that establishes a vision for the corridor/thoroughfare. Although in this case, the vision is a mobility priority character that would play a major mobility/capacity role in the network, thus permitting other thoroughfares to emphasize other roles. The objectives of designing mobility priority thoroughfares remain the same as for traditional urban thoroughfares—to balance all modes of travel in a safe, functional and cost-effective manner—but the design trade-offs favor the movement of vehicles.

Conventional Versus CSS Design Process

The conventional process typically includes the following steps:

- Identify the functional classification
- Identify the area type (rural or urban)
- Develop traffic projections and conduct operational analyses
- Assess right-of-way availability and requirements
- Design thoroughfare

The functional class and area type provide the practitioner with the facility's service characteristics, types of design vehicles, design speed, etc. and often are tied to an agency's geometric design standards. The designer projects design-year traffic conditions and evaluates the facility's operations and level of service (LOS), resulting in the number of lanes needed to

Overview

The CSS publication was developed to provide planners and designers with guidance and information for using flexibility in existing American Association of State Highway and Transportation Officials (AASHTO) policy and information for context sensitive solutions (CSS) in design of major urban thoroughfares (arterials and collectors). The report was a joint effort between the Institute of Transportation Engineers and the Congress for the New Urbanism, sponsored by the Federal Highway Administration and the Environmental Protection Agency.

The publication describes:

- The importance of integrating the principles of CSS in urban roadway improvement projects,
- How CSS principles can be used in the transportation planning and project development processes, and
- Specific guidance on thoroughfare cross-section and intersection design.

The publication, published as an ITE Proposed Recommended Practice to supplement existing AASHTO policies and information, provides the user community an opportunity to use the new guidance and information, then to provide suggestions for improvements to be incorporated into the final ITE recommended practice.

accommodate future traffic, meet LOS objectives or standards and identify geometric requirements, particularly at intersections. The practitioner assesses the available or required right-of-way to accommodate the number of lanes and other design features. If right-of-way is constrained, the practitioner evaluates trade-offs and determines the highest priority design elements. This step leads to the development of an initial cross section, upon which the practitioner can begin detailed designs.

The conventional process emphasizes the role of functional classification and traffic operations in the initial design. In mobility priority areas, this process is appropriate for accommodating traffic but de-emphasizes other modes of travel. Pedestrian, bicycle and transit user needs in vehicle mobility priority areas, even though demand is lower, are often addressed through the provision of minimal facilities.

In contrast to the conventional process, the CSS process for thoroughfare design in vehicle mobility priority areas is similar to any CSS thoroughfare design process. The steps are:

- Determine the local objectives and priorities from stakeholder process
- Identify the land use category
- Assess adjacent activity and other conditions
- Determine the functional classification
- Determine the thoroughfare type
- Design thoroughfare

The CSS process begins with identifying local vision, objectives and priorities for the area and the thoroughfare. This involves working with stakeholders. The existing and future character of the area and its supporting thoroughfares are determined by assessing land use categories and the types of adjacent activities, which result in user needs. For example, the character of a business park may be low-intensity development set back amidst large landscaped grounds, but the buildings need to be

Traveled Way	Strip Commercial/ Shopping Center		Business Park/ Campus Office		Industrial	
	20,000+	<25,000	20,000+	<25,000	25,000+	<25,000
Typical ADT	20,000+	<25,000	20,000+	<25,000	25,000+	<25,000
Thoroughfare type	Boulevard	Avenue	Boulevard	Avenue	Boulevard	Avenue
Operating speed	35-40	35	45	35-40	45	35-40
Number of through lanes	4-6 typical; 6-8 max.	2-4	4-6 typical; 6-8 max.	2-4	4-6 typical; 6-8 max.	2-4
Lane width	11 - 12+	11-12'	11 - 12+	11-12'	12+	12+
On-street parking	Optional	Optional	None	None	None	None
Median	16 - 18'	Optional 14 - 18'	16 - 18'	Optional 14 - 18'	16 - 22'	None
Access management	High	Moderate	Moderate	Low	Moderate	Low
Bike lanes			6' (or off-street path)			
Roadside						
Minimum/desirable width	6'/14'	6'/14'	6'/14'	6'/14'	6'/14'	6'/14'
Ped. buffers/planting strip	0-8'	0-8'	0-8'	0-8'	0-8'	0-8'
Minimum sidewalk width	5'	5'	5'	5'	5'	5'
Intersections						
Traffic signal control	Prioritize signal progression, traffic movement efficiency, transit routes; safely accommodate pedestrian crossings with multi-stage crossings if necessary where medians are provided with adequate pedestrian refuge width (minimum 8 feet)."					
Curb radii	30-50' or 3-center curves; larger with heavy right-turns or truck volumes and corner islands					

Figure 2. General design parameters for vehicle mobility priority arterial boulevards and avenues.

accessible by pedestrians who arrive by transit or who walk between buildings. This may lead to a series of off-street paths that connect the roadside to buildings and connect buildings to each other. User needs can include traffic projections and an operations analysis.

