FINAL PHASE B REPORT OF THE
NEW PALTZ TRANSPORTATION-LAND USE PROJECT

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

FINAL PHASE B REPORT OF THE
NEW PALTZ TRANSPORTATION-LAND USE PROJECT

1.0 PHASE B—FUTURE GROWTH SCENARIOS

The New Paltz Transportation-Land Use project (the "Project") has 3 phases:

- Phase A – Existing Conditions
- Phase B – Future Growth Scenarios
- Phase C – Future Development/Transportation Plan Recommendations

The final report of Phase A was issued in March 2005. This report represents the final report of the Phase B effort. Phase B focuses on the future and seeks to describe land use and travel patterns in 2025, the selected time horizon of the Project.

Three key questions define future conditions:

- Growth Rates – how many new people will live in New Paltz and how many new jobs will there be?
- Development Patterns – where will this new growth occur?
- Transportation Improvements – what kind of transportation improvements can improve the safety, mobility, and quality of life of New Paltz residents?

The technical and public outreach effort that occurred within Phase B was directed by a scope of services developed jointly by the Town of New Paltz, New York State Department of Transportation (NYSDOT), and McFarland-Johnson, the original prime consultant to the Project. This scope of services is attached as Appendix A.

This report summarizes the Phase B effort, and has the following sections:

1. Task 1: Future Land Use Scenarios
2. Task 2: Future Year Traffic Modeling
3. Task 3: Future Transportation Improvement Scenarios
4. Task 4: Preliminary Findings
    - Bicycle/Pedestrian Improvements
    - Evaluation of Roundabouts in New Paltz
    - Recommendations for Improving Travel Safety
    - Recommendations for Managing Special Event Traffic and Other Major Traffic Flows

- Key Transportation Elements of Land Use Planning

1.1 SUMMARY OF PUBLIC OUTREACH EFFORTS

An ongoing public outreach plan has been implemented through 2 project committees (the Citizen Advisory Committee and the Technical Review Committee), a series of public meetings, project newsletters, and a project website (www.newpaltztransportation.com).

In addition, a third project committee, the Bicycle/Pedestrian Committee, has been active in evaluating bicycle and pedestrian issues in New Paltz (http://www.newpaltztransportation.com/bpcschedule.htm). They have issued a final report summarizing their efforts and recommendations, which is included in this document as Appendix B.

Table 1: Summary of Project Committee Meetings during Phase B

Date	Meeting	Objective	Meeting Minutes/Presentation
29 June 2004	TRC	Discussion of future growth rates; potential transportation improvements.	http://www.newpaltztransportation.com/TRCMeeting2.htm; http://www.newpaltztransportation.com/TRC6-29-04.pdf
19 November 2004	TRC	Discuss memorandum on Land Use Futures.	http://www.newpaltztransportation.com/TRCMeeting3.htm; http://www.newpaltztransportation.com/New%20Downloads/TRC11-19-04.pdf
6 December 2004	CAC	Summarize Phase A; Introduce Phase B.	http://www.newpaltztransportation.com/CAC12-14-04.pdf
23 May 2005	CAC	Discussion of future travel/land use modeling.	http://www.newpaltztransportation.com/may23cacminutes.htm
23 May 2005	TRC	Identification of future transportation improvements.	http://www.newpaltztransportation.com/may23trcminutes.htm
26 September 2005	Public Meeting	Presentation of future combined land use/transportation scenarios.	http://www.newpaltztransportation.com/PIMeeting3.htm; http://www.newpaltztransportation.com/PMIMeeting3%20Presentation.pdf

Special meetings were also held with the Town and Village Boards (28 July and 3 August, 2005, respectively) and with the Planning Boards of both the Town and Village (9, 10 January 2006, respectively) for the purpose of providing a status report on the Project and gaining input.

1.2 PROJECT ORIGIN

The New Paltz Transportation/Land Use Project arose from discussions about traffic congestion in town. For many years people in New Paltz have considered a new roadway connecting South Putt Corners Road with Route 32 and Route 208 in the southerly section of Town as a possible source of congestion relief to Main Street. A transportation study conducted for the town in 1974[1] described such a roadway as an "Alternative Immediate Connector," and showed an extension of the roadway westerly on a new bridge over the Wallkill River.

The idea of a southern connector roadway surfaced again in 1996, when Town of New Paltz officials met with SUNY officials to discuss concerns over traffic associated with a then proposed Field House Project. This project was larger in scale and different in function from the Center that SUNY ultimately proposed and which is scheduled to open in March 2006. In 1996, however, SUNY and the Town felt traffic issues were acute enough to warrant a serious look at a southerly connector. There was a consensus reached between key private property owners, SUNY, and the Town regarding the general concept and location of the connector.

The Town, Village, SUNY, and the State University Construction Fund sent letters to NYSDOT in support of the southern connector roadway project. In May 1997, NYSDOT expressed their interest in supporting the project and in expediting a Design Study of the roadway.

In 1998, SUNY canceled the Field House project and began re-defining the project. Due to this change in plans, NYSDOT postponed the Design Study and the project became dormant. In mid-1999 the Town and Village re-initiated contact with SUNY and with the NYS Department of Transportation Regional Planning and Programming Division. There continued to be strong interest in the southern connector on the part of SUNY, and the Town and Village emphasized their continuing and growing concerns about Main Street congestion and in the potential for relief that a southern connector might promise.

NYSDOT agreed that a formal study should be initiated, but that the study should not only focus on the impacts of a southern connector. According to NYSDOT the new study should:

- be comprehensive in its review of transportation and land use;
- be multimodal;
- be able to test the long-term impacts of any major transportation improvements; and,

[1] Traffic Study for New Paltz, New York. Ulster County Planning Board. 1974.

- allow for preliminary engineering of any major improvements that are advanced by the project and embraced by the Town and Village.

Further, the project must engage the public throughout all phases of the work. NYSDOT agreed to finance the project entirely from state and federal funds.

From the origins of the project described above emerged an Initial Project Proposal (IPP),[1] which is a formal statement of need developed by NYSDOT. The IPP described the problem as follows:

"Traffic congestion is a significant problem on Route 299 in both the Town and the Village of New Paltz. This congestion is the result of:

- Route 299 being the only east/west thoroughfare;
- The presence of SUNY New Paltz College;
- Major recreational attractions located west of New Paltz;
- The New York State Thruway interchange with Route 299 just east of the Village of New Paltz; and,

The Village of New Paltz is a major local destination for commercial activity and increasing residential development and commuter traffic. There are both weekday peak period and weekend shopping and recreational peak congestion."

The IPP describes the project objective as "prepar(ing) a *Sustainable Development Plan* for New Paltz that includes a combination of land use and multi-modal transportation improvement recommendations that are acceptable to the Town of New Paltz, the Village of New Paltz, Ulster County, and NYSDOT." The *Sustainable Development Plan* has taken on the formal name: "New Paltz Transportation/Land Use Project". This project will:

- study existing transportation conditions,
- identify present and future transportation demand,
- formulate, analyze, and evaluate alternative transportation solutions, and
- develop consensus decisions regarding short and long term improvement programs for a comprehensive area improvement plan including both land use and transportation improvement components.

The project includes developing an integrated transportation-land use model to evaluate land use and transportation alternatives, a macro-level inventory of key environmental constraints, and an extensive public participation program.

[1] The Initial Project Proposal is provided in Appendix C.

2.0 TASK 1: FUTURE LAND USE SCENARIOS

The core objective of the Phase B effort is to evaluate alternative land use futures. The analytical tool that is used to evaluate alternative land use futures is the New Paltz Transportation/Land Use model, a simulation model that explicitly incorporates the type and location of land use and transportation improvements to represent travel conditions for the PM peak hour (see Appendix D for a description of this model).

A key aspect of any future analysis is the time horizon of the work. Through review and input from the Project's Citizen Advisory Committee (CAC) and Technical Review Committee (TRC) a projection horizon of 2025 was selected. Thus, all future evaluations of travel and land use conditions conducted by the Project use 2025 as the future year.

The one exception to this is a 2010 analysis assuming continuation of historical trends with regard to the geographic pattern of new growth. The Project scope specifies that a Base Case be modeled for an intermediate term (2010) and long term (2025) condition.

Once the time horizon is selected, alternative land use futures can be defined by combining growth rates (growth in households and jobs) and development patterns (i.e. the location where growth occurs in the future).

2.1 FUTURE GROWTH RATES

Two different growth rates were initially evaluated by the Project: Moderate Growth and High Growth. The assumed growth rates and the resulting net new housing units and jobs are given in Table 2.

Table 2: New Housing Units and Jobs Associated with Moderate and High Annual Growth Rates

	New Housing Units			New Jobs		
	Growth Rate	2004-2010	2004-2025	Growth Rate	2004-2010	2004-2025
Moderate Growth	1.5%	390	1534	0.5%	170	800
High Growth	2.5%	667	2839	1.0%	360	1280

The housing growth rates shown in Table 2 represent a departure from the growth rates of the past 25 years, which have averaged around 1.1% annually. The employment growth rates for the Moderate Growth scenario are the same as those used by Ulster County Planning in their long range planning. The employment growth rate for the High Growth Scenario represents a doubling of the County's growth assumption.

2.2 FUTURE LAND USE PATTERNS

The Project is fundamentally a planning process. The integrated land use-transportation model enables us to evaluate the travel effects of different land use patterns from which we can determine the nature and direction of transportation improvements New Paltz should be anticipating in order

to maintain mobility and safety for New Paltz residents. The great advantage of the model is its ability to convey information about the efficacy of future transportation improvements at a low cost.

The effort within Phase B Task 1 seeks to describe travel conditions in 2025 under "potential land use possibilities" while assuming no change in transportation facilities serving New Paltz. "Potential land use possibilities" refers to the geographic distribution of the growth in households and jobs described above.

The first land use pattern that was evaluated is called the **Base Case**, as it represents a continuation of the most recent historic trends. The Base Case land use pattern uses densities and permissions as outlined in existing New Paltz zoning ordinances, incorporating the most recent zoning ordinance recommendations considered by the Town[1]. The Base Case land use pattern results in 70% of new housing being developed within the Town and 30% of new housing being developed within the Village. The Base Case scenario is tested for High Growth only, and incorporates a short term (2010) and long term (2025) horizon.

General input from the public that occurred at the Public Informational Meetings held in April and May 2004 showed widespread support for a future land use pattern aiming to concentrate development in areas east of the Wallkill River. There is similar public support for efforts seeking to reduce pressure for additional development west of the Wallkill River.

To this end, the Project initially developed two alternative land use scenarios that were endorsed by the TRC. They are:

- **Route 32 Mixed Use** – this scenario adds or expands commercial zones within the Town and Village along Route 32 North and Route 32 South. Included in this land use is the development of commercial enterprises that would be distinctly different from those located in the downtown, including the establishment of a new hospitality district. Some of this development is anticipated to occur proximate to a potential new connector road between South Putt and Route 208 (see Section 4.2.2 below). Along Route 32 North, this land use pattern seeks to increase the intensity of development along the direct Route 32 frontage between Front Street and Mulberry Street.
- **Reduced Residential Growth West of the Wallkill** – this scenario specifies higher minimum lot sizes within the Agricultural zones west of the Wallkill. Although higher minimum lot sizes west of the Wallkill are not incorporated in the most recent zoning recommendations, there was significant consensus on protecting the natural and scenic values of this portion of town. This land use scenario is almost identical to the one that achieved wide support at the second public meeting (13 May 2004).

The growth increments of housing and jobs shown in Table 2 provide the total amount of housing and employment growth within the Town and Village. The 2 land use scenarios address the issue of

1 Final Report, Permitted Use Recommended Updates, Town of New Paltz, New York. June 2004.

what type of growth (housing, commercial) can occur where. The traffic model will generate peak hour travel demand tied to these levels of growth.

Combining the three land use patterns with the two growth rates effectively creates 6 distinct scenarios, as follows:

- Base Case, 2010
- Base Case, 2025
- Route 32 Mixed Use, Moderate Growth, 2025
- Route 32 Mixed Use, High Growth, 2025
- Reduced Residential West of Wallkill, Moderate Growth, 2025
- Reduced Residential West of Wallkill, High Growth, 2025

For transportation/land use modeling the total number of new housing units and jobs are assigned to one of 88 Transportation Analysis Zones (TAZs) that have been specified in the traffic model. For descriptive purposes, these TAZs have been combined into 8 Superzones, as shown in Figure 1.

Table 3 shows the number of new housing units by growth rate, land use pattern and Superzone.

Table 3: Future Land Use Growth Scenarios

		Superzone									
Growth Rate	Land Use Pattern	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	Total Housing	% Build Out
	2003 Existing	601	747	872	596	122	921	205	114	4178	57%
High	Base Case 2010	685	880	977	624	238	1006	286	148	4845	66%
High	Base Case 2025	961	1313	1320	717	616	1283	550	259	7017	96%
Moderate	Route 32 2025	795	1053	1114	661	389	1117	391	192	5712	78%
High	Route 32 2025	961	1313	1320	717	616	1283	550	259	7017	96%
Moderate	WoW 2025	698	1086	1141	668.6	418	1117	391	192	5712	78%
High	WoW 2025	781	1375	1369	730	670	1283	550	259	7017	96%

Figure 1: Superzones for Describing the Location of Future Growth

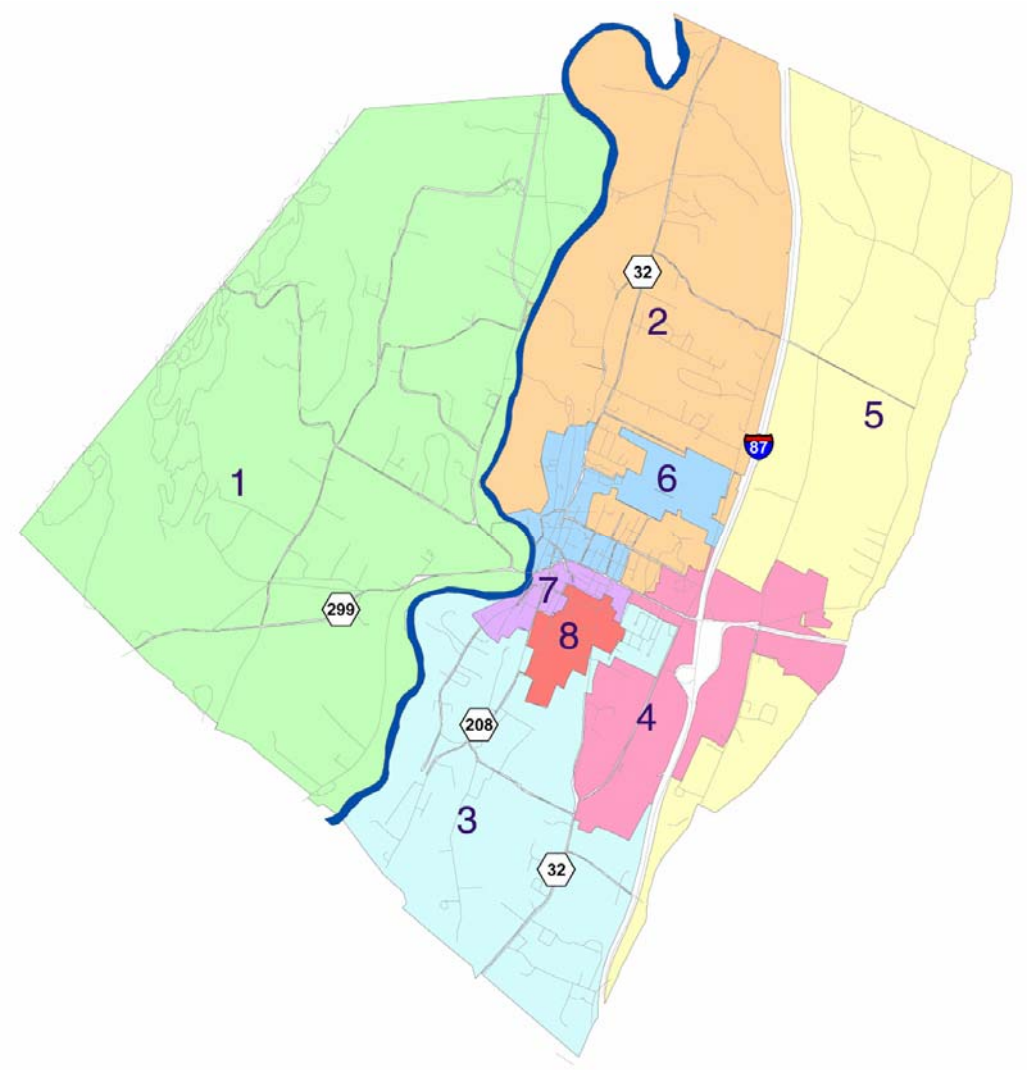


Table 3 also shows the estimated percentage build out of the Town and Village at the housing projections specified, assuming current zoning provisions. Under the Moderate Growth scenario, total housing is estimated to be at 78% of full build out by 2025. Under the High Growth scenario total housing is estimated to be at 96% of full build out by 2025.

3.0 TASK 2: FUTURE YEAR TRAFFIC MODELING

As mentioned above, the traffic model was run for each of the future land use patterns shown in Table 3, assuming no changes in the transportation facilities serving New Paltz. This exercise informs

us of future travel conditions if no additional investments are made in roadway/intersection, bicycle/pedestrian, or transit improvements.

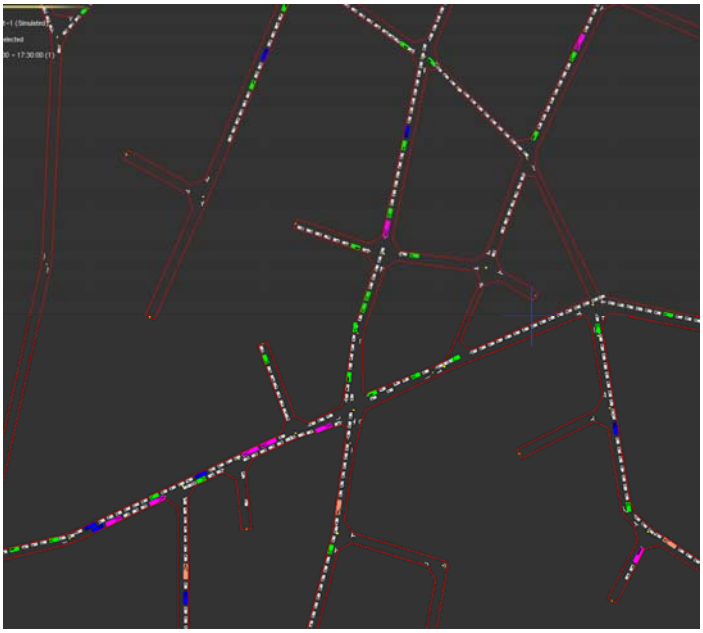
3.1 TRAFFIC MODELING FOR THE HIGH GROWTH SCENARIOS

Traffic modeling for all High Growth scenarios (Base Case 2025, Rt. 32 2025, and WoW 2025) all resulted in an overly saturated traffic network. Based on the build out analysis shown in Table 3, the High Growth scenario represents a 96% build out of New Paltz. As a result, traffic simulations for all 3 High Growth runs indicate extreme failure, described as follows:

- Extreme queuing creating blocking of upstream intersections. For example queuing at the Route 299/I87 traffic signal spills back beyond the toll gates for much of the simulation.
- Extreme congestion in the Village area characterized by gridlock (Figure 2).
- Excessive use of local streets north and south of the Village for alternative routing purposes.
- An average of 8.2% of the estimated traffic (~1150 vehicle trips) cannot enter the network due to intersection blocking.

The results from the High Growth scenario represent extreme travel conditions. The results are reported in subsequent sections, but the results tend to underestimate the impacts.

Figure 2: Screenshot of Traffic Model Simulation, Downtown Village Area, Base Case, High Growth, 2025[1]



[1] The area shown in Figure 2 is roughly defined by the Plattekill Avenue (lower right) approach to Main Street, Front Street, and the Route 32/299/208 intersection in the downtown.

Future travel conditions are described using 4 performance measures:

- Total Trips, Mode share (% of PM peak hour trips using alternative modes of travel).
- System-wide congestion (index, compared to 2005 conditions)
- East-west travel time on Route 299 (east town boundary to west town boundary);
- Index of neighborhood traffic (index, compared to 2005 conditions).

3.2 EVALUATION OF FUTURE TRAVEL CONDITIONS[1]

3.2.1 Total PM Peak Hour Travel and Mode Share

Table 4 shows the total PM peak hour person trips estimated for each land use pattern.

Table 4: Total PM Peak Hour Trips by Scenario

Scenario	Growth Scenario	Total PM Peak Hour Person Trips	Change from 2003
2005	na	8,800	
2010	Base High	10,100	15%
2025	Rt. 32 & WoW Moderate	12,400	41%
2025	Rt. 32 and WoW High	14,300	63%

The data in Table 4 indicate that, under the High Growth scenario, there will be 15% more total trips made during the PM peak hour in 2010 than the number of trips estimated for a typical 2003 PM peak hour. By 2025, total trip making under High Growth is estimated to have increased by 63% beyond the levels estimated for 2003. The Moderate Growth scenario results in a 41% increase over estimated 2003 levels.

Mode Share refers to the fraction of total PM peak hour trips that use a particular mode. Two modes are reported in Table 5: automobile and bicycle/pedestrian. For each future model run, the share of these modes of travel is reported.

Table 5: PM Peak Hour Person Trips and Walk/Bike Mode Share

	Total PM Peak Hour Person Trips	PM Peak Hour Vehicle Trips	External-to-External Vehicle Trips	Total PM Peak Hour Walk/Bike Trips	Mode Share for Walk/Bike
2005 Existing Conditions	8,800	6,900	1,100	730	8.3%
Moderate Growth, 2025	10,800	8,400	1,600	900	8.3%
High Growth, 2025	12,800	9,700	1,600	1,040	8.1%

1 The land use-traffic model is calibrated for PM peak hour travel conditions. Thus, all performance measures used to evaluate future travel conditions are based on the PM peak hour only. For each indicator, the model is run 5 times and the results are averaged for reporting.

Table 5 shows the total number of person trips, vehicle trips, and walk/bike trips estimated for existing conditions (2005) and for each of the 2 growth scenarios. External-to-external vehicle trips refer to vehicle trips that start outside of New Paltz, drive through the Town, and exit New Paltz. Overall mode share for walk/bike, in the absence of policies to concentrate future growth or improve bicycle/pedestrian facilities, is not estimated to change substantially.

3.2.2 System-Wide Congestion

Congestion is important to New Paltz residents. In the October 2003 household survey administered in New Paltz[1], over 70% of respondents stated that reducing traffic congestion was "very important" to them. System-wide congestion is expressed a Percent Mean Time Delay[2], a direct output of the model, which is an indicator of f congestion measured by comparing overall vehicle travel times with free flow travel times.

Table 6: Percent Mean Time Delay for Future Land Use Growth Scenarios

	Mean % Time Delay	Index
Existing Conditions (2005)	67	1.00
Base Case 2010	75	1.12
Base Case 2025	174	2.60
Rt. 32 Moderate 2025	137	2.05
Rt. 32 High 2025	177	2.65
WoW Moderate 2025	134	1.99
WoW High 2025	176	2.63

As shown in Table 6, under existing conditions during PM peak hour travel conditions, it generally takes 72% longer to make a vehicle trip than under free flow conditions. Of note in these results are the highly congested conditions projected for all 2025 High Growth scenarios, where overall network congestion during the PM peak hour is approximately 2-1/2 times the congestion commonly experienced today.

3.2.3 East-West Travel Time on Route 299

The traffic model estimates travel time for the shortest travel path between any two points, based on travel time. The actual shortest path may change over the course of a traffic simulation as congestion builds to cause alternative routes to be preferred. The most direct route may not always be the fastest route between the two points under conditions of high congestion.

---

1 For a description of this survey and an analysis of the survey responses, see the Project's Phase A report at http://www.newpaltztransportation.com/tm1.htm.

2 Percent Mean Time Delay is obtained mathematically by subtracting the freeflow time to traverse a road segment from the actual time within the simulation, and dividing the result by the freeflow time. A Percent Mean Time Delay of 0.7 means that overall congestion causes vehicle trips to take 70% longer than they would in a totally uncongested network.

This performance measure provides the estimated vehicular travel time (minutes) along Route 299 from the eastern town boundary to the western town boundary (Table 7).

Table 7: Estimated East-West Travel Time on Route 299 for Future Land Use Growth Scenarios

	EW Travel Time, Route 299
Existing Conditions, 2005	15:40
Base High 2010	18:49
Base High 2025	30:33
Rt. 32 Mod 2025	30:32
Rt. 32 High 2025	33:25
WoW Mod 2025	31:48
WoW High 2025	33:47

Generally east-west travel time during the PM peak hour is estimated to double by 2025 under all growth/land use projections, assuming no change in roadway transportation capacity.

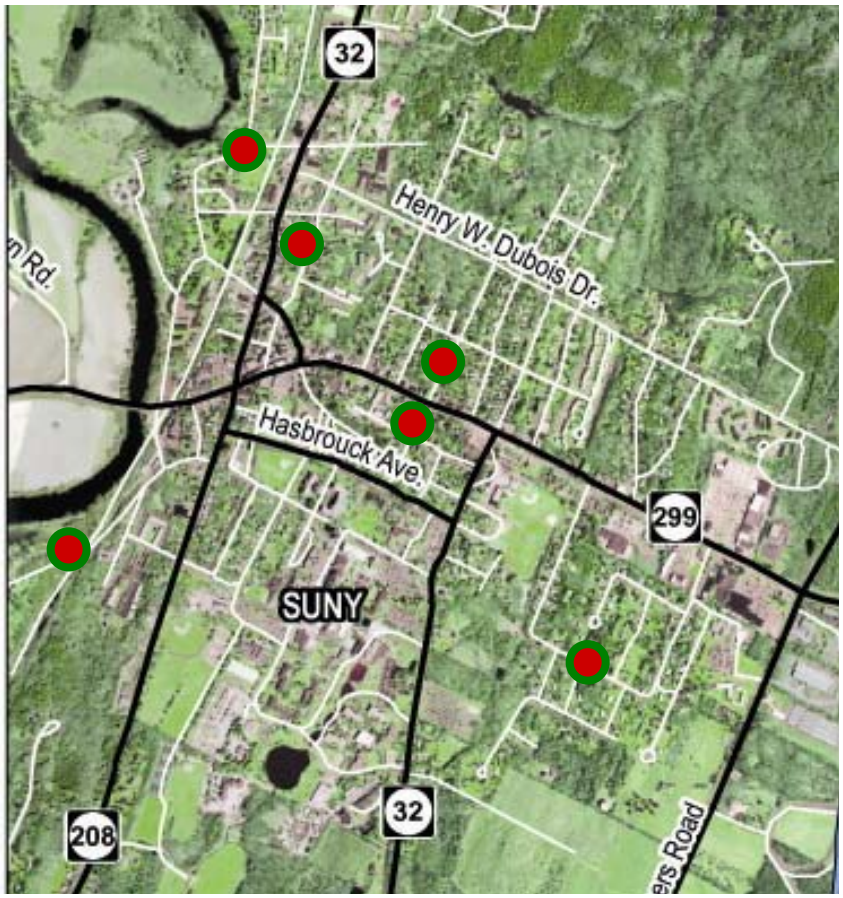
3.2.4 Index of Neighborhood Traffic

Traffic intrusion onto neighborhood streets is a growing problem in many communities. Specific complaints about short-cutting through neighborhoods have been registered on the Project website by several New Paltz residents. For the purposes of reporting, the following residential streets are analyzed for PM peak hour traffic and compared with existing conditions to provide an index:

- Plains Road
- Oakwood Avenue (north and south of Main Street)
- Harrington Avenue
- Cicero Avenue
- Huguenot Street

Figure 3 shows the points where traffic is sampled on each residential street to create the index. These particular neighborhood streets were selected based on their geographic distribution and are considered to be relatively representative of neighborhood streets throughout New Paltz.

Figure 3: Points Where Neighborhood Street Traffic Is Sampled



An index above 1.0 indicates that the future condition will have more traffic on neighborhood streets than is currently experienced.

Table 8: Estimated Neighborhood Traffic Index for Future Land Use Growth Scenarios

	PM Peak Hour Neighborhood Traffic	Neighborhood Traffic Index
2005 Existing Conditions	406	1.00
2010 Base High	1279	3.15
2025 Base High	1878	4.62
2025 Rt. 32 Moderate	1658	4.08
2025 Rt. 32 High	1710	4.21
2025 WoW Moderate	1382	3.40
2025 WoW High	1538	3.79

As shown in Table 8 traffic volumes on the 6 neighborhood streets sampled are projected to more than triple by 2025 for all land use growth scenarios. Due to the high levels of congestion along the main arterials of the Town, traffic will increasingly seek alternative routes along residential streets...

3.3 SUMMARY FINDINGS OF PHASE B TASK 2

The planning analysis that occurred within Phase B Task 1 sought to describe future travel conditions under a variety of growth and land use pattern assumptions. A Moderate and High growth scenario has been evaluated, both of which are substantially higher than the growth rates New Paltz has historically experienced.

The High growth rate would result in a 96% build out of New Paltz under the Town's and Village's existing zoning ordinances. This level of build out can be considered a "worst case" scenario for a future that, though not likely to occur by 2025, could occur some time beyond 2025. The scenario is useful to estimate and compare full development under existing zoning and concentrated mixed use zoning. Based on the results from the High Growth model runs, the Project's Technical Review Committee (TRC) recommended that the Project proceed into Task 2 evaluating future conditions under the Moderate Growth scenario, which represents a 78% build-out of New Paltz.

Phase B Task 1 was conducted assuming no new investments in any transportation infrastructure – highway, bicycle/pedestrian, or transit. Under these assumptions, the projected future travel conditions are excessively congested when all performance measures are considered. Travel times along the main arterials rise substantially, with the total travel time along Route 299 in New Paltz, from the eastern town boundary to the western Town boundary, estimated to double to over 30 minutes under PM peak hour congestion. An undesirable consequence of this mainline congestion is the heavier use of the residential streets around New Paltz, which are estimated to receive 3-4 times the amount of traffic commonly experienced today.

Addressing these future travel problems is exceedingly challenging because it engages some tough choices:

1. Get people out of their cars by promoting high density development and a set of integrated policies to encourage this. Such policies would include:
    - the development of a high quality pedestrian environment;
    - incentives for major employers to construct workforce housing within walking distance;
    - support for a low fare, high frequency shuttle bus system; and
    - expansion of the New Paltz wastewater treatment facility, which currently could not support the high concentration of development necessary to maintain an efficient transportation system

2. Build more roadway capacity, to include new or expanded arterial capacity, and improved connectivity between residential streets.

3. Adopt a strict low or no growth orientation within the land planning arena. A Low Growth scenario was not selected for formal consideration in this Project. The general consensus of both the TRC and CAC was to consider higher growth futures in light of recent growth pressures in New Paltz and the surrounding communities.

New Paltz can choose any one of these paths, or a combination of any of them. Task 2 builds on Task 1 by superimposing a variety of transportation improvements on the travel demand created by future growth and land use patterns.

4.0 TASK 3: FUTURE TRANSPORTATION IMPROVEMENT SCENARIOS

Future Transportation Scenarios involve the combination of 3 elements:

- Future Growth Rate
- Land Use Pattern
- Transportation Improvements

As described above, the Moderate Growth Rate was determined to be the most realistic growth rate for evaluating the performance of future transportation improvements. Thus, all future scenarios evaluated in Task 3 incorporate the Moderate Growth rate in housing and employment.

The Moderate Growth rate exceeds the historic growth rate and, by 2025, represents a 78% build out of New Paltz. The Moderate Growth rate results in an addition of 1534 new households to New Paltz by 2025, which represents a 1.5% annual growth rate. Jobs are projected to increase at 1.0% annually, resulting in 800 new jobs located in New Paltz by 2025. In both cases – housing and jobs – the Moderate Growth rate exceeds the historical growth rate of the past 30 years.

4.1 FUTURE LAND USE PATTERNS

Future land use patterns determine the geographic distribution of future growth. Within Task 2, 3 distribution patterns were evaluated:

1. Base Case, or continuation of historic development trends.
2. Route 32 Mixed Use
3. Reduced Residential West of the Wallkill

It was determined that the Route 32 Mixed Use land use pattern would be evaluated further within Task 3. Under this land use pattern, there is relatively little development that occurs west of the Wallkill River. Hence, the key objective of that land use pattern – Reduced Residential West of the Wallkill -- is largely met within the Route 32 Mixed Use land use pattern.

The TRC recommended that, within Task 3, another land use pattern be evaluated, called **High Concentration**. The **High Concentration** land use pattern concentrates 70% of future housing and job growth in the Village of New Paltz. This reverses the settlement trends since 1980, where 70% of new growth occurred in areas outside of the Village. This land settlement pattern implicitly assumes high levels of investment in pedestrian facilities, as there is a greater probability that jobs, housing, shopping, and general commercial opportunities are within walking distance.

For future transportation/land use modeling, the area shown in Figure 4 was identified as the locus of highly concentrated development. The rationale and characteristics of this development area are:

- Mixed Uses, Ranging from Residential to Low Intensity Commercial (Retail and Office)
- Approximately 120 feet Between Building Fronts
- Paved Travel Way 38 to 50 Feet in Width
- Assuming a High Concentrated Development Pattern with Moderate Growth, this Area Would Need to Accommodate Approx. 700 New Housing Units, 250 Jobs.

Figure 4: Area of New Paltz Village Where High Concentration Development is Evaluated

For all future scenarios there are existing development proposals being currently considered by the Town and Village Planning Boards are assumed to be built out. These developments include:

- Victorian Square – 90 units of housing
- Woodland Pond – 300 units of housing

- Stoneleigh Woods – 300 units of housing
- Crossroads at New Paltz, consisting of the following uses:
  - 180 multi-family dwelling units
  - 9 dwelling units described as workforce housing
  - 120-room hotel
  - 88,000 square feet of retail
  - 9700 square feet of office

4.2 TRANSPORTATION IMPROVEMENT ALTERNATIVES

Over the course of the Project several transportation improvements have been described and discussed during the CAC, TRC, and public meetings. A subset of these alternatives was selected by the TRC for formal modeling, and these alternatives are listed below.

Alternative 1. New East-West Connector Road, connecting South Putt Corners to Route 32 and Route 208.

Alternative 2. Alternative 1 continuing across a new bridge over the Wallkill River, connecting eventually to Route 299, combined with a modified EZ Pass access to I87 on the eastern end.

Alternative 3. East-west connection between Route 32 and South Putt, following an alignment immediately south of the Route 299 commercial properties.

Alternative 4. Roundabouts at 2 intersections (Main/Huguenot and Rt. 32/Plattekill) and selected residential street connections north and south of Route 299.

Alternative 5. One Way Circulation System, Main Street westbound to Water Street southbound to Mohonk/Hasbrouck eastbound to Route 32, continuing easterly to Putt Corners Road.

Alternative 6. Major Main Street expansion project.

Alternative 7. Spot intersection improvements (addition/extension of turn lanes, new signalization, signal coordination) at 3 intersections:

- Rt. 32/Plattekill
- Main/Manheim
- Main/Chestnut

Figure 5 through Figure 11 show conceptual alignments for each Transportation Alternative. To provide a first-order review of environmental constraints, the alignment is shown on an orthophotograph upon which 4 resource types are projected:

- Wetlands – this information acquired from the Ulster County Information Services depicts regulated Article 24 Freshwater wetlands.
- Agricultural Districts -- these data were obtained from an Open Space study commissioned by the Town of New Paltz and conducted by AKRF. The original data were acquired from the Cornell University Geospatial Data Information Repository (CUGIR) and re-projected. The data shows land within the New York State Agricultural Districts. Although this data set is accurate for the purpose of outlining the Agricultural District, it does exclude certain parcels that are currently used as agricultural land (as evidenced by their obtaining agricultural tax exemptions), as well as include certain parcels that are not used for agricultural purposes.
- Protected Open Land – these data were also obtained from the AKRF Open Space study and was created based on Comprehensive Plan data and updated to reflect protected lands in the Town and Village.
- Parcel Boundaries – shows the parcels of private properties in New Paltz. These data were obtained from the Ulster County Information Service.

These additional data are shown in order to gain a first order review of environmental constraints that may be present with each alternative. The parcel boundaries are shown to understand the extent to which an alternative would affect private property.

A Note on Reviewing Transportation Alternatives

Most planners know that obtaining consensus on ideas or concepts is relatively easy as long as the ideas are described in very general terms. The less specific an idea is, the more likely it is to gain broad acceptance. Generality allows each individual a great amount of latitude for interpreting the idea in a favorable way.

The scope of this Project (Appendix A) calls for the evaluation of specific transportation improvements. Hence, it is an essential objective to test whether any roadway-related improvements can make a difference in future mobility and safety. To conclude this Project without having tested specific alternatives would result in a planning study full of statements that everyone can agree to, but lacking in actionable steps that might make a positive difference.

4.2.1 Future Base Improvements

In evaluating future runs of the transportation-land use model, certain specific improvements were seen as necessary for facilitating vehicle movement in 2025. These improvements are all related to key intersections that are known to have existing capacity problems. These are shown in Table 9.

Table 9: Future Base Improvements

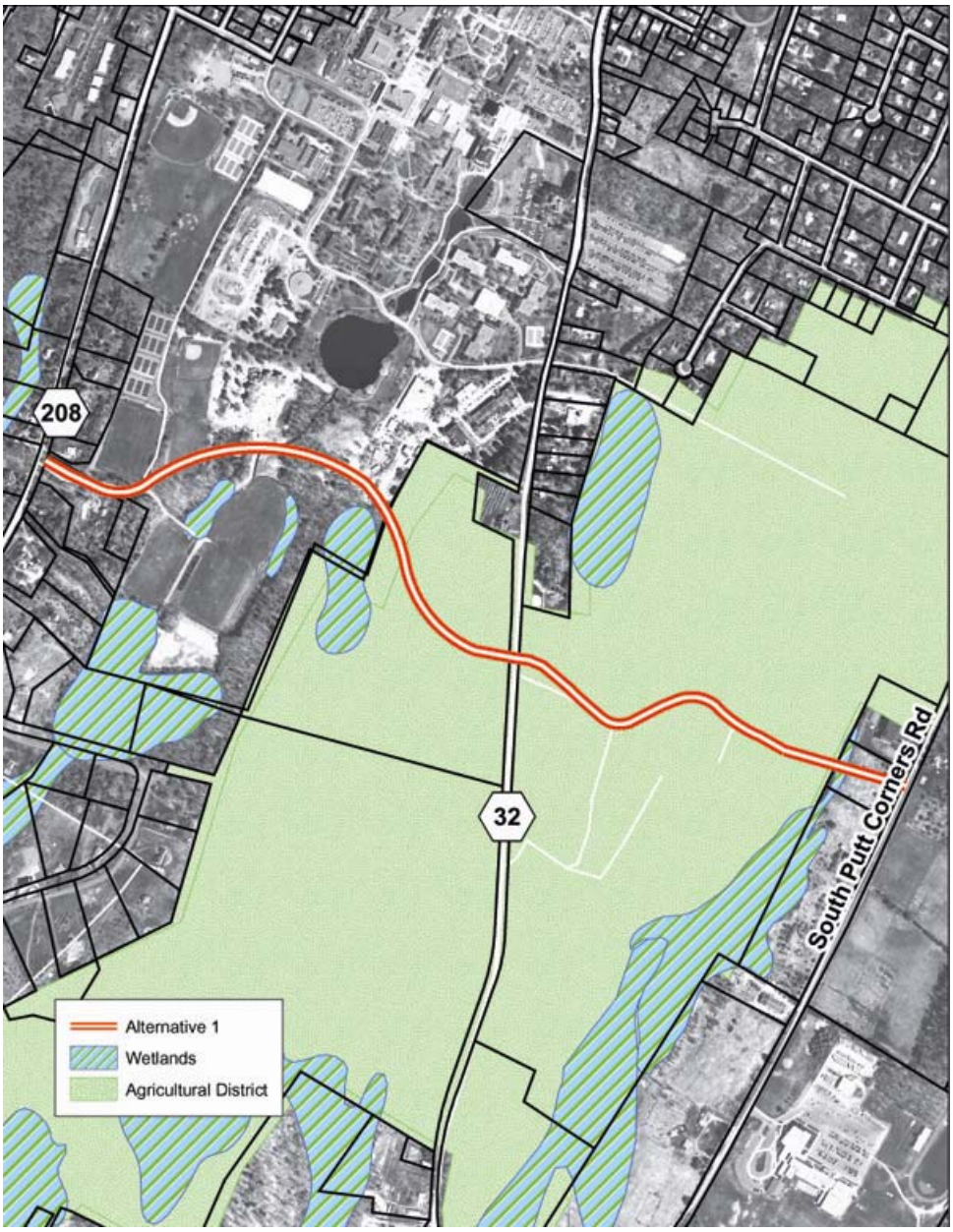
Improvement	Location
Northbound left turn lane	Rt. 299/Ohioville
Westbound double left turn lanes	Rt. 299/Putt Corners
Northbound double left turn lanes	Rt. 299/Thruway Exit
Southbound left turn lane	Rt. 32/HW DuBois

Three of these base improvements address vehicle movement in the easterly portion of New Paltz, and are oriented to facilitating additional traffic generated by the Thruway. The new left turn lane on Route 32 at HW DuBois is warranted by existing traffic conditions.

4.2.2 Alternative 1—East-West Connector, South Putt – Rt. 32 – Rt. 208

The Town Engineer has provided a conceptual alignment for this alternative that has been used to develop the conceptual alignment shown in Figure 5.

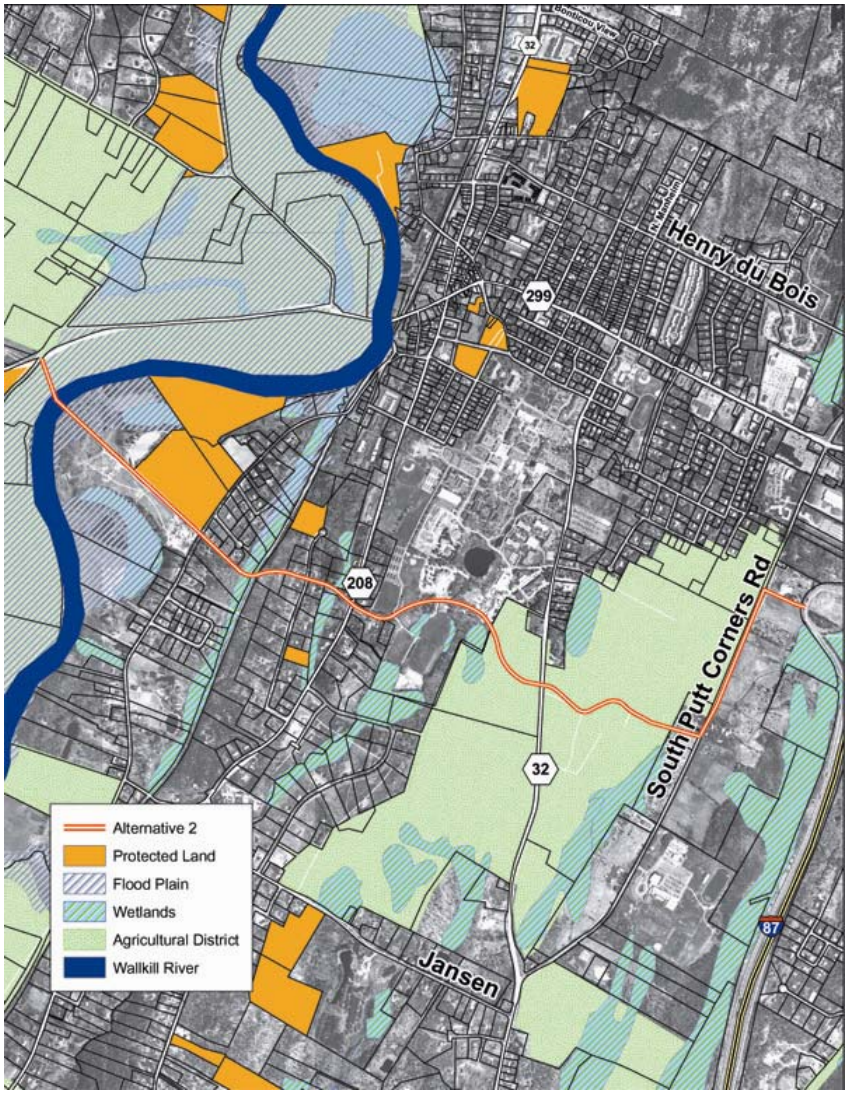
Figure 5: Conceptual Alignment of Alternative 1



4.2.3 Alternative 2—East-West Connector, Extending Across the Wallkill River

E-W Connector, including modified EZ Pass Access to Exit 18. The sense of both the TRC and CAC meetings was to combine this alternative with a new bridge over Wallkill River, and to extend this westerly to connect directly to Route 299 at a realigned intersection proximate to Libertyville Road. The Wallkill River floodplain and floodway are major environmental issues associated with this Alternative.