Once the practitioner has identified the land use, adjacent activities, user needs and character, the design process is similar to the process described in the report for identifying functional classification and an associated thoroughfare type. This leads to the development of an initial design.

Design Parameters

Figure 2 presents the general design parameters for arterial thoroughfares in selected vehicle mobility priority areas. The table provides general guidance on dimensions and criteria for common elements of the cross section and other vital design elements for different types of land uses.

Designing the Roadside on Vehicle Mobility Priority Thoroughfares

The roadside of vehicle mobility priority thoroughfares does not need to address the complexities of roadsides in traditional urban areas but does consider certain factors. Because of the higher speeds on vehicle mobility priority thoroughfares, buffering pedestrians from moving traffic is a key consideration. Distance between pedestrians and moving traffic is the most

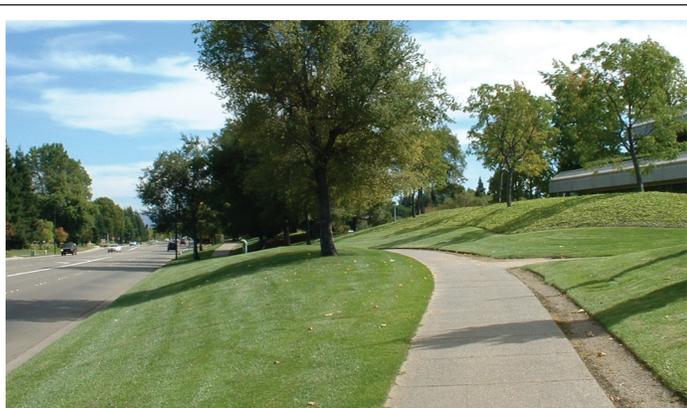


Figure 3. The use of landscaped berms to buffer pedestrians from high-speed traffic.

Figure 4. A wide bike lane on a mobility priority arterial without on-street parking.



critical parameter, especially on thoroughfares without on-street parking. A buffer can be achieved using planting strips or a furnishings zone containing street trees in tree grates or simply a wide sidewalk. On higher volume thoroughfares, a 6- to 8-foot-wide buffer is desirable. In industrial areas where trucks may park on-street, street trees need to be planted behind the sidewalk to avoid branch damage by tall vehicles. In commercial areas, the roadside should be wide enough to accommodate bus stop features such as shelters, benches and amenities. Some areas such as business parks or residential subdivisions use large landscaped berms to buffer pedestrians from traffic (see Figure 3). However, avoid meandering side-walks or paths, as pedestrians prefer a straight and direct route.

Accommodating Bicyclists

Mobility priority thoroughfares are often desirable bicycle routes because lack of parking and wider spaced intersections result in less interference for bicyclists. Bike lanes are the preferred way to accommodate bicyclists, and higher speeds and traffic volumes warrant wider facilities—a minimum of 6 feet adjacent to the curb or 13 feet when adjacent to parking (see Figure 4). On thoroughfares without parking, an 8-foot-wide shoulder may also be used to accommodate break-downs and bicyclists. Off-street paths may also be considered, particularly on very large blocks, but ensure that they are straight and direct and have appropriate crossing where they intersect cross streets.

Intersections

Intersections on vehicle mobility priority thoroughfares may be large with multiple turning lanes and high volumes of traffic. These intersections can be daunting for pedestrians and bicyclists alike. Design intersections to accommodate the appropriate control vehicle, but consider the needs of pedestrians, including the provision of refuge islands at channelized right turns (see Figure 5).

Where crossings exceed 60 feet consider a minimum 6-foot-wide pedestrian refuge in the median (with pushbutton controls at signalized intersections) and use countdown pedestrian signals to assist slower walkers.



Figure 5. A pedestrian refuge at a channelized right turn to accommodate large vehicles. Source: Dan Burden, Walkable Communities, Inc.

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Additional fact sheets are available.

6.0 REFERENCES

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