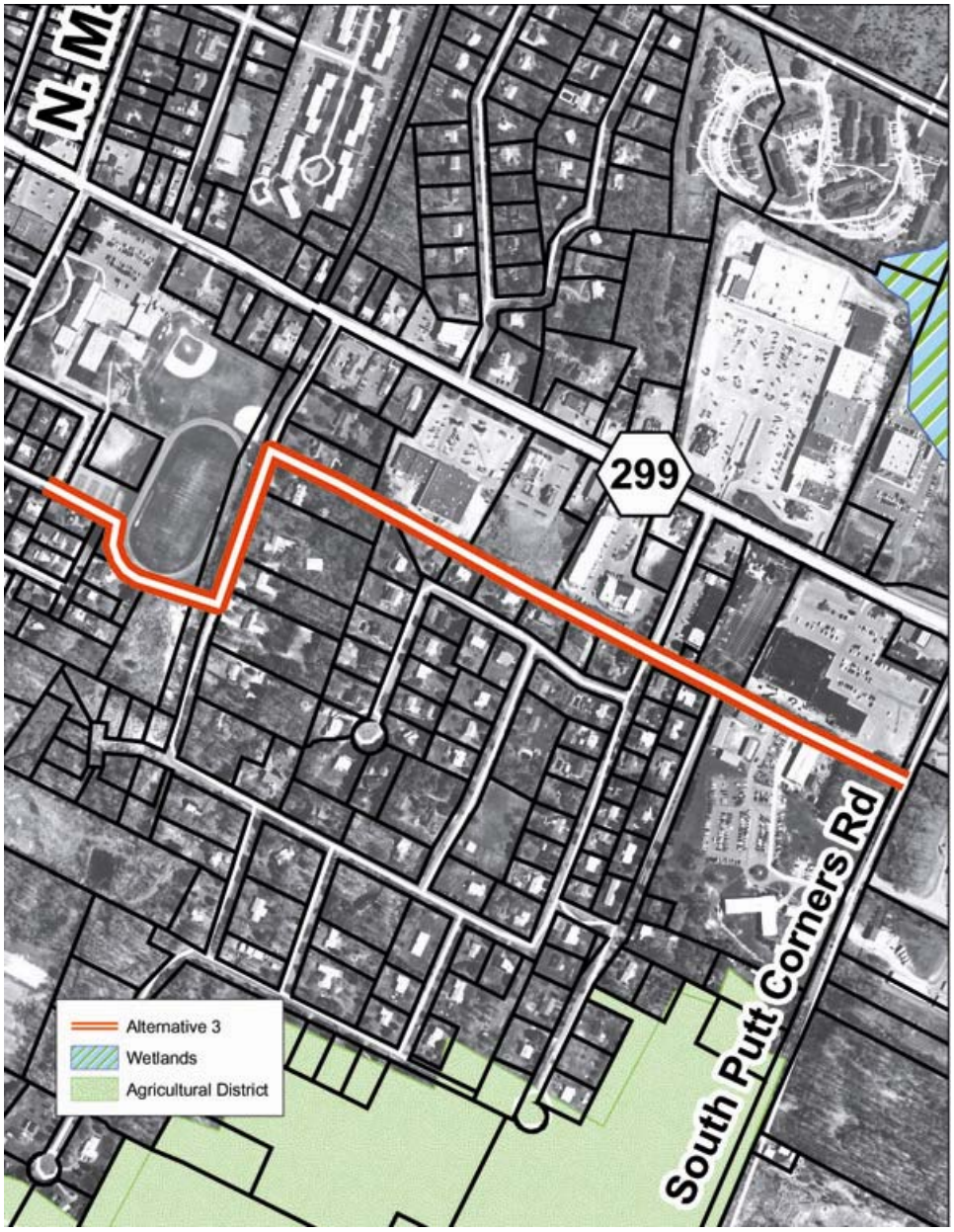
Figure 6: Conceptual Alignment of Alternative 2



4.2.4 Alternative 3—Short Connector, South Putt – Rt. 32 near Rt. 299

EW connection between Route 32 at Hasbrouck and South Putt following an alignment parallel and south of Route 299 along the back boundary lines of the Route 299 commercial area. The TRC also indicated the general need to include greater connectivity of local streets within this alternative.

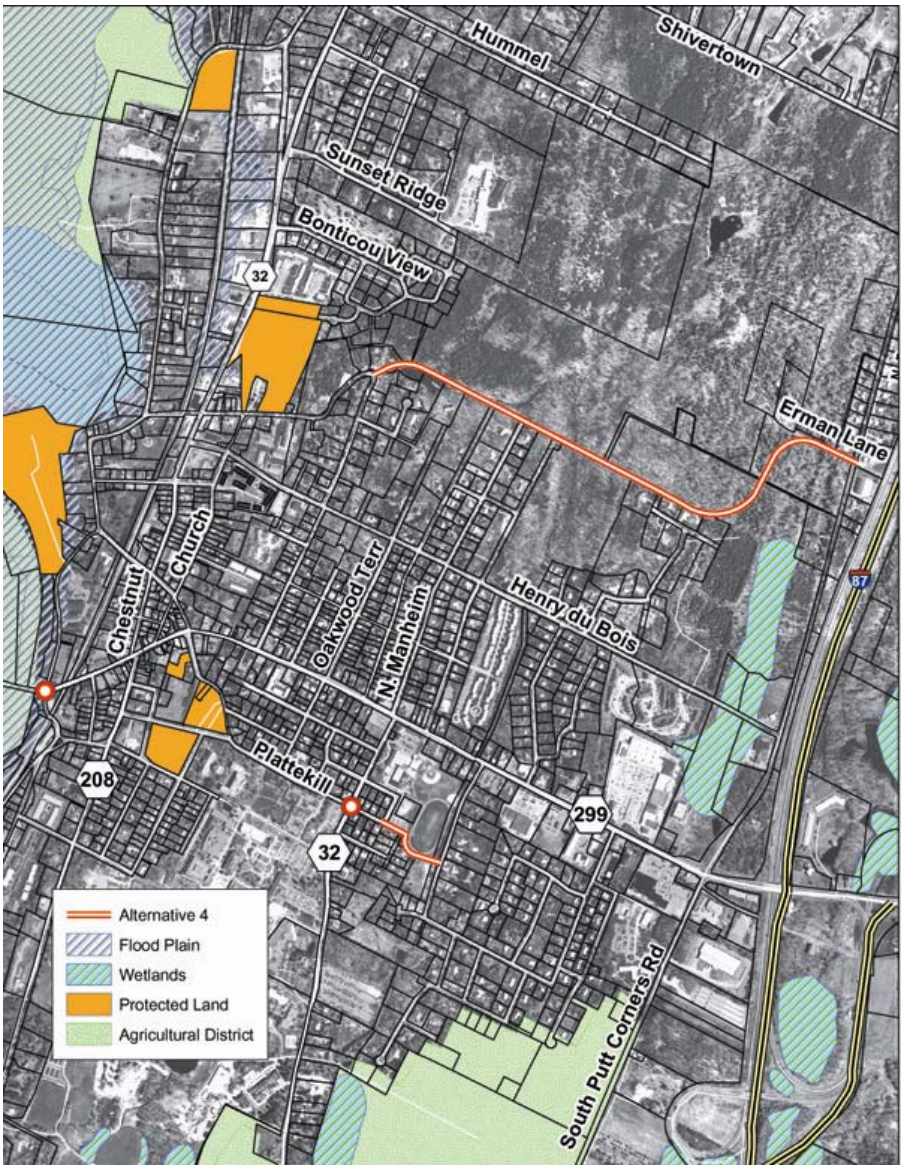
Figure 7: Conceptual Alignment of Alternative 3



4.2.5 Alternative 4—Roundabouts at Selected Intersections, New Neighborhood Connectors

Alternative 4 would include one residential street connection north of Main Street and one residential street connection south of Main Street. Also included in this alternative is the installation of roundabouts to control traffic at 2 intersections: Main/Water Street/Huguenot Street and Rt. 32/Plattekill. It should be noted that these intersections are currently capacity constrained. Roundabouts could improve traffic flow at each intersection. However, as described below in Section 5.3, these intersections are considered secondary candidates for consideration of roundabouts due to impacts on private property or other environmental constraints.

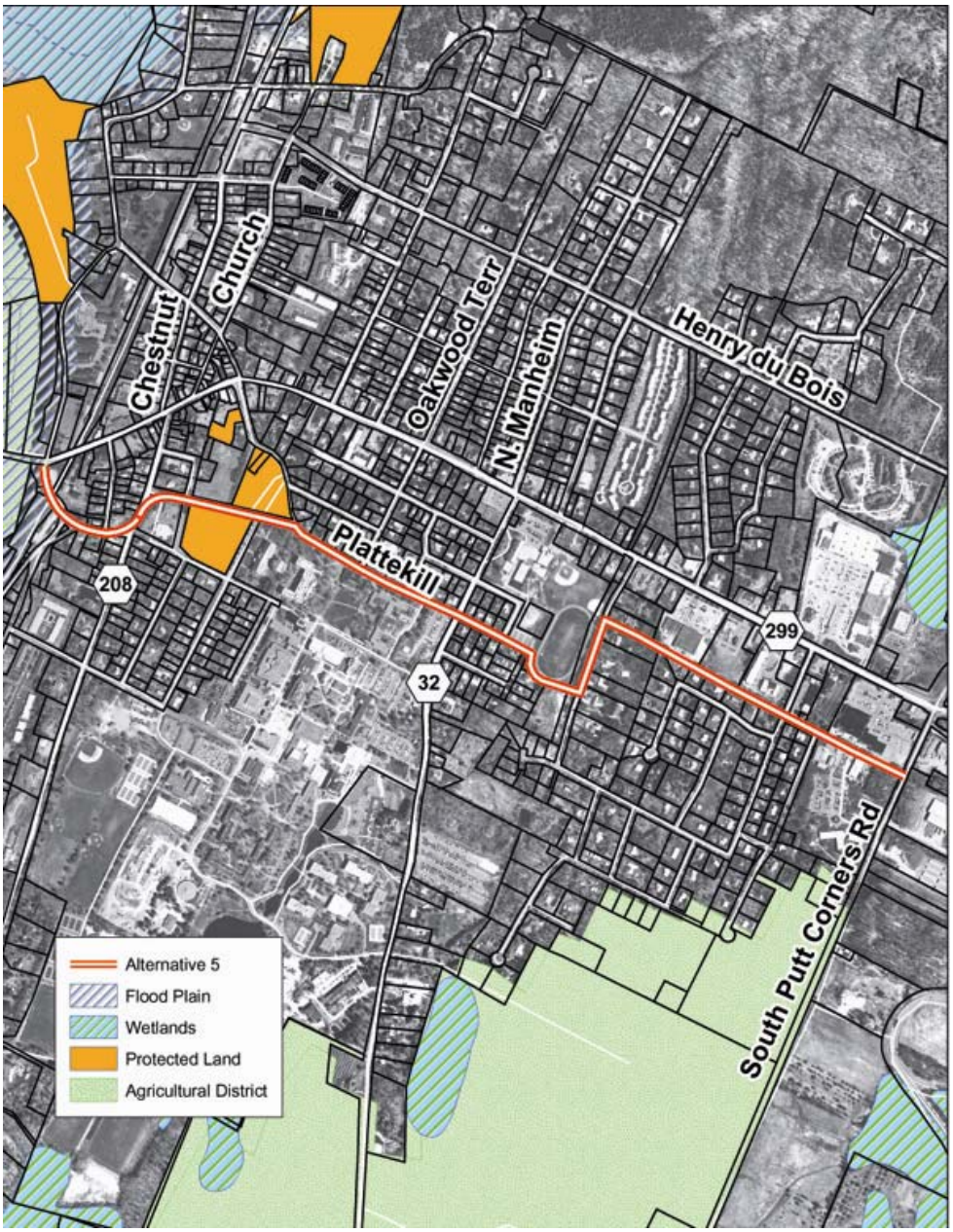
Figure 8: Concept for Alternative 4



4.2.6 Alternative 5—One Way Pairs, South Putt to Water Street

The TRC indicated that this alternative should be combined with spot improvements on Main Street including access management improvements and some turn restrictions. The CAC reactions to this alternative were mostly positive, citing the ability to create extensive streetscape improvements, angled parking, bus pulloffs, and wider pedestrian areas (terraces, outside dining opportunities).

Figure 9: Conceptual Alignment of Alternative 5



Three other one way system options were discussed but not formally evaluated. The first is a modification of Alternative 5, with the one way system commencing at Rt. 32/Manheim on Main Street, continuing one way westbound down Main Street to Water Street, and looping one way eastbound as with Alternative 5, but ending at the Rt. 32/Plattekill intersection.

A second option was discussed involving Main Street and HW DuBois as a one way pair. There are many problems associated with this alternative, including:

- One way systems are most effective in providing good accessibility for commercial uses. One way pairs are typically not installed to serve purely residential areas where access to neighboring land uses is more important than mobility. HW Dubois is almost entirely residential. Along its main axis there are approximately 30 single family homes and several multi-family structures. Non-residential uses are limited to its terminal intersections at Route 32 and North Putt. By comparison using Plattekill as a one way system provides access to a greater variety of land uses including office space, village hall, public parkland, SUNY, and residential.
- One way systems work best when the block length separating the one way streets is walkable. The distance between HW Dubois and Main Street is 1500 feet, which represents a 6+ minute walk time. The distance between Plattekill and Main Street is approximately 950 feet, representing less than a 4 minute walk time. Minimizing block length is important since one way systems are designed to encourage motorists to park proximate to their final destination on either leg of the one way pair and walk the rest of the way. One way pairs that are too distant from one another are considered inconvenient. For transit oriented development the preferred block length is 500 feet.
- The street has been traffic calmed through installation of stop signs and hence creating a one way system for increased mobility runs counter to the desires of the street's residents.
- There are a number of geometric deficiencies that make it a more difficult route to promote as a partner to Main Street.
- There would be strong opposition to the concept by street residents.

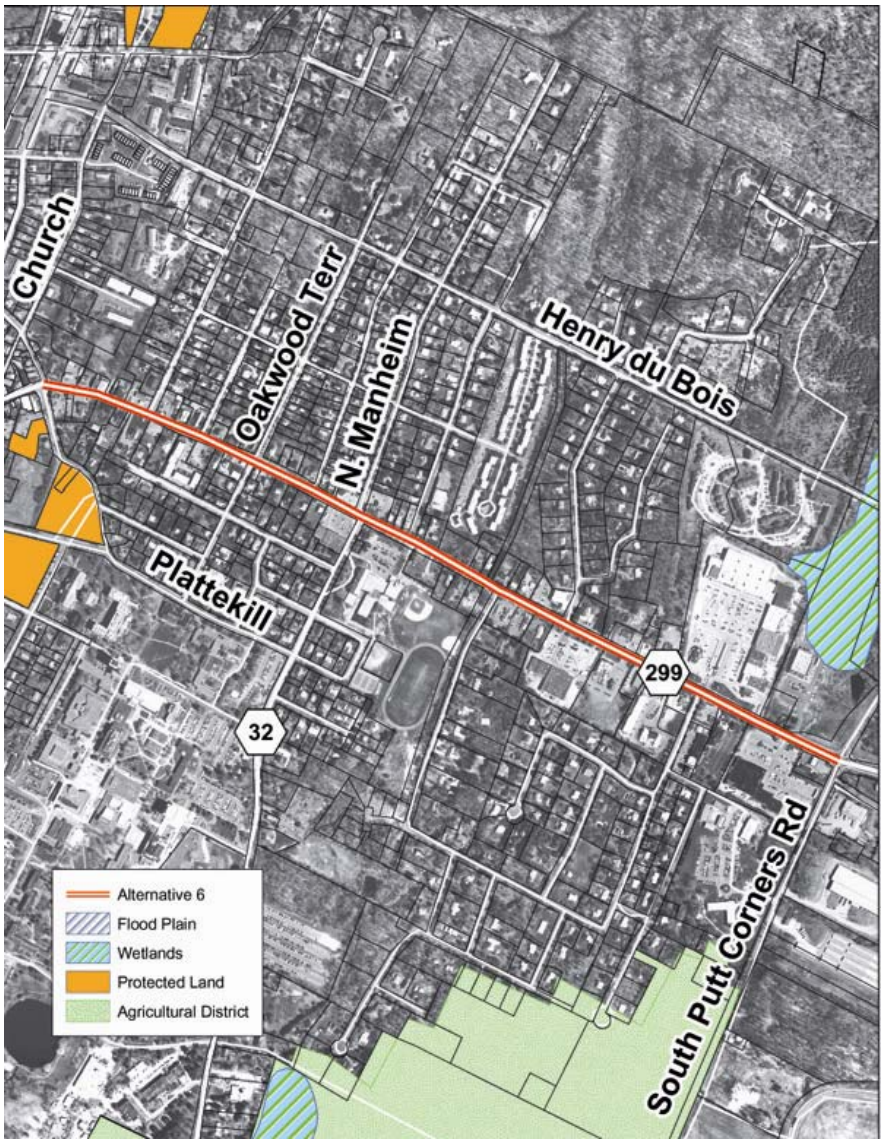
The third one-way circulation system considered traversed Front Street westbound to Route 32 (Chestnut Street) southbound; Main Street eastbound from Route 32 to Front Street Figure 10.

Figure 10: Alternative One Way System in the Village Core

4.2.7 Alternative 6—Major Main Street Expansion

As a means of facilitating east-west travel on Rt. 299/Main Street, the alternative has 4 lane cross-section (2 lanes eastbound, 2 lanes westbound), and incorporates turn restrictions/access management, which could be effected with a center median for a portion of Route 299. This is proposed as a high mobility alternative to help relieve spillover congestion in local neighborhoods.

Figure 11: Conceptual Alignment of Alternative 6



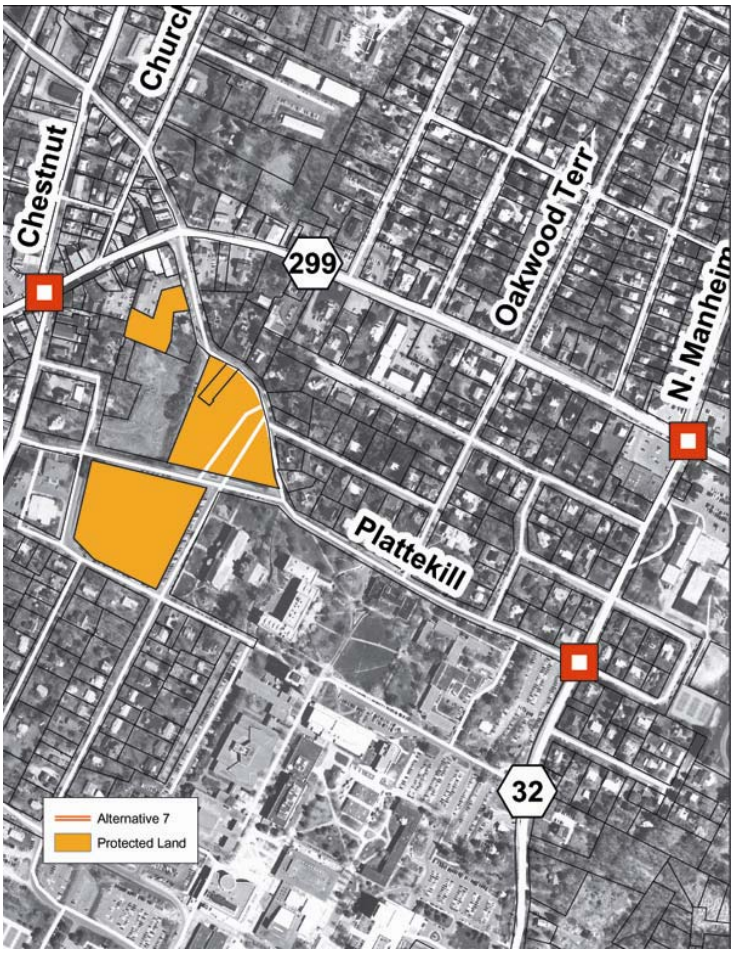
4.2.8 Alternative 7—Spot Intersection Improvements

Alternative 7 is a minimalist proposal that seeks capacity improvements at three key intersections in the Village:

- Main/Manheim
- Rt. 32/Plattekill
- Main/Chestnut

There are very few options for constructing new capacity at the 2 signalized intersections at Main/Manheim and Main. For this alternative, optimized signal timing is evaluated against the projected 2025 travel demand. For the Rt. 32/Plattekill intersection, a northbound left turn lane is assumed as a spot improvement.

Figure 12: Spot Improvement Intersections of Alternative 7



4.3 COMBINED LAND USE-TRANSPORTATION SCENARIOS

Future scenarios combine a land use pattern with a selected transportation improvement, each of which assumes the Moderate Growth Rate. A total of 10 scenarios were evaluated in Phase B Task 3 (Table 10).

Table 10: Future Scenarios Evaluated in Phase B Task 3

Scenario	Land Use Pattern	Transportation Improvement
Scenario 1	Route 32 Mixed Use	Alt 1: EW Connector, S. Putt-Rt. 32-Rt.208
Scenario 2	Route 32 Mixed Use	Alt 2: EW Connector (Scen 1) with new bridge over Wallkill River, reconfigured access to Exit 18
Scenario 3	Route 32 Mixed Use	Alt 3: Short connector, S. Putt to Rt. 32 near Rt. 299
Scenario 4	Route 32 Mixed Use	Alt 4: Roundabouts at selected intersections and new neighborhood connectors
Scenario 5	High Concentration	Alt 1: EW Connector, S. Putt-Rt. 32-Rt.208
Scenario 6	High Concentration	Alt 5: One way pair, Rt. 299 WB/Mohonk-Hasbrouck-Plattekill EB, Putt to Water Street
Scenario 7	High Concentration	Alt 4: Roundabouts at selected intersections and new neighborhood connectors
Scenario 8	High Concentration	Alt 6: Major Main Street Improvement Project
Scenario 9	Rt. 32 Mixed Use	Alt 7: Spot intersection improvements
Scenario 10	Historic (Base)	Alt 7: Spot intersection improvements

4.4 EVALUATION OF FUTURE SCENARIOS

The 10 scenarios described in Table 10 are evaluated against the 4 performance measures previously described:

- Total Trips, Mode share (% of PM peak hour trips using alternative modes of travel).
- System-wide congestion (index, compared to 2005 conditions)
- East-west travel time on Route 299 (east town boundary to west town boundary);
- Index of neighborhood traffic (index, compared to 2005 conditions).

4.4.1 Total PM Peak Hour Travel and Mode Share[1]

Total PM peak hour person trips for current conditions (2005) and for the three land use scenarios are shown in Table 11. Changes in mode share for walk/bike trips are also shown.

Table 11: PM Peak Hour Person Trips and Walk/Bike Mode Share

	Total PM Peak Hour Person Trips	PM Peak Hour Vehicle Trips	External-to-External Vehicle Trips	Total PM Peak Hour Walk/Bike Trips	Mode Share for Walk/Bike
2005	8,800	6,900	1,100	730	8.3%
Historic Pattern 2025	11,100	8,600	1,600	790	7.1%
Rt. 32 Mixed Use 2025	10,900	8,400	1,600	1,400	12.8%
High Concentration 2025	10,700	8,100	1,600	1,600	15.0%

The increases in walk/bike trips for the Rt. 32 Mixed Use and High Concentration land use patterns are significant, and result from a combination of assumed investments in bicycle/pedestrian facilities, higher density land use, and higher vehicle travel times.

Mode share for transit has not been explicitly modeled for these scenarios. For each scenario (combined land use pattern and transportation improvement) a specific transit service plan would need to be defined that is tailored to the growth and attraction patterns characteristic of that land use pattern. Generally speaking, transit ridership will improve with densification of land use. Hence, the High Concentration land use pattern will be more amenable to attracting a high ridership than the other land use patterns. The Phase C report will make specific recommendations regarding future transit service in New Paltz.

4.4.2 System-Wide Congestion

Table 12 shows the network-wide congestion indicator, Mean Percent Time Delay.

Table 12: Percent Mean Time Delay for Future Scenarios

	Land Use Pattern	Transportation Improvement	Mean % Time Delay	Index
Existing Conditions (2005)	Existing	-	67	1.00
Scenario 1	Rt. 32 Mixed Use	Alternative 1	71	1.06
Scenario 2	Rt. 32 Mixed Use	Alternative 2	71	1.06
Scenario 3	Rt. 32 Mixed Use	Alternative 3	96	1.43
Scenario 4	Rt. 32 Mixed Use	Alternative 4	63	0.93
Scenario 5	High Concentration	Alternative 1	45	0.67
Scenario 6	High Concentration	Alternative 5	39	0.58
Scenario 7	High Concentration	Alternative 4	36	0.53
Scenario 8	High Concentration	Alternative 6	44	0.65
Scenario 9	Rt. 32 Mixed Use	Alternative 7	96	1.43
Scenario 10	Historic Trend	Alternative 7	127	1.90

[1] Mode share refers to the percentage of trips by each mode of travel. Modes of travel in New Paltz in clued auto (drive alone), auto (shared ride), walk/bike, and bus. Mode share for walk/bike is tracked separately by the modeling system.

The results for system-wide congestion show that overall congestion is significantly reduced for all scenarios utilizing a High Concentration land use pattern. Under High Concentration, there are fewer overall vehicle trips, and the average trip length for vehicle trips is reduced due to the closer proximity of land uses. These effects are very significant such that even small improvements in roadway capacity appear to have a large impact in mitigating congestion. The land use effect on congestion, as effected through the High Concentration land use pattern, is the much larger cause of the estimated change in congestion, however.

Level of Service analyses of 10 intersections in New Paltz have also been prepared. These are summarized in Appendix E.

4.4.3 East-West Travel Time on Route 299

Table 13 shows the estimated end-to-end travel time for vehicles traversing New Paltz on Route 299. In all cases, the projected transportation improvements result in reductions in east-west travel time when compared with the results shown in Table 7. The largest travel time reductions occur when the High Concentration land use pattern is utilized.

Table 13: Estimated East-West Travel Time on Route 299 for Future Scenarios

	EW Travel Time, Route 299
Existing Conditions, 2005	15:40
Scenario 1	27:48
Scenario 2	25:51
Scenario 3	28:58
Scenario 4	28:39
Scenario 5	19:43
Scenario 6	22:20
Scenario 7	20:10
Scenario 8	19:25
Scenario 9	27:23
Scenario 10	28:26

4.4.4 Index of Neighborhood Traffic

The Index of Neighborhood Traffic estimates how much traffic (number of vehicles during the PM peak hour) would use residential streets when compared to existing conditions (2005). Traffic was measured along 7 residential streets in New Paltz, as follows:

- Plains Road
- Oakwood South
- Oakwood North
- Harrington

- Cicero
- Huegenot
- Church

The results are provided in Table 5.

Table 14: Estimated Neighborhood Traffic Index Scenarios

	PM Peak Hour Neighborhood Traffic	Neighborhood Traffic Index
2005 Existing Conditions	406	1.00
Scenario 1	616	1.52
Scenario 2	617	1.52
Scenario 3	694	1.71
Scenario 4	416	1.02
Scenario 5	323	0.80
Scenario 6	270	0.67
Scenario 7	268	0.66
Scenario 8	369	0.91
Scenario 9	581	1.43
Scenario 10	691	1.70

As shown, in many cases involving combined land use patterns and transportation improvements, ancillary benefits can be estimated in the form of reduced travel on neighborhood streets

4.4.5 Public Rating of the Future Scenarios

At the 26 September 2005 public informational meeting a Ratings Sheet was distributed so that participants could evaluate each transportation-land use scenario with regard to its effect on congestion, multi-modalism, and land use. Only 8 of the 10 scenarios were evaluated at that meeting as the final 2 scenarios had not yet been determined at that point in time.

In most cases, the Rating Sheet was set up to correspond to direct output from the transportation-land use model that was presented at the meeting. Performance measures such as travel time and mode share (% of trips made by walking) were presented for each scenario. Participants were asked to evaluate scenario performance across the following measures:

- Congestion--How does the scenario affect:
  - Peak hour congestion generally?
  - Main Street congestion specifically?
  - The volume of traffic on residential streets?
  - The ability to manage special event or emergency management traffic?

- Alternative Modes: How does the scenario affect the attractiveness of bicycle/pedestrian travel?
- Land Use--How does the scenario affect:
  - Open spaces?
  - Environmentally sensitive areas?
  - The potential for desirable economic growth?

For each of the above issues, participants were asked to rate whether the scenario made things better than today (+1), made things worse than today (-1), or was neutral relative to today (0). A range of 39-45 Rating Sheets were obtained for each scenario. Most of these were collected at the September 26 meeting, which was attended by an estimated 100 people. Participants were allowed to download the Rating Sheet from the project website and send in their evaluations until October 14. Five Rating Sheets were received after the September 23 meeting.

The analysis of the Rating Sheets involves a simple summation of all of the individual ratings. Thus, a positive number means that, on average, people felt the scenario resulted in performance better than today; a negative number means the opposite.

Table 15 shows the rankings for each scenario based on the public scoring.

Table 15: Public Ranking of 8 Future Scenarios

Rank	Scenario	Overall Sum
1	**1**	19
2	**6**	10
3	**2**	1
4	**7**	-4
5	**5**	-5
6	**4**	-17
7	**3**	-26
8	**8**	-97

It is difficult to draw any definitive conclusions from Table 15. During the September 26 meeting, there were several strong expressions of opposition to many of the alternatives presented. However, many of those in attendance who completed the survey indicated an understanding of the advantages these alternatives could offer.

4.4.6 Rating of Future Scenarios Based on Performance

Another method of ranking the scenarios is to evaluate how each scenario performed relative to the 4 performance measures. Table 16 provides this information in a summary table. The best performance is assigned a "1", the second best, "2", and so on, with ties being given the same ranking. Summing all performance measures enables a final ranking, with the lowest total being the best performance.

Table 16: Summary Table and Ranking of the Future Scenarios

Scenario	Land Use Pattern	Transportation Improvement	Walk/Bike Mode Share	System-Wide Congestion	EW Travel Time	Index of Neighborhood Traffic	Sum of Rankings	Rank
Scenario 1	Rt. 32 Mixed Use	Alternative 1	2	6	6	7	21	5
Scenario 2	Rt. 32 Mixed Use	Alternative 2	2	6	5	4	17	4
Scenario 3	Rt. 32 Mixed Use	Alternative 3	2	7	9	10	28	8
Scenario 4	Rt. 32 Mixed Use	Alternative 4	2	5	10	6	23	6
Scenario 5	High Concentration	Alternative 1	1	4	2	3	10	3
Scenario 6	High Concentration	Alternative 5	1	2	4	2	9	2
Scenario 7	High Concentration	Alternative 4	1	1	3	1	6	1
Scenario 8	High Concentration	Alternative 6	1	3	1	5	10	3
Scenario 9	Rt. 32 Mixed Use	Alternative 7	2	7	7	8	24	7
Scenario 10	Historic Trend	Alternative 7	3	8	8	9	28	8

Using this approach, Scenarios 6, 7, and 8 rank the highest, all of which are based upon a High Concentration land use pattern.

Table 17: Alternative Ranking of Future Scenarios, Incorporating Impacts to Private Property and General Financial Cost Estimates

	Mode Share of Alternatives	System-Wide Congestion	East-West Travel Time	Impact on Neighborhood Traffic	Environmental Impact	Impact to Private Property	Financial Cost
Scenario 1	+	-	--	-	-	0	-
Scenario 2	+	-	-	+	--	--	--
Scenario 3	+	--	--	-	-	-	minimal
Scenario 4	+	+	--	-	0	-	-
Scenario 5	++	++	-	+	-	0	-
Scenario 6	++	++	-	++	0	-	minimal
Scenario 7	++	++	-	++	0	0	minimal
Scenario 8	++	++	-	0	0	--	--
Scenario 9	+	-	--	-	0	0	minimal
Scenario 10	0	--	--	--	0	0	minimal

Key

++	Very Positive Effect
+	Positive Effect
0	No Change
-	Negative Effect
--	Very Negative Effect

The results of Table 17 cannot be summarized as readily as those in Table 16. With regard to financial cost, the evaluations represent only the most general review of the costs of each transportation alternative, and make assumptions regarding any needs for property acquisition. Costs designated as "minimal" suggest that the scope of improvements can be geographically constrained (for example, constrained to specific intersections as opposed to a major new roadway).

5.0 TASK 4: PRELIMINARY FINDINGS

5.1 BICYCLE/PEDESTRIAN IMPROVEMENTS

Provision of bicycle and pedestrian facilities is a quality of life and mobility issue. Construction and maintenance of bicycling and walking facilities will enhance health, increase transportation choice, promote tourism and create quality neighborhood environments. The purpose of this section of the Phase B report is to provide detailed information on the existing bicycle and pedestrian facilities in New Paltz and, based on this information and on other public input[1], to advance recommendations for improving these facilities.

In August 2004 the New Paltz Transportation/Land Use Project's Citizens Advisory Committee formed the Bicycle/Pedestrian Committee, which has met numerous times over the past 18 months to develop goals and objectives, to evaluate existing facilities, and to recommend bicycle/pedestrian improvements in New Paltz. The final report of the Bicycle/Pedestrian Committee (the "B/P report"), which has been issued to the CAC, sets forth goals and objectives with regard to bicycle/pedestrian facilities in New Paltz. These goals and objectives are referred to in this section and, where appropriate, portions of that final report are referenced below.

5.1.1 Vision, Goals, and Objectives

The B/P report emphasizes that preserving the rural character of New Paltz is an over-arching goal. The B/P Report states:

"When implementing any suggestions made in this report for improving the transportation infrastructure designers should always bear in mind that 'preserving the rural character' of New Paltz is a high priority. Good planning should balance the need for safety improvements with the keen desire to preserve our rural character."

The B/P report also establishes a vision of a "Bicycle-Friendly and Walkable Community" incorporating the following goals:

1) All streets and highways include good provisions for bicycling and walking. It is easy for pedestrians -- including children -- to cross the street safely.

2) Communities and neighborhoods are planned and built more like they were a half century ago, with mixed land use, active downtowns and main streets, and shorter trip lengths for routine trips (such as going to school, to shop, or even to work).

3) People have easy access to their community on foot, by bike, and by transit. They are not dependent on the availability of a private automobile for mobility nor do they feel compelled to drive.

[1] Public input on bicycle and pedestrian facilities has been received from a variety of sources including the New Paltz Household survey and the Bicycle/Pedestrian Committee of the CAC

4) People walk and bike regularly. Most short trips are made on foot or by bike; transit and motor vehicles are used primarily for longer trips.
5) There are people outside much of the time. People feel secure; crime rates are very low.
6) Parents are comfortable with their children being outside and encourage them to go out.
7) Children spend more time outside with other children and without the direct supervision of an adult.
8) Most children walk or bike to school, to visit friends, and to get to local parks and recreation facilities.
9) Most people can walk or bike to local park and recreation facilities, the post office, and the library.
10) Traffic regulations are strictly enforced, violators are held accountable for the consequences of their actions, and compliance with the vehicle code is generally high.
11) Motor vehicle speeds are low (25 mph or less) in neighborhoods, near schools, and in other locations with regular pedestrian traffic and/or children. Motorists slow when they see or expect children so they can stop if a child runs into the street
12) Motor vehicle crashes, injuries, and fatalities are infrequent.
13) Physical activity levels are high for people of all ages and abilities, and people are healthier.

Key objectives in support of these goals include having[1]:

- A complete sidewalk system;
- Intersections that pedestrians can cross safely;
- Curb ramps for those with disabilities;
- Shops and businesses located within easy walking distance of residences.

Preserving the rural character of New Paltz is a priority that is acknowledged in the Town's Master Plan, and listed as the first objective stated therein: "(p)reserve and enhance the natural beauty and rural quality of the community and protect the small-town atmosphere of the Village core." It it is important to recognize that, while many portions of New Paltz are rural in character, other portions are more urban or suburban and, hence, will require different types of bicycle/pedestrian treatments and investments.

[1] These objectives have been excerpted from the B/P report.

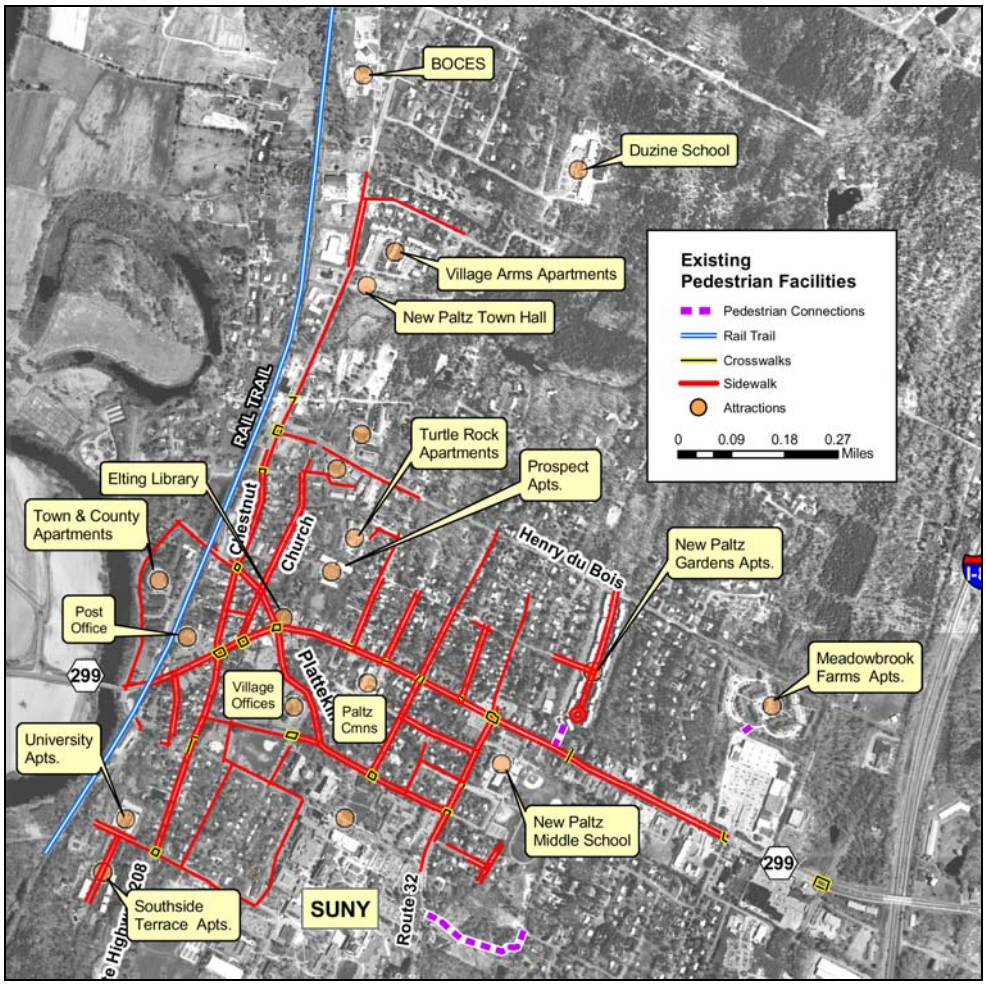
5.1.2 Pedestrian facilities

Existing Conditions

Resource Systems Group conducted a sidewalk inventory with the assistance of New Paltz volunteers in November 2005. The inventory identified the location of all pedestrian facilities (sidewalks, crosswalks, pedestrian paths, and the rail trail) throughout the Village.

In total, 12.7 miles of existing sidewalk, 19 crosswalks, and one non-sidewalk pedestrian connection were inventoried (see Figure 13). 10.9 miles of sidewalk (87%) were identified with asphalt, concrete, or granite curbing.

Figure 13: Existing Pedestrian Facilities

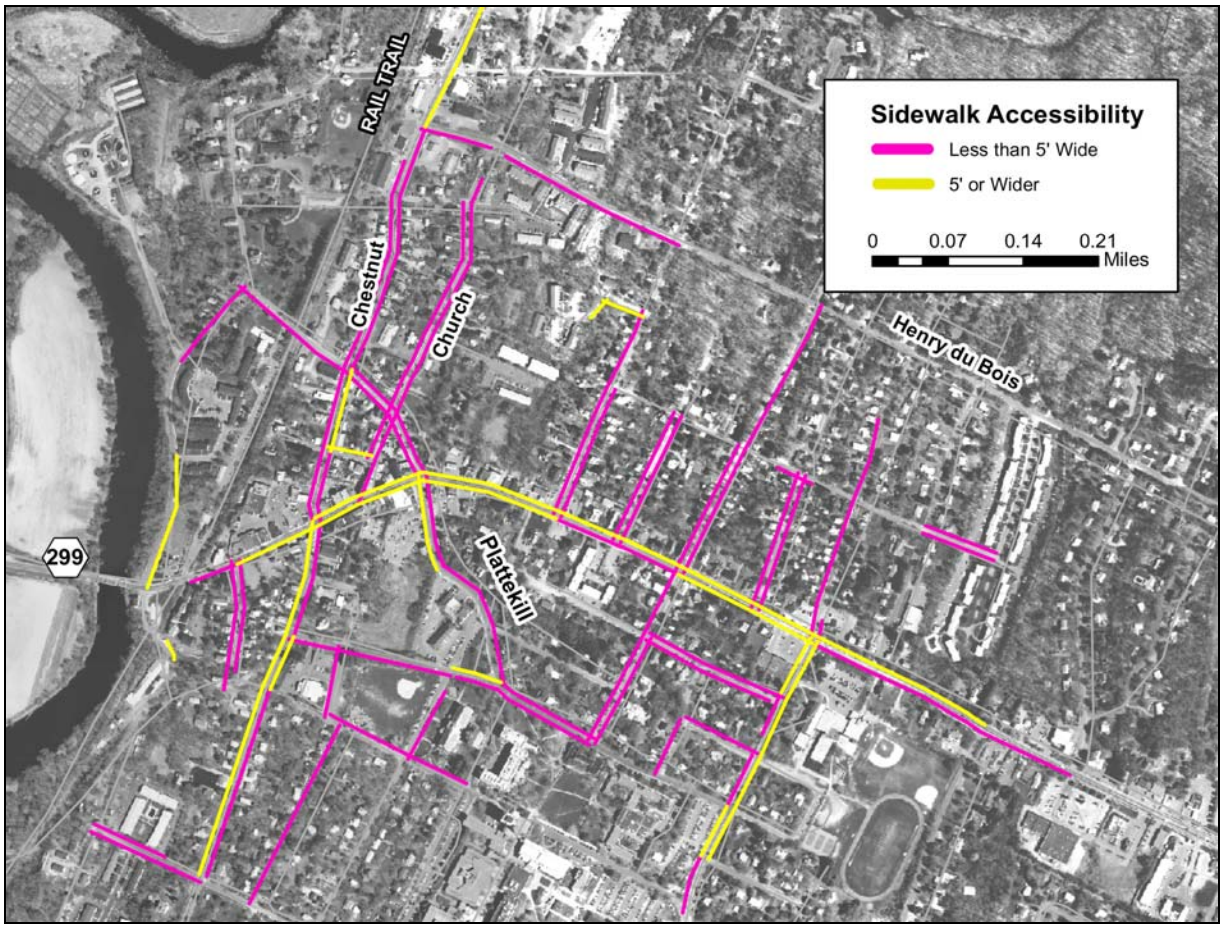


Standard ADA-compliant sidewalk widths should be a minimum of 5 feet. Figure 14 shows the widths of sidewalks in New Paltz, differentiating between those segments less than 5 feet wide and

those 5 feet or wider.).” Of the sidewalks with measurements shown in the graphic, 27% are 5 feet or wider, while the remaining 73% are less than 5 feet wide.

The Federal *Guidelines for Accessible Public Rights-of-Way* (US Access Board, 2005) state that, “Walkways in pedestrian access routes that are less than 1.5 m (5.0 ft) in clear width shall provide passing spaces at intervals of 61 m (200 ft) maximum. Pedestrian access routes at passing spaces shall be 1.5 m (5.0 ft) wide for a distance of 1.5m (5.0 ft).

Figure 14: Sidewalk Accessibility



As described above, a key objective is to provide a “complete sidewalk system”. Taking the area shown in Figure 15 as the most developed section of New Paltz, we have measured *Sidewalk Completeness* within that area. For the purposes of this analysis we have assumed that all streets should have sidewalks on both sides.[1]

[1] Per NYSDOT Facilities for Pedestrians and Bicyclists, Table 18-1, (12/96)

Figure 15: Area Considered for Sidewalk Completeness

Sidewalk Completeness is defined as the ratio of the total sidewalk centerline distance to two times the total street centerline distance (to account for sidewalks on both sides of the street). The closer the Sidewalk Completeness ratio is to 1.0, the closer this goal is to being achieved. Based on data obtained during the most recent sidewalk inventory, the Sidewalk Completeness ratio is **0.47** for the analysis area.

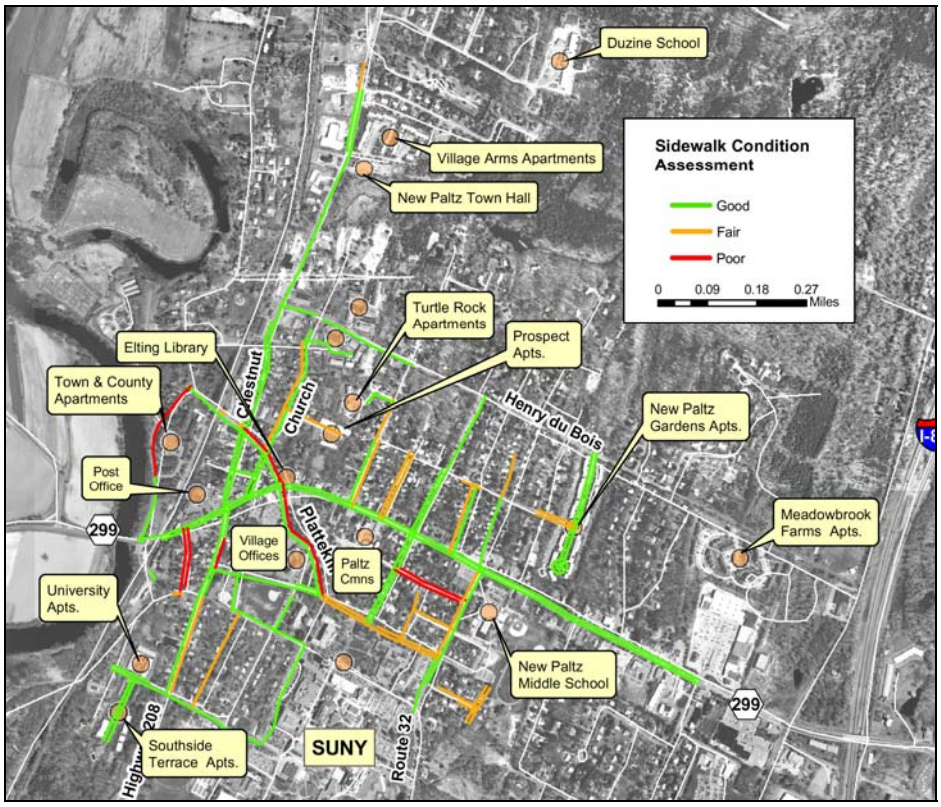
Future surveys should examine: overgrown edges, broken and deteriorated surfaces, overhanging trees and bushes *(a minimum vertical clearance of 8.5 feet is recommended)*, and areas with deficient drainage.

5.1.3 Future Sidewalk Extensions

The sidewalk inventory identified the condition of each sidewalk segment throughout the study area. The sidewalks were rated good, fair, or poor based on their observed condition.[1] The results of the inventory are shown in Figure 16 and summarized below:

- Good: 8.2 miles (65%)
- Fair: 3.3 miles (26%)
- Poor: 1.1 miles (9%) were characterized as 'poor'.

Figure 16: Sidewalk Condition Assessment



[1] The following guidelines were used to assess sidewalk condition: Good A sidewalk in good condition was likely constructed or rehabilitated within the past 5-7 years. Sidewalk is smooth and relatively free of cracks. Fair: Sidewalks in fair condition appear older and may have considerable surface cracking and invasive weeds. The sidewalk may not be entirely flat, but will tend to shed rain water effectively. Sidewalk width may at times be less than the minimum of 5 feet. Poor: Sidewalks in poor condition have less than the minimum width of 5 feet and show multiple cracks or crumbling surfaces. Surfaces are very uneven and may not effectively shed rain water. Poor sidewalks may also lack of vertical separation between street and sidewalk.

To prioritize the missing sidewalk segments throughout the study area, a scoring scheme was developed to grant each sidewalk segment points as follows:

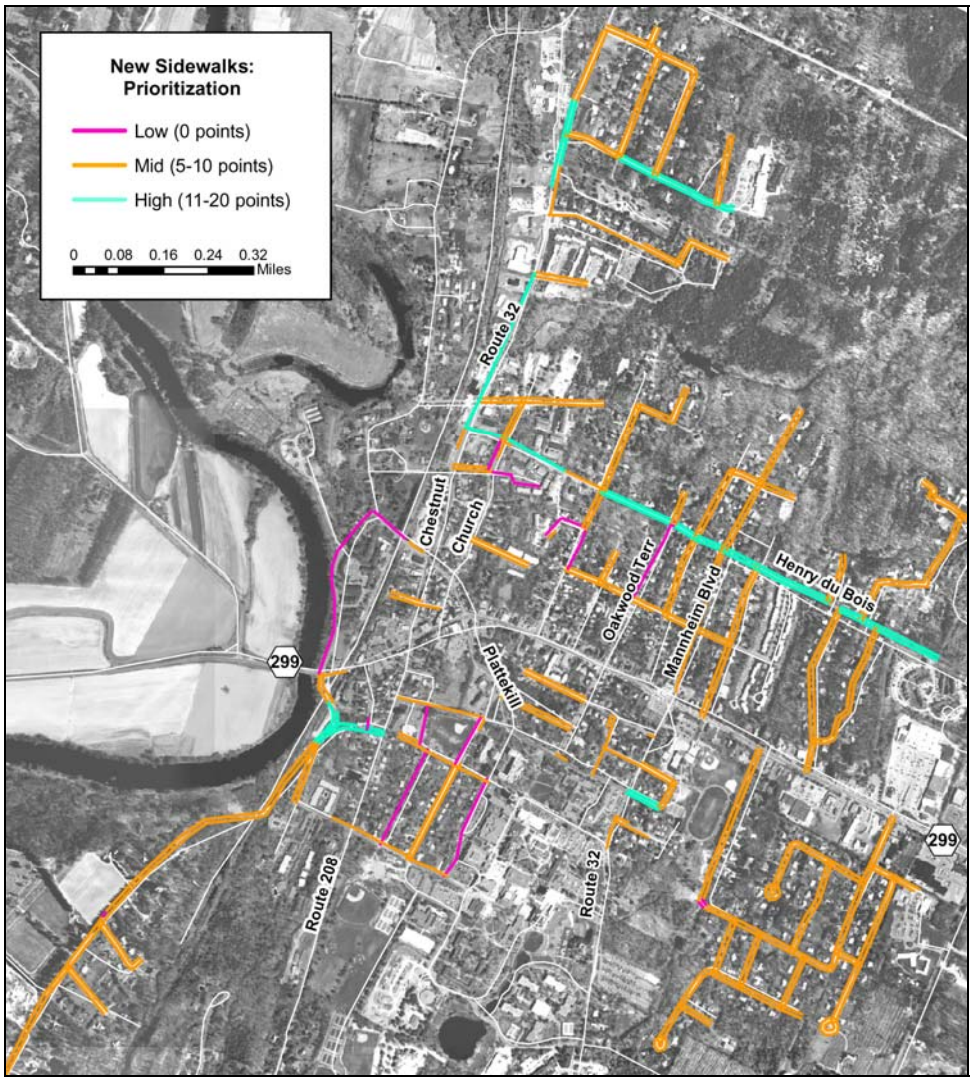
- Does the missing link create a connection between two important destinations? (5 points)
- Is the link located along a major route? (Routes 299, 32, 208, Mohonk Avenue, Henry W. DuBois Drive, Hasbrouck Avenue, Plattekill Avenue) (5 points)
- Has the link been identified as a local priority pedestrian connection by the Bicycle/Pedestrian Committee[1]? (5 points)
- Is there a sidewalk on the other side of the street? (5 points)
- Is there a school within ¼ mile? (5 points)

The results of the sidewalk prioritization are shown below in Figure 17. The sidewalk segments ranking highest include:

- Sunset Ridge (both sides): Duzine School to Van Alst Street (1,200 feet)
- Route 32 (both sides): North of Sunset Ridge to Old Kingston Road (850 feet)
- Route 32 (west side): Veterans Drive to Henry DuBois Drive (1,600 feet)
- Henry DuBois Drive (both sides): Route 32 to Meadowbrook Farm Apartments (5,000 feet)
- Plattekill Avenue (both sides): Maiden Lane to South Manheim Road (400 feet)
- Mohonk Avenue (one side only due to grade/right-of-way constraints): Route 208 to Water Street (500 feet)
- Water Street (one side only due to grade/right-of-way constraints): Rail Trail to Pencil Hill Road (600 feet)

[1] The B/P Committee recommended five areas for sidewalk improvements: Mohonk Avenue to connect the Rail Trail to Route 208; Henry W. DuBois, entire length, one side; North Manheim, complete to H.W. DuBois; Route 32 N, west side (Agway to Old Kingston Rd.); and, Route 32N, east side (Town Hall to Bonticou View Drive).

Figure 17: Results of the Sidewalk Prioritization



5.1.4 Building and Zoning Regulations Affecting Sidewalks

Maintenance of existing sidewalks, including snow removal, was discussed by the B/P Committee. The Village of New Paltz Code contains the "Sidewalk Law of the Village of New Paltz" (Article IV, 175-14) that gives the Village Board the authority to construct sidewalks. The same chapter contains language requiring that owners of property abutting sidewalks remove snow and ice. Possible language related to sidewalk maintenance to supplement what is already in the Code could include:

- The owner of any property abutting a public sidewalk shall maintain the sidewalk in a safe condition, in a state of good repair, and free from defects. The abutting property owner may be liable for damages caused by failure to maintain the sidewalk. (Des Moines, Iowa)
- All sidewalks shall be constructed to grade established by existing adjoining walks or, in the absence of the foregoing, by the Township Engineer, and shall be paved with a single course of concrete using limestone aggregate, which shall have a compressive strength of not less than 3,500 pounds per square inch within 28 days of paving. Paving bricks may be substituted for concrete when authorized by the Township. (Scio Township, Michigan)
- The adjacent landowner currently bears no responsibility to the general public for maintaining safe conditions on adjacent sidewalk, other than a duty of ordinary care, and cannot be held liable for personal injuries borne by the general public resulting from unsafe sidewalk conditions. (City of Saratoga, California)

In reviewing subdivision applications the Planning Boards may require that sidewalks be established in order to further the vision described herein. The New Paltz Planning Boards have the authority to require that sidewalks be constructed when permitting development and subdivision proposals. The following language, if added to the municipal land use regulations, would provide clear authority to the Planning Boards for causing sidewalks to be constructed when development applications are reviewed.

- Where necessary in the judgment of the Board, rights-of-way for pedestrian and/or bicycle travel and access may be required between parts of the subdivision or between a subdivision and public property. When such need has been created by the subdivision, the Board may require the subdivider to provide sidewalks and/or bicycle paths outside the subdivision.

5.1.5 Crosswalks

Marked crosswalks are an important feature for pedestrian safety. They give motorists the message that they are approaching a place where pedestrians may cross and where pedestrians have the right-of-way when crossing. When combined with other features such as lighting, curb-outs, curb ramps, and pedestrian signals, the overall safety of pedestrians increases.

Figure 18 shows the location of existing and proposed crosswalks.

Figure 18: Existing and Proposed Crosswalks (yellow= full; red=partial; blue= proposed by BP Committee)

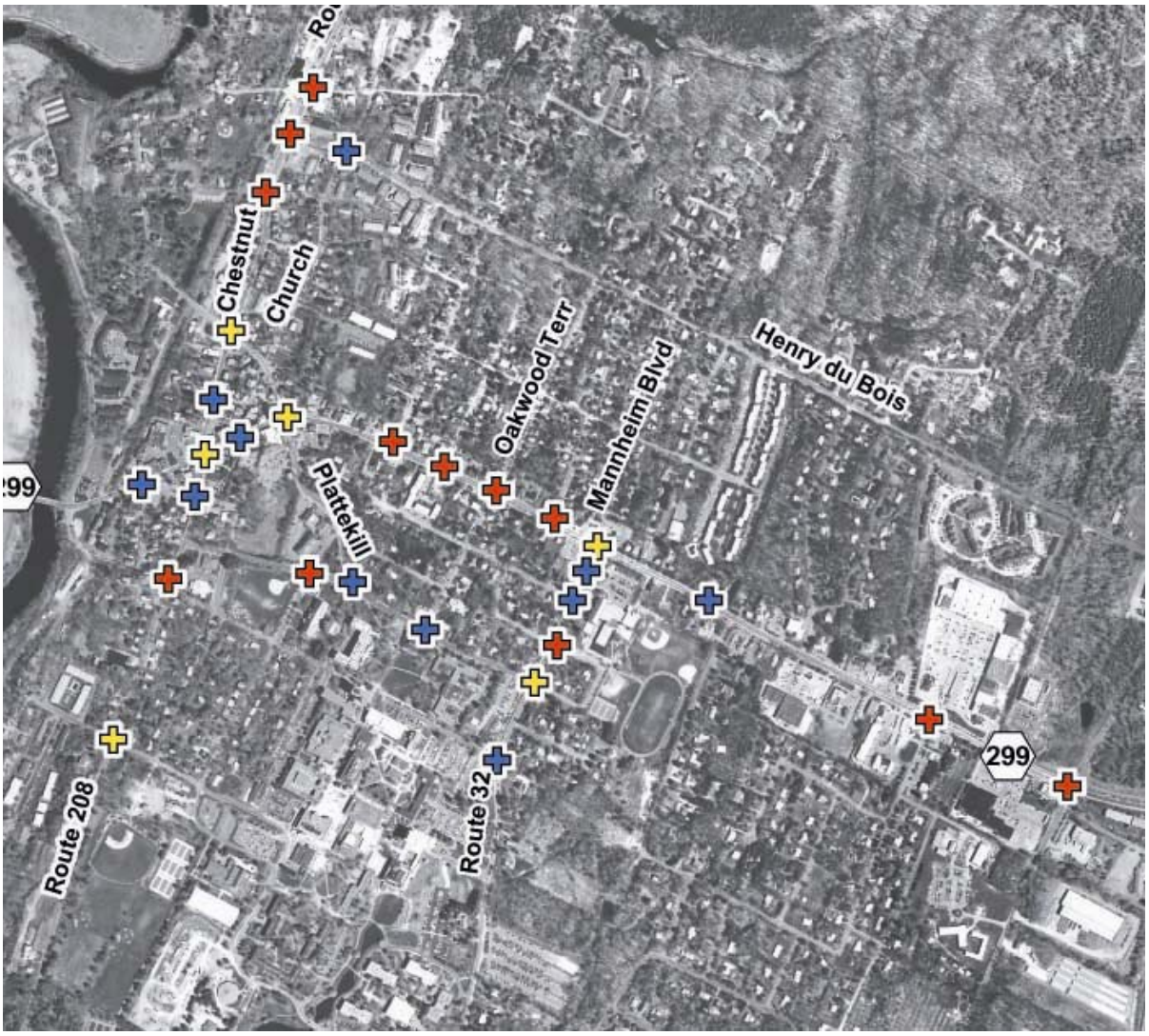
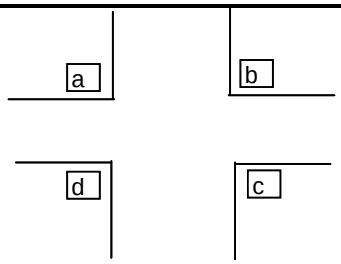


Table 18 provides information on the existing crosswalk locations for 44 intersections in New Paltz.

Table 18: Existing Crosswalk Locations for 44 Intersections in New Paltz

a-> NW corner
b-> NE corner
c-> SE corner
d-> SW corner



	Crosswalks			
	a-b	b-c	c-d	d-a
Route 299 / Route 32 / Route 208	x	x	x	x
Route 32 / Front Street	x	x	x	x
Route 32 / Henry DuBois Drive		x		
Route 32 / Shivertown Road				
Route 299 / Front Street / Plattekill Avenue	x	x	x	x
Route 299 / Route 32 / North Manheim Blvd.	x	x	x	x
Route 32 / Hasbrouck Avenue / Overbrook Road	x	x		x
Route 299 / Putt Corners Road				
Route 299 / Thruway Ramp				
Route 299 / Ohioville Road		x		
Route 32 / University Entrance				
Route 32 / Route 17 (Horsenden Road)				
Route 17 (N. Putt Corners Rd) / Elliotts Road				
Route 299 / Water St / Huguenot St				
Route 299 / Cherry Plaza Entrance (Shopping Plaza)			x	x
Rt. 208/Plattekill				
Rt. 208/Plains				
Rt. 208 Southside	x	x	x	x
Rt. 299/Church				
Rt. 299/Prospect	x			
Rt. 299/Grove	x			
Rt. 299/Oakwood		x		x
Rt. 299/Millrock	x			
Rt. 299/Harrington				
Rt. 299/Duzine				
Rt. 299/Wurts				
Rt. 32/Broadhead	x	x		x
Rt. 32/Mulberry	x	x		
Rt. 32/Center				
Rt. 32/Lincoln		x		
Rt. 32/Plattekill				
Rt. 32/Mohonk	x		x	x
Rt. 32/Southside Loop				

The B/P Committee has proposed crosswalk locations to satisfy existing pedestrian movements, with a particular focus to crossings of state highways – Route 299, Route 32, and Route 208. Other

crossings proximate to the Village Hall and Hasbrouck Park are also proposed due to their attracting many pedestrians on typical days.

Most existing crosswalks are advance marked with warning signs, and there is a mix of sign types utilized[1].

5.1.6 Pedestrian Crossing Signals and Related Hardware

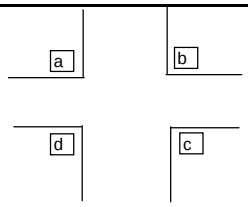
Table 19 shows the inventory of existing pedestrian crossing signals associated with the 7 signalized intersections in New Paltz. The two intersections with the highest amount of pedestrian traffic – Main/Chestnut and Main/Manheim – are well outfitted currently and appear to be operating acceptably for pedestrians. Route 32/Front Street is also comparatively well outfitted for pedestrians.

The Route 299/Shopping Plaza signal currently has pedestrian signals allowing for the crossing of Route 299 along the westerly side of the intersection (see Table 19). This intersection also has an audible signal that sounds when the pedestrian walk indicator is "green". Currently there are no crosswalks

1 The B/P Committee has recommended that the newer fluorescent yellow-green signs not be installed because they do not integrate well with the rural character of New Paltz.

Table 19: Existing Pedestrian Crossing Signals and Related Hardware at 7 Signalized Intersections in New Paltz

a-> NW corner
b-> NE corner
c-> SE corner
d-> SW corner



Signalized Intersections	Pedestrian Buttons								
	a-b	b-a	b-c	c-b	c-d	d-c	d-a	a-d	Comment/Other:
Route 299 / Route 32 / Route 208	x	x	x	x	x	x	x	x	4 buttons
Route 299 / Route 32 / North Manheim Blvd.	x	x	x	x	x	x	x	x	4 buttons, audible walk signal
Route 299 / Putt Corners Road									
Route 299 / Thruway Ramp									
Route 299 / Ohioville Road									
Route 299 / Cherry Plaza Entrance (Shopping Plaza)							x	x	audible signal
Route 32/Front Street	x	x	x	x	x	x	x	x	6 buttons

Signalized Intersections	Pedestrian Signal Indicators								
	a-b	b-a	b-c	c-b	c-d	d-c	d-a	a-d	
Route 299 / Route 32 / North Manheim Blvd.	x	x	x	x	x	x	x	x	countdown ped timer
Route 299 / Putt Corners Road	x	x	x	x	x	x	x	x	countdown ped timer
Route 299 / Thruway Ramp									
Route 299 / Ohioville Road									
Route 299 / Cherry Plaza Entrance (Shopping Plaza)							x	x	
Route 32/Front Street	x	x	x	x	x	x	x	x	

5.1.7 Bicycle Facilities

Road Shoulders

The most efficient way of developing a better system for local bicycling is to have paved shoulders on local town and county roads. Very few roads in town have continuous consistent shoulders. The Ulster County Transportation Plan states that" ... critical needs for bicycle transportation are to provide continuous consistent shoulders on state, county and local roads..."

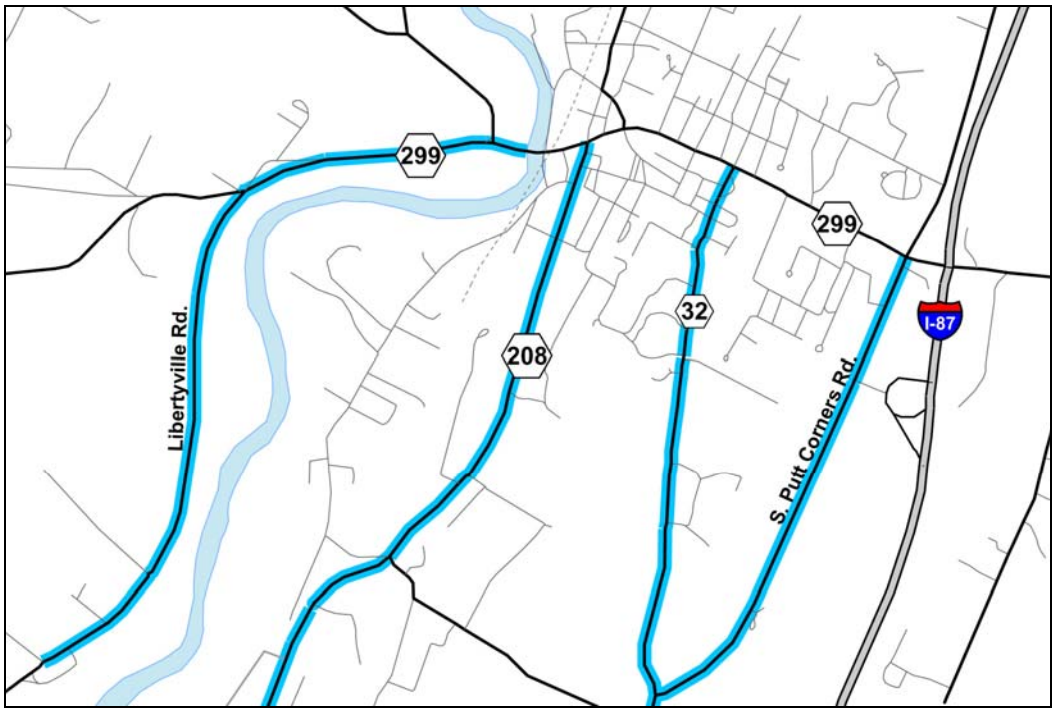
With an overarching objective to preserve New Paltz' rural character, the Bicycle/Pedestrian Committee acknowledged that wider, paved road shoulders may not always be desirable, and they specifically cited Springtown and N. Putt Corners Roads where constructing shoulders would not be recommended due to the removal of trees that would be necessitated.

The B/P Committee cited several roads for shoulder improvements, as shown in Table 20 (see Figure 19).

Table 20: Roadway Segments Recommended for Shoulder Improvements

Roadway	Jurisdiction	Segment Description	Segment Length	Recommended Width	Comment/Other
South Putt	Ulster County	Route 299 to New Paltz High School	6400 feet	3 feet	TIP Application to UCTC denied (7/05)
South Putt	Ulster County	New Paltz High School to Route 32	2500 feet	3 feet	
Route 299	NYSDOT	Wallkill River Bridge to Libertyville Road	5000 feet	3 feet	4 foot shoulders on bridge to be integrated into bridge reconstruction.
Libertyville Road	Ulster County	Route 299 to Ulster County Fairgrounds	9000 feet	3 feet	
Route 208	NYSDOT	Route 299 (Main Street) to Jansen Road	8200 feet	3 feet	Route 208 is designated as a future Bike Route on the Hudson Valley Bikeways & Trailways map.
Route 208	NYSDOT	Jansen Road to Gardiner Town Line	15000 feet	3 feet	

Figure 19: Roads Identified for Expanded Shoulder(s)



The Town of New Paltz should consider including as a priority the expansion of road shoulders along North Putt. This expansion could be accomplished in segments to address the more densely settled areas first (Route 299 to HW DuBois) and extending northerly as opportunities allow (to Shivertown).

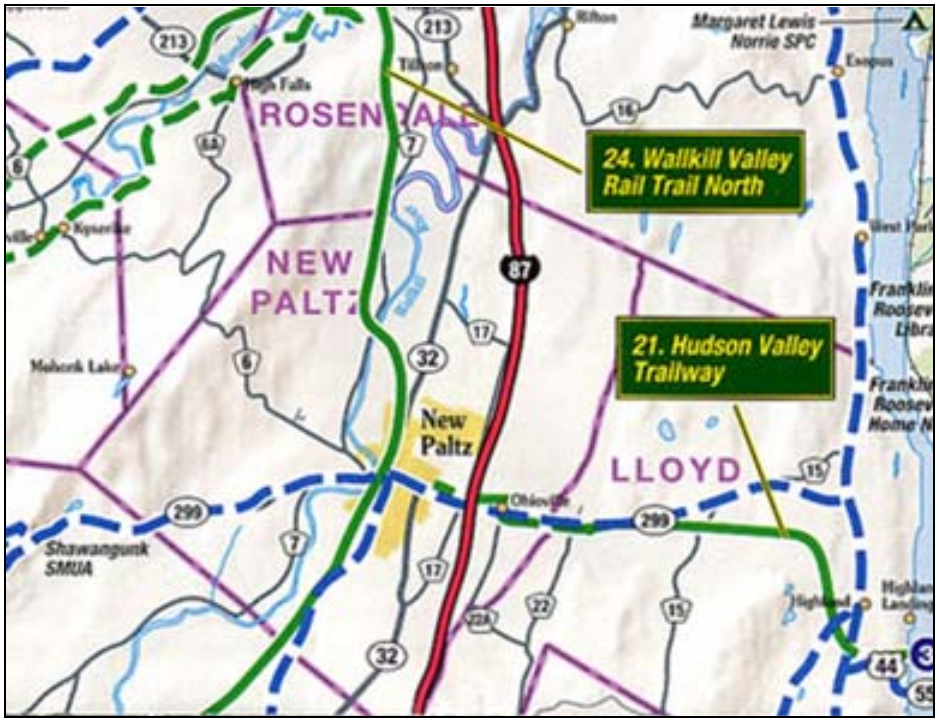
Designated Bike Routes

The only designated bike route in the Town and Village is Henry W. DuBois Drive. The B/P Committee indicated that this was not a useful local route due to the lack of shoulders and steep grades.

However, there is a broader initiative to link the rail trail in Highland to the Wallkill Valley Rail Trail. This initiative is being undertaken by NYSDOT and by the Southern Ulster Alliance.

NYSDOT has suggested using H.W. DuBois as a means of connecting the regional bicycle network from Route 299-North Putt (shown in Figure 20). Also shown in Figure 20 are future bicycle routes along Route 299 and Route 208 that will be part of a region-wide system of long-range bicycle routes. The future Route 299 bicycle trail would be an extension of the Hudson Valley Trailway westerly within the Route 299 right-of-way, to North Ohioville.

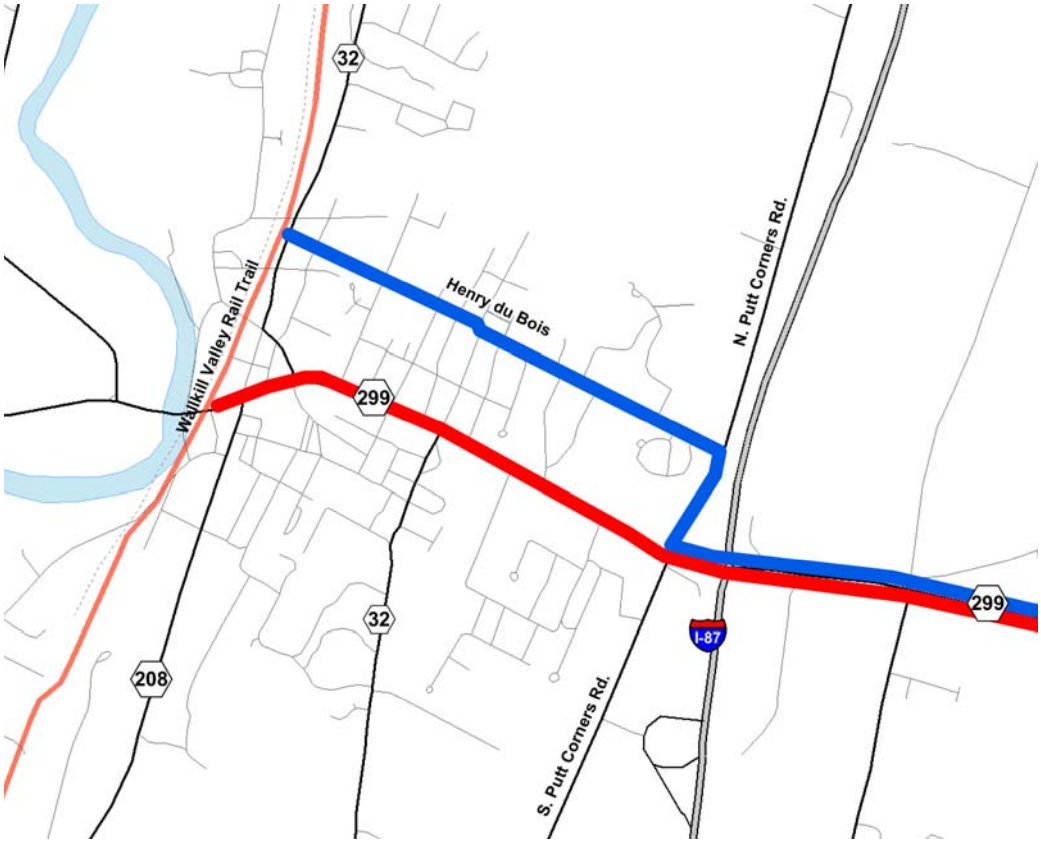
Figure 20: Hudson Valley Bikeways & Trailways (Legend: Solid Green Line=Existing Trailway; Dashed Green Line=Proposed Trailway; Dashed Blue Line=Future Bike Route)



Within New Paltz there are three alternatives for an east-west bicycle route that would be part of the larger regional system. Two of these routes are shown in Figure 21. In addition to the route alignment using H.W. DuBois, a straight alignment along Route 299 should be considered. The B/P Committee felt that the Route 299 alignment was the most feasible if developed along with other measures to calm traffic and manage parking.

A third alternative being considered by the Southern Ulster Alliance[1] would divert from Route 299, turning left onto S. Putt Corners Road then right onto a potential connector trail between S. Putt and Route 32. At Route 32 a trail can lead through the SUNY campus to Route 208. At the exit from SUNY onto Route 208 a safe route will need to be established to connect to the rail trail.

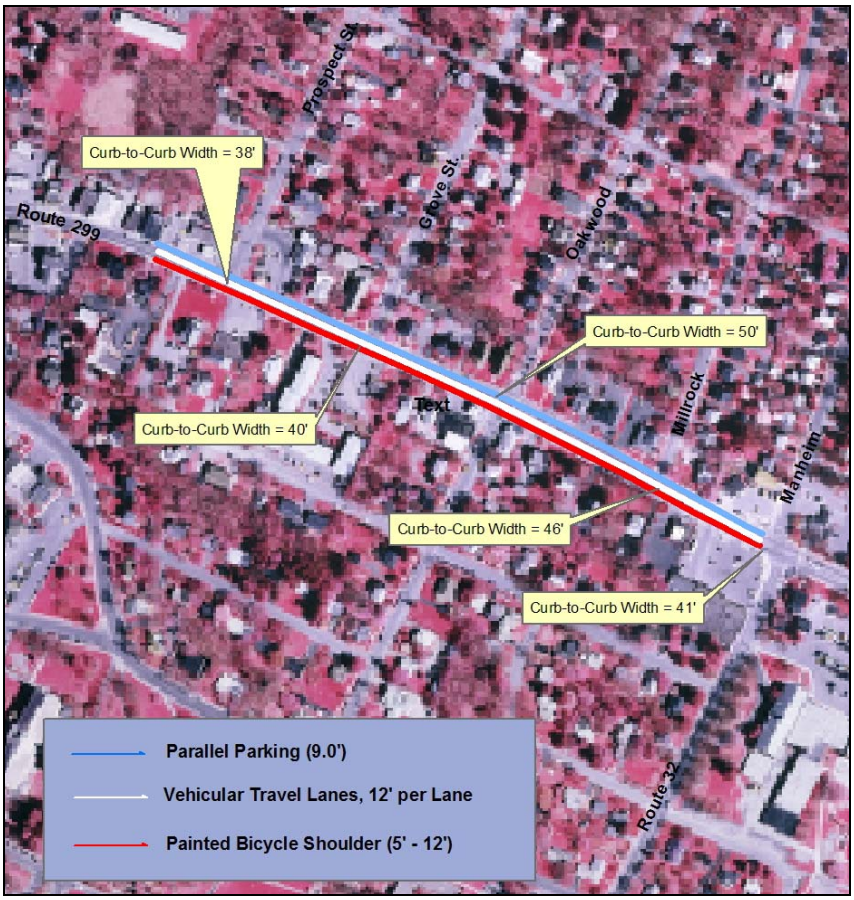
Figure 21: Two Potential Regional Bicycle Route Alignments in New Paltz



If a bicycle route were to be formally established along Main Street there are some options for incorporating it within the existing paved area. As an example Figure 22 shows the proposed extent of a painted 5'-12' bicycle lane along Route 299 from west of Prospect Street east to Route 32 South.

[1] This information was presented at the June 13, 2005 meeting of the B/P Committee and is reflected in the minutes of that meeting.

Figure 22: Proposed Extent of Painted Bicycle Lane on Route 299



5.1.8 Bicycle Parking

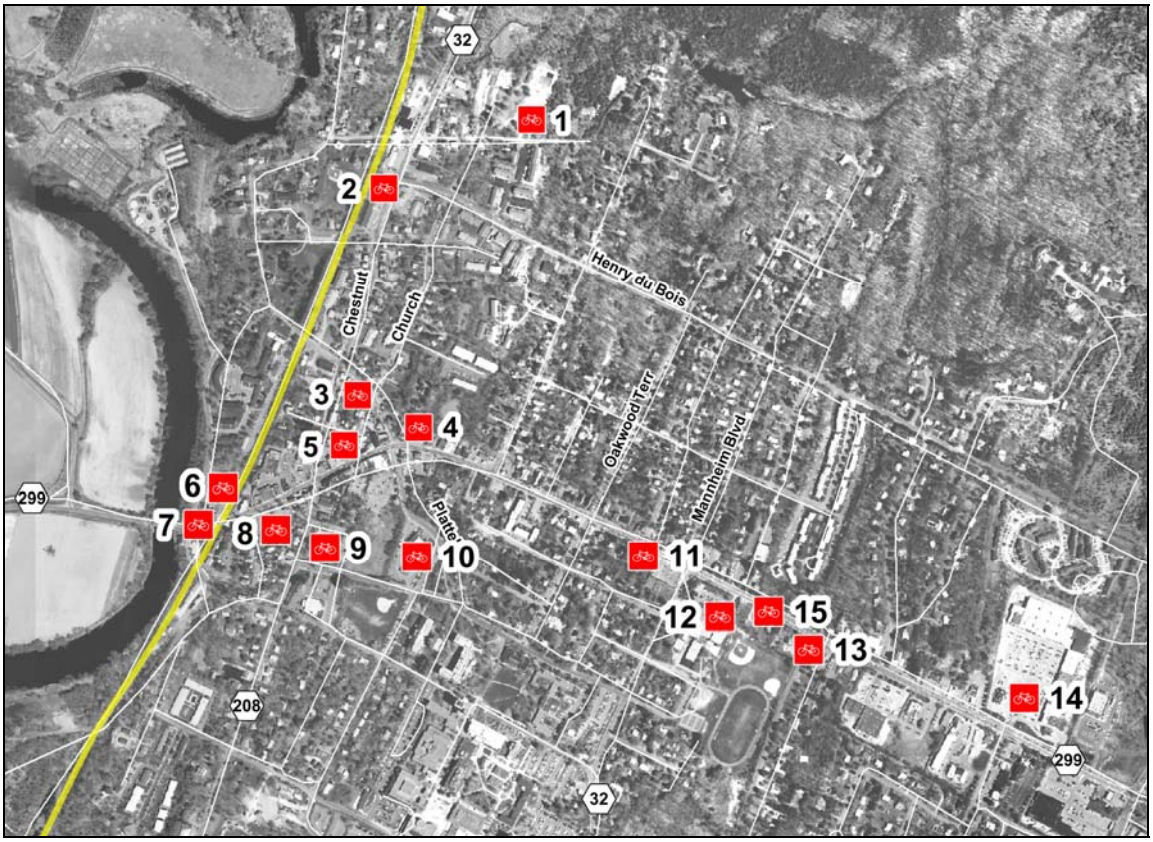
Fifteen bicycle racks were identified in New Paltz and are listed below in Table 21 and shown in Figure 23.

Table 21: Existing Bike Rack Locations and Identified Issues

Number	Location	Comment
1	Moriello Pool	10’ Single Sided; against fence near entry gate
2	Village Pizza (Route 32)	12’; in front of Village Pizza
3	The Bicycle Rack – The Bakery	6’ wave design; in front of shops
4	Elting Library	10’ rear of building
5	Main Street Bistro	5’; on Church Street side of building
6	La Stazione	3’; at north end of building
7	The Gilded Otter	5’; in front of building

8	Gottlieb's Parking Lot, 30 Main Street	5'; NE corner of lot
9	Mountain Laurel School	5'; near school entrance
10	Village Hall	10'; west side near Bldg. Dept. entrance
11	Peak Performance Sport	10'; in front of building
12	NP Middle School	10'; in front of building
13	Ulster Savings Bank	10' in alcove along west side of building
14	New Paltz Plaza	5'; in front of movie theater
15	Teen Seen	6'; near rear entrance

Figure 23: Existing Bicycle Rack Locations



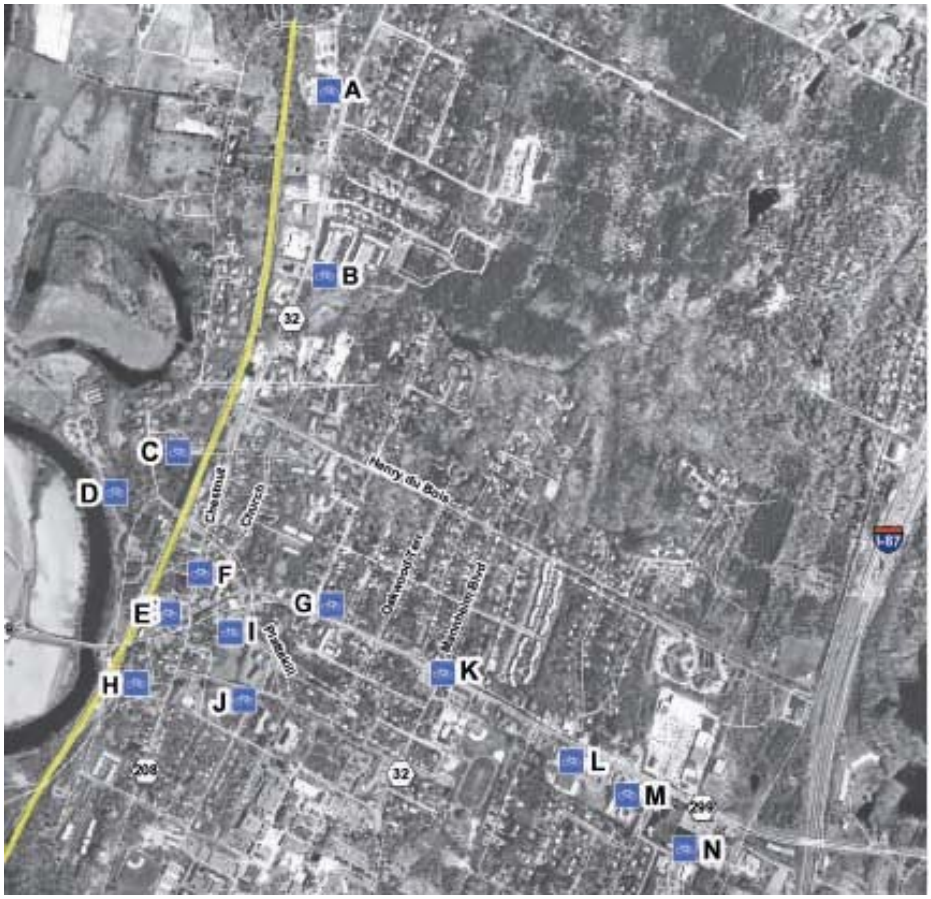
The BPC has recommended that a Bicycle Parking Bylaw be enacted by the Town and Village so that bicycle racks can be installed during the permitting process, and their location determined through normal planning review. The B/P Committee identified additional locations bicycle racks as listed below in Table 22 and shown in Figure 24.

Table 22: Proposed Bicycle Rack Locations

Letter	Location
A	Ulster BOCES
B	New Paltz Town Hall
C	Parking Lot Proximate to Huguenot Historic District; Ballfield
D	Municipal Parking Area New WWT Plant
E	Post Office Plaza
F	Municipal Parking Lot Behind Main Street Bistro
G	Bus Station

Letter	Location
H	Water Street Market
I	Municipal Parking Lot on Plattekill Ave.
J	Hasbrouck Park
K	Mini Mall at Main/Manheim
L	Eckerd Plaza
M	Cherry Hill Plaza
N	Shop-Rite Plaza

Figure 24: Proposed Bicycle Rack Locations



5.1.9 Connector Trails

Connector trails link pedestrians and, sometimes, cyclists to important destination points especially where there are no existing roadways.

Figure 13 shows two connector trails:

1. Connecting New Paltz Plaza to the Meadowbrook Apartments (currently established)
2. Connecting the Cherry Hill neighborhood with Route 32 (part of a current development proposal, Victorian Square, being reviewed by the Village Planning Board).

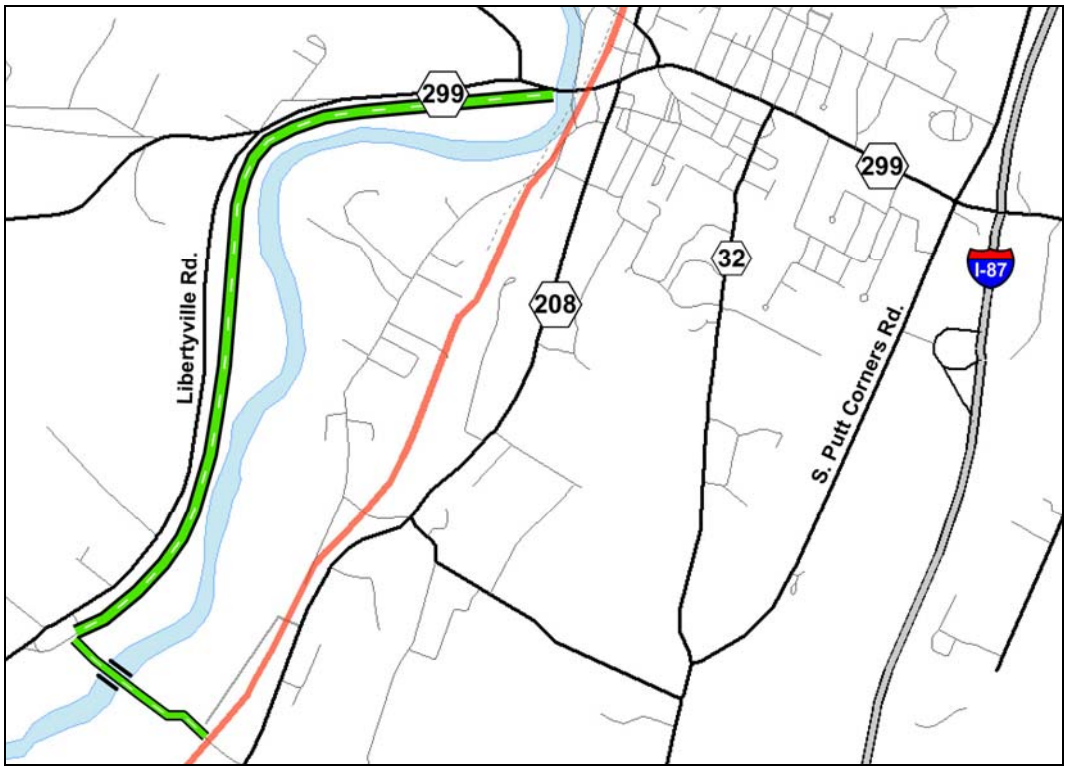
These connector trails are for pedestrian access and provide critical linkages replacing car trips with short walk trips. The B/P Committee has suggested the following additional connectors:

- From the Rail Trail to the County Park (Figure 25);
- From Route 32 South to South Putt Corners Road (described above in Section 0);
- From the Rail Trail in Highland (Town of Lloyd) to the Wallkill Valley Rail Trail (described above in Section 0).

For a multi-use path connecting the Rail Trail with the County Park there are two possible connections, both of which would require the cooperation of private landowners (see Figure 25):

- Connect the Rail Trail by way of an easement through the Dressel property and a pedestrian bridge over the Wallkill River. A preliminary cost estimate for this bridge is in the range of $1 million.
- Construct a trail on the west side of the river from Route 299 to the Fairgrounds.

Figure 25: Proposed Multi-Use Path Connections to the County Park



Generally it is most efficient for the Town and Village to establish such connections through the normal development process, and the Planning Boards should encourage developers to incorporate these connections in their site plans. The B/P Committee discussed the possibility of connections related to two current development proposals in the Village -- Woodland Pond and Stoneleigh Woods. The B/P Committee supports pedestrian connections between these projects, but is not supportive of trails that would allow bicycle travel due to the resource sensitivity of the area.

5.1.10 Traffic Calming Initiative – A Proposal of the Bicycle/Pedestrian Committee

In their final report the B/P Committee recommended that an appropriate area of the town/village be designated as a "Slow Down" overlay district where people and vehicles slow down "so that better quality of life, sense of neighborhood, and human relationships may be enjoyed because of a more leisurely pace than otherwise."

The Committee points to street design as a key factor in determining vehicle speed and thus changing the design of streets is a critical point of interventions. Traffic calming refers to a set of street design changes targeted to slowing vehicle speeds. High-speed traffic is intimidating to pedestrians and it shortens reactions times for drivers. The B/P Committee acknowledged that the

SUNY campus represents a local example of a traffic calming area, and they seek to extend the campus-wide 20 mph zone to a broader district to be defined within the Town and Village.

Communicating to the general public the need for and existence of a "Slow Down" zone could be done in a number of "such as stickers on menus in the restaurants, benches, sidewalk sculpture, outside dining, hopscotch board on sidewalk, landscaping … Signs at this point would indicate "Slow down, you go too fast," a la Simon and Garfunkle."

A key design feature element of the B/P Committee proposal would be serious Traffic Calming at the five major road portals to the core developed area:

- Route 299 from the east and west
- Route 32 from the north and south
- Route 208 from the south.

The B/P Committee has suggested "Gateway"[1] treatments at each of these areas (Figure 26).

Figure 26: Example Gateway Treatments

5.1.11 Summary Recommendations for Bicycle/Pedestrian Improvements

This section summarizes the key recommendations for bicycle/pedestrian improvements in New Paltz:

1 The B/P Report included this definition: A gateway consists of an architectural or roadway feature on each side and/or in the center of a roadway used primarily to indicate to drivers that they are entering a special area. The most effective gateways include vertical elements such as trees or columns. Gateways may be formed by curb bulb-outs, fences, poles, signs, artwork, and other features that can be combined with each other. If the gateway were narrow, it would reduce speed at that point.

Sidewalk Improvements

The segments of new sidewalk with the highest priority are:

- Sunset Ridge (both sides): Duzine School to Van Alst Street (1,200 feet)
- Route 32 (both sides): North of Sunset Ridge to Old Kingston Road (850 feet)
- Route 32 (west side): Veterans Drive to Henry DuBois Drive (1,600 feet)
- Henry DuBois Drive (both sides): Route 32 to Meadowbrook Farm Apartments (5,000 feet)
- Plattekill Avenue (both sides): Maiden Lane to South Manheim Road (400 feet)
- Mohonk Avenue (both sides): Route 208 to Water Street (500 feet)
- Water Street (both sides): Rail Trail to Pencil Hill Road (600 feet)

Crosswalk Improvements

New crosswalks are recommended at the following locations:

- Main Street at Church Street
- South Chestnut at Mohonk Ave.
- South Chestnut at Southside Ave.
- Rt 32N at H.W. DuBois
- Hasbrouck at Tricor Ave.
- Plattekill Ave. at S. Oakwood Terrace
- Rt. 299 at Putt Corners Rd.
- A safe crossing from the Middle School to the "Mini Mall" This is currently being studied.
- A crossing at Main Street @ the Teen Seen. The road is wide and would benefit from a mid-block "bulb-out"

Shoulder Improvements for Safe Bicycle Travel

The following roadway segments are targeted for the construction of bicycle shoulders:

- South Putt Corners Road
- Route 299 - west of the village to Libertyville Road
- Libertyville Road (Route 299 to County Pool)
- Route 208 from Main Street south

- Route 32 from Main Street south

New Bicycle Rack Locations

New bicycle racks are recommended at the following locations:

- Ulster BOCES
- New Paltz Town Hall
- Parking Lot proximate to Huguenot Historic District, Ball field
- Municipal Parking Area New WWT Plant
- Post Office Plaza
- Municipal Parking Lot Behind Main Street Bistro
- Bus Station
- Water Street Market
- Municipal Parking Lot on Plattekill Ave.
- Hasbrouck Park
- Mini Mall at Main St/Manheim Blvd
- Eckerd Plaza
- Cherry Hill Plaza

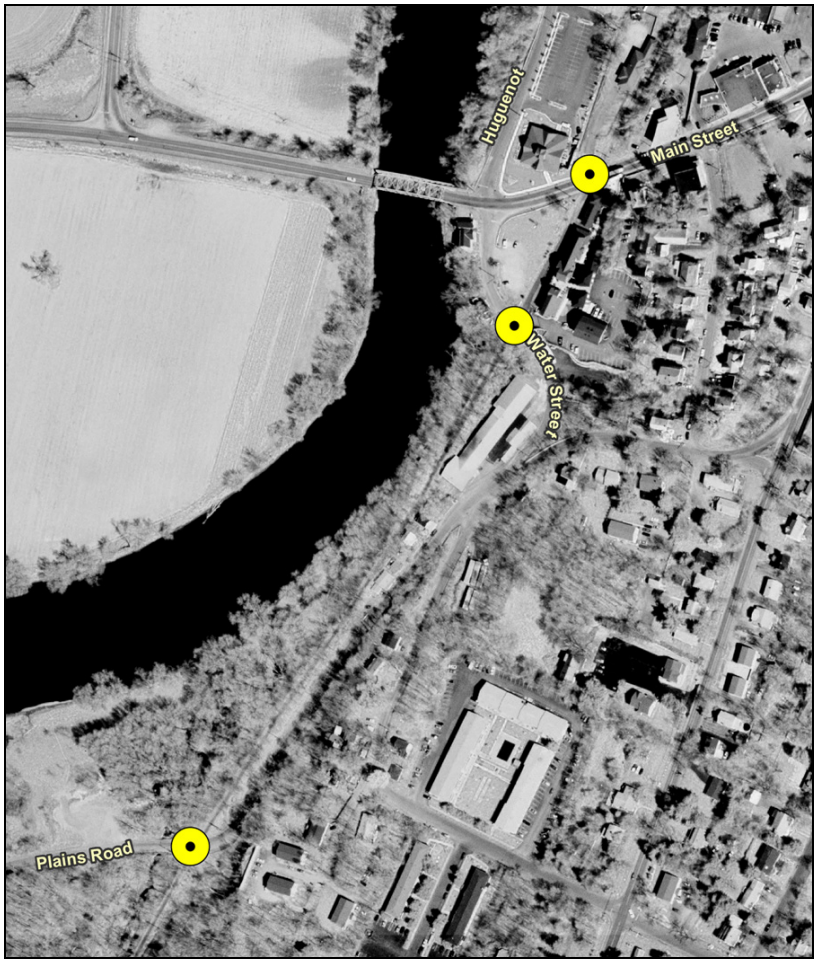
Wallkill Valley Rail Trail Crossings

Concerns have been expressed by some New Paltz residents of the condition of the Rail Trail for walking and biking. Of particular concern are the street crossings at the following locations:

- Main Street
- Water Street
- Plains Road
- North Front Street
- Mulberry Street
- Cedar Lane Road
- Huguenot Street

Three of these locations are shown in Figure 27.

Figure 27: Aerial View of Village Section of the Wallkill Valley Rail Trail Showing Street Crossing Locations Recommended for Improvements



A commonly applied crossing surface involves a textured surface well before and after the actual crosswalk. Some municipalities are experimenting with colored pavements. The Rail Trail crossings at local roadways should be improved with new pavement markings and posting of signs in accordance with the Manual of Uniform Traffic Control Devices. Managing vegetation for improving sight lines is also important. An application to the Ulster County Transportation Council (UCTC) Transportation Improvement Plan (TIP) for funding improvements to the Rail Trail crossings was submitted, but was not awarded funding.

Traffic Calming Initiative Proposal

The B/P Committee has issued an interesting and serious proposal to adopt a "Slow Down" overlay district in New Paltz. This initiative would include extensive public outreach and communication,

and would seek to implement traffic calming measures throughout the designated district, with specific gateway treatments at the state highway entrances to New Paltz.

Bicycle/Pedestrian Policy and Regulation

There are 3 recommendations with regard to policy and regulation:

1. Establish a Town/Village Bicycle and Pedestrian Committee. A formal request to do this has been submitted to the Town Supervisor and Village Mayor.
2. Formally prepare and adopt a community-wide Bicycle/Pedestrian Plan. This report can serve as the foundation for this Plan.
3. Adopt language for use in the New Paltz Town and Village Code for the establishment of bicycle/pedestrian facilities through the New Paltz zoning ordinance, subdivision regulations, and site plan review.

5.2 EVALUATION OF ROUNDABOUTS IN NEW PALTZ

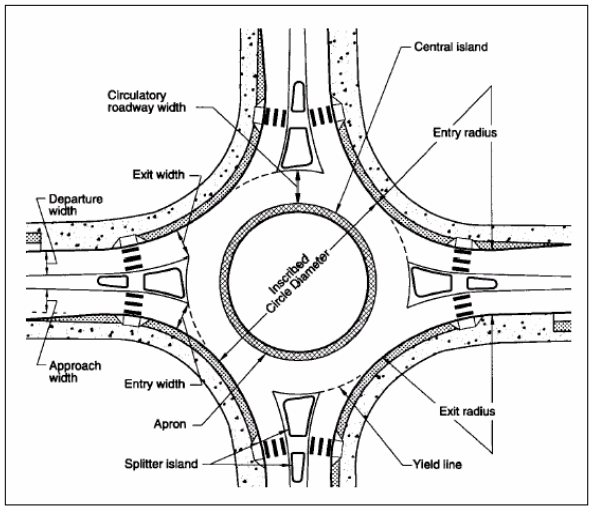
Over the course of the Project many New Paltz residents have expressed interest in roundabouts as a traffic control device. Public interest in roundabouts has been provided at public meetings and through comments given in the New Paltz household survey conducted in October 2003.

A roundabout is a circular intersection traffic control device that assigns the right of way to circulating vehicles. There are three basic principles that define a roundabout:

- Yield at Entry: At roundabouts the entering traffic yields the right-of-way to the circulating traffic. This yield-at-entry rule prevents traffic from locking-up and allows free flow movement;
- Deflection: The entry and center island of a roundabout deflects entering traffic to slow traffic and reinforce the yielding process; and
- Flare: The entry to a roundabout often flares out from one or two lanes to two or three lanes at the yield line to provide increased capacity.

Figure 28 shows these features on a typical roundabout and provides an example of a mini-roundabout constructed in Michigan. Figure 29 provides an example of a conventional single lane roundabout in a village setting and a two-lane roundabout controlling the intersection of 2 arterials.

Figure 28: Typical Roundabout Design Elements (left) and Example of Mini-Roundabout (right), [1]



Roundabouts are sometimes confused with rotaries and traffic circles, but are different in many important ways. Roundabouts are designed for slow speeds (15-25 miles per hour) and are much smaller than rotaries. Table 23 compares the characteristics of roundabouts and rotaries. Table 24 presents the advantages and disadvantages of traffic signals and roundabouts.

Table 23: Differences between Roundabouts and Rotaries [2]

Characteristics	Roundabout	Traffic Circle or Rotary
Traffic Control	Yield control is used on all entries. The circulatory roadway has no control.	Some traffic circles use stop control, or no control, on one or more entries.
Right-of-way	Circulating vehicles in the roundabout have the right-of-way.	Some traffic circles require circulating traffic to yield to entering traffic.
Pedestrian Access	Pedestrian access is allowed only across the legs of the roundabout, behind the yield line.	Some traffic circles allow pedestrian access to the central island.
Parking	No parking is allowed within the circulatory roadway or at the entries.	Some traffic circles allow parking within the circulatory roadway.
Direction of Circulation	All vehicles circulate counter-clockwise and pass to the right of the central island.	Some neighborhood traffic circles allow left-turning vehicles to pass to the left of the central island.

[1] Sources of information on roundabouts can be found at: http://www.roundaboutsusa.com/http://www.dot.state.ny.us/roundabouts/round.html; http://www.roundaboutsusa.com/; http://www.alaskaroundabouts.com/mythfact1.html

[2] Adapted from "Roundabouts An Informal Guide"; US DOT, Federal Highway Administration Publication No. FHWA-RD-00-67

Figure 29: Examples of a Single Lane Roundabout and a Double Lane Roundabout

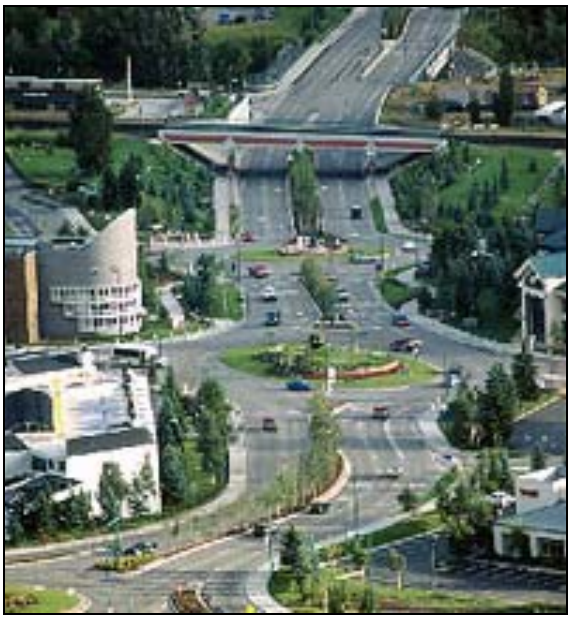


Table 24: Advantages and Disadvantages of Traffic Signals and Roundabouts[1]

	Advantages	Disadvantages
Traffic Signals	▪ Eliminate certain types of crashes ▪ Often reduce overall delay ▪ Can be optimized for a variety of traffic patterns ▪ Reduce delay for side street traffic ▪ Can improve pedestrian safety by including protected phases ▪ Do not require significant amounts of new right-of-way ▪ Very familiar to today's drivers	▪ Increased delay for major street traffic ▪ Utilize signal equipment that requires constant power, periodic light bulb and detection maintenance, and regular signal timing update ▪ Create visual clutter
Roundabouts	▪ Reduce amount and severity of crashes relative to an intersection controlled by a stop sign or traffic signal. 51% decrease in total crashes, 73% decrease in injuries and 32% decrease in property damage only crashes.[2] ▪ Their ability to reduce speed while providing capacity for traffic can be incorporated into traffic calming for village centers. ▪ Do not have electrical/mechanical equipment that requires constant power, periodic light bulb and detection maintenance ▪ Service life is approximately 25 years compared with 10 years for a typical signal ▪ Offer the opportunity to provide attractive entries or centerpieces to communities.	▪ Roundabouts usually require more space for the circular roadway and central island than the rectangular space inside traditional intersections. Therefore, roundabouts often have a significant right-of-way impact on the corner properties at the intersection. ▪ Roundabouts can be difficult for people with visual disabilities. ▪ May have higher landscape maintenance costs, depending on the degree of landscaping provided on the central island, splitter islands, and perimeter. • All movements are given equal priority. This may result in more delay to the major movements than

[1] Adapted from "Roundabouts An Informal Guide"; US DOT, Federal Highway Administration Publication No. FHWA-RD-00-67

[2] Based on an analysis of crashes at eight intersections in the United States that were converted to single lane roundabouts.

	▪ May provide environmental benefits if they reduce vehicle delay and the number and duration of stops compared with an alternative ▪ Generally are safe for experienced cyclists due to slower speeds.	might otherwise be desired. • Complicates snow removal compared to a typical intersection.

In December of 2005, NYSDOT implemented a new policy on the use of roundabouts. This new policy states that:

> When a project includes reconstructing or constructing new intersections, a roundabout alternative is to be analyzed to determine if it is a feasible solution based on site constraints, including ROW, environmental factors, and other design constraints … When the analysis shows that a roundabout is a feasible alternative, it should be considered the Department's preferred alternative due to substantial safety benefits and other operational benefits.

This new roundabout policy replaces the previous NYSDOT roundabout policy, which only stated that a roundabout option should be considered but did not state that NYSDOT preferred the roundabout alternative.

5.2.1 Methodology

For planning studies such as this one, it is useful to conduct a preliminary feasibility evaluation of the intersections where roundabouts can be considered as a reasonable alternative to other forms of intersection control (e.g. traffic signal, all-way stop). However, unlike traffic signals and turn lanes, there are no official warrants or guidelines for roundabouts. The following methodology was developed and used as a preliminary screening tool to determine which intersections in the New Paltz study could be considered candidate locations for roundabouts.

This study is limited to determining the feasibility of roundabouts at particular intersections in New Paltz, NY and is not a substitute for preliminary engineering design. More detailed field investigations may reveal additional constraints or show that certain constraints could be overcome through careful design. For the purposes of this initial feasibility screening only standard single and double lane roundabouts were examined. Mini-roundabouts were not considered as part of this study. However, their smaller space requirements make mini-roundabouts appropriate for intersections of residential streets.

The following criteria have been used to determine which intersections in New Paltz are reasonable candidates for roundabouts:

1. **Traffic Volumes - The minor street traffic volume should be greater than 10 percent of the total traffic entering the intersection[1].** Roundabouts and stop-controlled intersections have about the same capacity when the traffic volume of the minor street approach is less than

1 U.S. Department of Transportation Federal Highway Administration; Publication No. FHWA-RD-00-067

ten percent of the total traffic entering the intersection. Therefore, there are no capacity advantages to building a roundabout over a stop controlled intersection in that situation.

2. **Physical Constraints – there should be no obvious physical constraints that make a roundabout impractical to construct.** This assessment was made by overlaying circles representing a roundabouts diameter on top of orthophotos. Single lane roundabouts were assumed to have a total diameter[1] of approximately 130 feet and double lane roundabouts were assumed to have a total diameter of approximately 190 feet. Obvious constrains, such as the need to remove buildings or proximity to bridges, became readily apparent. The approach grade should also be considered. Grades affect capacity and visibility for vehicles entering the roundabout. No grade more than 4% should be initially considered.
3. **Safety - Has the intersection been identified as a high accident location?** Roundabouts have been shown to reduce fatal and injury accidents by as much as 76% in the USA, 75% in Austria, and 86% in Great Britain**.** If the minor street traffic at a particular intersection does not necessarily meet the 10% traffic volume threshold, but the intersection is identified as a high accident location and does not have any obvious physical constraints, a roundabout should be recommended for further evaluation because of the potential safety benefits.

If an intersection meets the screening criteria, additional analysis and field investigations may be warranted to determine how the intersection operates from a capacity standpoint (congestion) and whether other physical constraints exist that would render a roundabout infeasible.

5.2.2 Results

The results from the roundabout screening process are shown in Table 25. Intersections that met all 3 screening requirements (>10% of the traffic volume is from the minor approach, the intersection is a high crash location, and no obvious physical constraints) are considered good candidate locations for consideration of a roundabout. These are:

- Route 299 – Springtown Road
- Route 299 – Putt Corners Road
- Route 299 – I-87 Exit 18
- Route 32 – Southside Loop SUNY New Paltz
- Route 32 – South Putt Corners Road
- Route 32 – Jansen Road

The following intersections have not met all of the conditions of the screening process, but may be feasible candidate locations for conversion to a roundabout subject to further field investigation:

[1] This dimension is referred to as the "diameter of the inscribed circle" for design purposes.

- Route 299 – Huguenot Street – Water Street
- Route 299 – Route 32 – North Manheim Boulevard
- Route 299 – Cherry Hill Road – Simmons Plaza
- Route 208 - Hasbrouck Avenue
- Route 32 – Plattekill

Intersections that were judged to have major physical constraints were automatically considered poor candidates for conversion to a roundabout. The summary results of this evaluation are shown in Table 25

Table 25: Roundabout Screening Results

Intersection Name	Number of Lanes	Minor Street Percentage of Total Traffic	High Crash Location	Obvious Physical Constraints							Statisfies Preliminary Screening
				None	Major Physical Constriants	Steep Grade	Adverse Proximity to Buildings	Intrusion on Private Property	Intrusion on Private Parking Lot	Wetland Intrusion	
Route 299 - Springtown Road	Single	16%	No	X							Yes, good candidate
Route 299 - Huguenot Street - Water Street	Single	12%	No			X	X	X			No, feasible candidate
Route 299 - Route 208 - Route 32	Single	46%	No		X						No, poor candidate
Route 299 - Plattekill Avenue	Single	9%	Yes		X						No, poor candidate
Route 299 - Route 32 - North Manheim Boulevard	Single	30%	Yes				X		X		No, feasible candidate
Route 299 - Cherry Hill Road - Simmons Plaza	Double	23%	Yes				X		X		No, feasible candidate
Route 299 - Putt Corners Road	Double	26%	Yes	X							Yes, good candidate
Route 299 - I-87 Exit 18	Double	30%	Yes							X	Yes, good candidate
Route 208 - Hasbrouck Avenue	Single	20%	No					X			No, feasible candidate
Route 32 - Front Street	Single	31%	No		X						No, poor candidate
Route 32- Plattekill	Single	19%	No					X	X		No, feasible candidate
Route 32 - Southside Loop Suny New Paltz	Single	21%	No	X							Yes, good candidate
Route 32 - South Putt Corners	Single	34%	Yes	X							Yes, good candidate
Route 32 - Jansen Road	Single	13%	Yes	X							Yes, good candidate

5.3 RECOMMENDATIONS FOR IMPROVING TRAVEL SAFETY

5.3.1 Safety Recommendations for Route 32

Route 32/Jansen Road

1. The current posted speed on Route 32 transitions from 45 mph to 35 mph proximate to the SUNY campus in the south, and proximate to Mulberry Street in the north (Figure 30). There is a high crash frequency along Route 32 proximate to these speed transition zones. While changing the posted speed to 35 mph from 45 mph may seem like a logical step, there are design elements of Route 32 in these areas that enable a higher speed. In other words, the design of the roadway indicates and, hence, encourages higher speed travel.

   A possible solution to this problem is to incorporate traffic calming measures at strategic locations along Route 32. The Bicycle/Pedestrian Committee has suggested gateway treatments at the entrances to the Village, and a number of possible gateway designs could be incorporated along the Route 32 mainline, or associated with key Route 32 intersections (e.g. South Putt) to signal and cause a speed reduction.

Figure 30: Speed Transition Zones

2. Intersection- and stopping sight distances should also be field measured and compared with the sight distances necessary for safe operation at the 85th percentile speed. A crest vertical curve restricts sight distances for the northbound approach. This geometric problem would need to be addressed within the context of a re-design and reconstruction of this intersection.
3. A left turn lane warrant should be evaluated for the northbound approach to Jansen Road on Route 32.
4. A signal warrant analysis should be conducted for this intersection.

Route 32/South Putt Corners Road

1. The posted speed limit could be lowered from 45 mph to encourage slower speeds in this area because this is a high accident location. However, the travel land widths and general alignment of Route 32 in this area are consistent with the posted speed. This general location may be ideal for introduction of traffic calming or gateway measures as a way to impede traffic speed and signal to motorists that they are entering a different driving environment. Such a solution could address the safety problems at this intersection while also meeting the objectives for gateway treatments supported by the Bicycle/Pedestrian Committee[1].
2. While the existing intersection sight distances meet the required minimum lengths, vehicles may be traveling at speeds above the posted speed limit. A speed study should be conducted to confirm whether vehicles are traveling above the posted speed limit. If so, increased police monitoring of this area would encourage compliance with the posted speed limit.
3. A left turn lane warrant should be evaluated for the southbound approach to South Putt Corners Road on Route 32. The most common accident involved southbound vehicles turning left onto South Putt Corners Road.
4. A signal warrant analysis should also be conducted for this intersection as there are extreme delays on the South Putt Corners Road approach during the PM peak hour. This causes motorists to accept smaller gaps in traffic, which may contribute to accidents.

Route 32/Plattekill

1. Consideration should be given to reconfiguring the SUNY parking lot immediately adjacent to the intersection and eliminating the easternmost access drive to the surface lot (Figure 31)

[1] The NYSDOT Highway Design Manual indicates that gateway treatments as a traffic calming feature are suitable for Category III facilities, which encompass 45 mph roadways.

Figure 31: Photo of the Route 32/Plattekill Intersection Showing Vehicle Queuing Near Access to the SUNY Plattekill Parking Lot

2. Intersection sight distance to the north is limited and should be increased. Improving safety at this intersection may increase in priority if Plattekill Avenue becomes a designated east-west bicycle route in Town. Initial review indicates a possible alternative bike route to Main Street (Route 299) would be to turn south on Route 32 from Main Street (left), west on Hasbrouck Avenue (right), across Route 208, along Mohonk Avenue and then to Plains Road and the Rail Trail.
3. A left turn lane warrant should be conducted for the northbound Route 32 approach to this intersection to determine whether a left turn lane can improve safety and traffic operations.
4. This is a capacity constrained intersection during the PM peak period. Future traffic projections indicate that congestion at this intersection will increase in severity and duration. The intersection is considered a secondary candidate for the construction of a roundabout due to impacts on private property; however, both a roundabout and a traffic signal should be considered as future potential capacity improvements at this intersection.

Route 32/Shivertown Road

1. A speed study should be conducted to determine operational speed behavior. This intersection is a High Crash Location and may be a candidate for one of the gateway treatments recommended by the Bicycle/Pedestrian Committee. A traffic calming gateway treatment would assist in creating a speed transition zone between this point and the area approximately 1000 feet north of Henry DuBois Drive (Figure 30).
2. For this area there appear to be many animal or fixed object collisions. Site investigations should determine whether there are any wildlife paths that lead to Route 32 from adjacent lands. Determination should be made as to the benefits of signing for wildlife crossing or the benefits of nighttime lighting.

3. A signal warrant analysis should be conducted for this intersection.
4. There are many open curbcuts proximate to this intersection, which contribute to hazardous conditions here. The Town Planning Board should work toward defining the commercial driveways of the properties fronting on this intersection as these properties become the subject of use change applications.
5. Sight distances are restricted for eastbound vehicles (stopped on Shivertown) looking south (left) due to parked vehicles, shrubbery, and a utility pole. These sight distance restrictions should be addressed as part of any re-design of the intersection.
6. The existing "No Through Trucks or Buses" sign is improperly posted, and needs to be installed on its own post at a height of 5 feet measured from the bottom of the sign to the near edge of the pavement.
7. A deep depression is located on the gravel shoulder at the southeast corner of the intersection. This should be addressed through maintenance by filling to remove the depression.

5.3.2 Safety Recommendations for the Route 32/299 Overlap (Main Street)

Route 299/Route 32/Route 208

1. There is confusion about the lane designations at the Route 208 approach. Lefts and through use left "lane" on a short two lane approach. Maintaining the paint on the roadway and having appropriate signage is important if the left lane cannot be lengthened.
2. Trailer trucks and buses have extreme difficulty in making the southbound left/westbound right turns. Westbound trucks should be directed to use North Front Street. Also, a designated truck route outside of the downtown should be investigated to reduce the number of slower vehicles.
3. This intersection should be included in a study to implement coordinated signal timings along Route 299. NYSDOT is planning to retime and connect this signal with adjacent signals in the future.
4. Traffic entering and exiting the gas station onto Route 32 reduces the efficiency of the southbound approach. Alternative access plans should be investigated that channelize entering and exiting traffic to maintain on site circulation efficiency while minimizing conflicts on Route 32.
5. The high potential for queue blockage and general traffic conflicts in this area creates high friction to traffic flow. This intersection should continue to be monitored for crash incidence.
6. The multiple destination overhead mast signs create visual clutter and should be streamlined.

7. An examination of crashes at this intersection over the 1999-2002 time frame showed 17 crashes occurring proximate to the intersection. Four of these crashes were two vehicle crashes involving a turning vehicle. The crashes were roughly evenly split by direction (east-west/north-south). There is no clearly discernible pattern to the crashes that points to a single specific cause. Instead, the general sense of the intersection is that there are multiple minor deficiencies that contribute to a general reduction in safety. These deficiencies include access management issues (cited above), chronic congestion with adverse queuing, and overall constrained space. The lack of protected left turn phasing for northbound left turning vehicles is also a major constraint leading to unsafe conditions.
8. Between Millrock and Putt Corners, the feasibility and advantages of a two way left turn lane should be studied.

Route 32/Front Street

1. Confirm that pedestrians are no longer walking on the street pavement of Front Street. This condition may have changed with new striping from 2004 re-paving project.
2. Crosswalks should be considered at the Front Street/Church Street intersection where there are currently no crosswalks. NYSDOT is to review the need for crosswalks for future implementation.
3. The parking on Church Street is too close to the intersection making it difficult for larger vehicles to make the right turn from Front Street. The Village of New Paltz should review prohibiting parking in the 1-2 spaces closest to the intersection.
4. The westbound Front Street approach is wide with no delineation striping for a one-way street. Providing adequate turning radii for trucks should be analyzed.
5. Pavement delineation should be implemented on eastbound Front Street. This approach is under the jurisdiction of the Village of New Paltz.

5.3.3 Safety Recommendations for Route 299 (west)

Route 299/Ohioville Road

1. A coordinated signal timing plan along the entire Route 299 corridor, from Route 32/299/Manheim to Ohioville Road should be evaluated to move vehicles more efficiently, minimize spillbacks, and reduce rear-end collisions.
2. There are two driveways at the northeast corner that should be consolidated into one. Multiple driveways are not necessary for reasonable access.
3. Westbound left lane blocked by through traffic.

4. The southbound Right Turn on Red should not be allowed until this intersection is no longer a high accident location.
5. Although there is generally light pedestrian demand, crosswalks or pedestrian signals should be considered to encourage less reliance on vehicle trips.
6. The replacement of the westbound No Left Turn sign, which was formerly on the ground at CITGO, should be confirmed.
7. The incorrect pedestrian crossing sign, W5-2, at the Ohioville Road/Old Route 299 intersection should be replaced and crosswalks should be considered. This is the jurisdiction of the Town of New Paltz.
8. Quantify the number of westbound vehicles passing queued traffic on the right shoulder, making a right turn onto Ohioville Road, then a U-turn, then a right turn to continue westbound. This is potentially a problem if pedestrians use the shoulder.
9. Phasing at the Route 299/Ohioville Road intersection should be re-evaluated so that eastbound through traffic receives a green ball when there is a protected eastbound left turn signal.

5.3.4 Route 299/I-87 Ramps

1. A coordinated signal timing plan along the entire Route 299 corridor, from Route 32/299 Manheim to Ohioville Road should be evaluated to move vehicles more efficiently, minimize spillbacks, and reduce rear-end collisions.
2. This intersection has been evaluated as being a good candidate for a roundabout.
3. Monitor pavement at the ramps so that it does not become too worn, as slippery conditions may be a significant factor in accidents at this intersection.
4. Northbound vehicles waiting at the stop bar make it difficult for westbound Route 299 trucks to make a left turn onto the Thruway on-ramp. The stop bar should be moved further south to allow this movement to proceed uninhibited.
5. The free flow ramp from Route 299 entering the I-87 toll booth area encourages unnecessary high speed prior to a deceleration area. The Exit 18 approach area north of the tollbooths should be the subject of design study with the objective of determining whether there is a viable design alternative for slowing traffic in this segment.

Route 299/Putt Corners Road

1. A coordinated signal timing plan along the entire Route 299 corridor, from Route 32/229/Manheim to Ohioville Road should be evaluated to move vehicles more efficiently, minimize spillbacks, and reduce rear-end collisions.

2. This intersection has been evaluated as being a good candidate for a roundabout.
3. The recently implemented split phasing should be monitored for its impact on congestion and safety.
4. When traveling west from the Thruway intersection it is not known if exclusive left and right turn lanes exist until the driver passes over the bridge crest over I-87. Improved signage should alert drivers to lane designations prior to the bridge crest.
5. The two eastbound Route 299 departure lanes become one through lane and one right turn lane once the driver passes over the crest vertical curve on the bridge. The driver does not know this until passing over I87 where it becomes visible. Improved signage should alert drivers to lane designations prior to the bridge crest.
6. Queues of vehicles traveling westbound will, from time to time, block access to the left turn lane. The occurrence of this condition will increase in severity and frequency as traffic volumes grow.
7. Northbound left turners into the Shop-Rite Plaza driveway on Putt Corners Road block northbound through. A left turn lane serving trips entering the Shop-Rite Plaza should be constructed if there is available right-of-way. Extending the NB approach is under the jurisdiction of the Ulster County Department of Public Works.
8. Maintain the striping on the northbound Putt Corners Road approach. This is a routine maintenance item for the Ulster County Department of Public Works.
9. The gas station driveway in the southwest corner is too close (<50') to the intersection. Ideally, the driveway would align with the Terwilliger Lane approach at the southeast corner. The driveway throat width should be reduced. This is a long-term issue that could be addressed in the future if the intersection is reconstructed or the gas station redeveloped.

Route 299/Cherry Hill Road

1. A coordinated signal timing plan along the entire Route 299 corridor, Route 32/299/Manheim to Ohioville Road should be evaluated to move vehicles more efficiently, minimize spillbacks, and reduce rear-end collisions.
2. The split phasing at this intersection should be monitored for its impact on congestion and safety. The Stop & Shop (currently under construction) has a permit condition requiring a controller upgrade at this intersection. New signal communications hardware enabling coordination with adjacent signals (Putt Corners, Manheim) is also a permit requirement.
3. This intersection has been evaluated as being a feasible candidate for a roundabout.
4. There are a high number of curb cuts within 500 feet of intersection with no interlot connections. There are also multiple driveways for some lots. The Town of New Paltz in conjunction with NYSDOT should implement access management prescriptions for

correctly spacing and defining driveways, and for creating interlot connections, for these properties as use changes are applied for.

5. Left turns exiting the Cherry Hill Center should be prohibited. An alternate route for westbound trips would be to utilize one of the two Cherry Hill Center driveways that connect to Cherry Hill Road. Appropriate signage should be also be implemented.
6. Eastbound left turns should only be allowed during a protected signal phase. To alert drivers to the change, the signal should be replaced with one that includes yellow and red arrow faces. Appropriate signage may also be added.
7. Left turn exits from the Fleet Bank/New Paltz Plaza rear driveway should be prohibited with appropriate signage. This would force vehicles to use the signalized intersection.

Route 299 between Putt Corners and Millrock Road

1. The Route 299 segment between Putt Corners Road and Millrock Road could benefit substantially from a concerted access management program. Access should be reviewed within any land use change application to the New Paltz Planning Board.

Route 299/Water Street/Huguenot Street

1. The stop bar on Water Street should be moved closer to Route 299.
2. A crosswalk should be added across Huguenot Street.
3. Centerline striping should be added on Water Street and Huguenot Street.
4. The sidewalk access to cross the bridge needs improvement at each end of the bridge.
5. The sign for "Stone Houses" should be separated from street name signs.
6. The speed bumps on Huguenot Street should be striped.
7. Improved signage and striping for the Rail Trail crossings on Route 299 and Water Street should be added.
8. The intersection is considered a feasible candidate for construction of a roundabout to better serve access to and from Huguenot Street and Water Street. The Water Street approach can experience long- to extreme delays.
    i. Planning and policy recommendations
    ii. Preliminary bicycle-pedestrian recommendations
    iii. Special event traffic management

5.4 RECOMMENDATIONS FOR MANAGING SPECIAL EVENT TRAFFIC AND OTHER MAJOR TRAFFIC FLOWS

5.4.1 Special Event Traffic Management

The most acute traffic congestion in New Paltz occurs on weekends and during special events... During special event weekends it is common for traffic to queue on NY 299 from downtown New Paltz through the New York State Thruway tollbooths. As reported earlier, travel times traveling westbound from Ohioville Road to Libertyville Road on Route 299 (2.8 miles) are at least 10 minutes longer than travel times over the same stretch of highway during a typical PM peak hour.

This congestion causes many drivers with local knowledge of the roads to utilize alternate routes in and around New Paltz during peak events. In this way, special event traffic causes secondary impacts on local roads throughout the entire network. Special event congestion may also hinder access and response time for emergency vehicles, particularly at key network chokepoints such as at the Wallkill River bridge or at the Route 299 intersections.

Table 26 shows the major special events that take place in the New Paltz area.

Table 26: Month and Location of Special Events in New Paltz, Estimated Daily Attendance

Event	Month	Location	Estimated Daily Attendance	General Trend of Attendance
Ulster County Fair	August	Ulster County Fairground, Liberty Road	10,000	Increasing
Woodstock-New Paltz Art and Craft Fair	May and September	Ulster County Fairground, Liberty Road	3,000 - 6,000	Steady
Taste of New Paltz	September	Ulster County Fairground, Liberty Road	2,500	Increasing
Colonial Street Festival	August	Huguenot Street	2,000	Steady
Elting Memorial Library Antiques Show	June and September/ October	Ulster County Fairground, Liberty Road	1,750	
St. Joseph's Festa	July	34 South Chestnut	1,650	Steady
Apple Fest	October	Dutch Reformed Church, Huguenot Street	500 - 750	Steady
Lobster Fest	September	Rivendell Winery	550	Unknown
Opening Day at Huguenot Street	May	Huguenot Street	50 - 80	Increasing
Independence Day Celebration	July	SUNY New Paltz campus, also Ulster County Fairground		
New Paltz Regatta	May	Wallkill River		Increasing
Arts on the Bridge Festival	June	Wallkill River Bridge		
Community Festival in the Park	August			
Elting Memorial Library Fair	July	Main Street, New Paltz		
Hudson Valley Rail Trail Winterfest	January			

As part of the Project's investigations into special event traffic management a meeting was held in March 2005 with the New Paltz Chamber of Commerce and representatives from the New Paltz Police Department to discuss ways of managing traffic for their annual Taste of New Paltz event.

Methods discussed included publicizing alternative routes (e.g. using South Putt as a way to divert south of New Paltz if in-town congestion warranted it), and using Variable Message Signs to inform travelers of estimated congestion associated with driving through the village.

Contact was also made with Quail Hollow, a private enterprise that organizes and operates the Arts and Crafts Fair at the Ulster County Fairgrounds. For the spring and fall 2005 crafts fairs, Quail Hollow provided alternative directions to the fairground using Exit 17 for patrons coming from points south.

5.4.2 Special Event Traffic Volumes

Traffic during special events and special weekends has been counted and analyzed in a number of ways. A weekend midday peak license plate survey was conducted on Saturday, October 18, 2003. The conditions were overcast and cool. For most of the day on Saturday, likely due to foliage viewers and a nearby Fall Festival, traffic was queued on NY 299 from downtown New Paltz through the New York State Thruway tollbooths. There were a significantly higher percentage of out of state license plates during the Saturday count as compared with a corresponding weekday count.

The twenty-four hour road tube counts taken by NYSDOT were also placed during special events such as the Ulster County Fair, Wallkill River Regatta and the SUNY New Paltz graduation. A review of the traffic volume figures indicate that the Regatta has the greatest impact, with Route 299 traffic being significantly higher than the "normal" volumes. In comparison the weekend Sunday SUNY graduation traffic volume did not have any significant increase over the normal weekday peak hour traffic that was counted. The traffic volume on Libertyville Road where the Fairgrounds are located, shows an increase over the normal peak hour, however it is most significant when the Fair closes at night whereby it has northbound traffic over 600 vehicles per hour (vph) compared to the normal 100 vph peak hour.

Turning movement counts conducted for the project show the tendency for Saturday peak hours to exceed weekday peak hours. Table 27 shows a selection of peak hour counts, comparing weekday PM peak hour volumes (entering the intersection) with Saturday peak hour volumes.

Table 27: Comparison of PM Peak Hour and Saturday Peak Hour Volumes at Selected Intersections (2003 October Counts)

	Hourly Volume		
Intersection	**PM Peak Hour**	**Saturday Peak Hour**	**% Difference**
Rt 299/32/Manheim	2165	2360	9%
Rt 299/Front/Plattekill	1465	1580	8%
Rt 299/32/208	1840	1875	2%
Rt 299/Springtown Road	1105	1395	26%

NYSDOT conducted roadway volume counts for select roadway segments. One set of counts was conducted twice – once during the month of May and a second time during the week of the Ulster

County Fair. Table 28 shows average hourly volumes for this particular directional flow, and indicates that traffic during the Fair averages 35-40% heavier during common travel periods.

Table 28: Comparison of Average Roadway Volumes on Route 299 Eastbound Near Libertyville Road

		Weekdays			Weekends		
		3pm-4pm	4pm-5pm	5pm-6pm	3pm-4pm	4pm-5pm	5pm-6pm
Route 299 500' East of Libertyville Road, EB	first week of May 2003	268	270	292	331	333	328
Route 299 1/4 mile East of Libertyville Road, EB	last week of July 2003	416	416	476	595	518	532
	% difference	36%	35%	39%	44%	36%	38%

5.4.3 Special Event Planning

It is recommended that the Town, Village, and other stakeholder groups commission a Special Event Management Committee, whose first task should be to conduct a Special Event feasibility study. Such a study would select a specific special event (e.g. Ulster County Fair) and establish baseline data for the following items:

- Market Analysis
  - Anticipated daily attendance
  - Estimated arrival/departure rates
  - Description of trip origins
  - Travel time/distance analysis
- Parking supply and demand
- Estimated arrival/departure routes, by mode
- Site-specific analysis of access to event site, by mode:
  - Automobile
  - Tour and shuttle bus
  - Bicycle
  - Pedestrian
- Capacity analysis (chokepoints)
- Mitigation plan

The Town and Village of New Paltz has the authority, granted to it by Ulster County, to approve private uses of the fairgrounds site (the Ulster County Fair is exempt from this requirement). Such approval can be construed to authorizing the Town and Village to require a traffic mitigation plan for such events. In recent years the Town has not exercised this authority to require any special management of event traffic, such as the use of satellite parking, shuttle buses, etc.

A specific plan for managing special event traffic would have two major objectives:

1) Managing traffic immediately proximate to the Fairgrounds. For example, the management of arriving/departing vehicles and the movement of pedestrians across Libertyville Road represent special cases that Ulster County must manage.

2) Managing traffic flow to/from I87 Exit 18 and the Fairgrounds.

With regard to this second objective, the first step is to try to divert as much of this traffic to other portals, as discussed below in Section 5.4.4. The second, and more important, level of effort should be focused on intercepting vehicles east of the Wallkill River at conveniently located intercept parking lots. Candidate locations for such lots include:

- Exit 18 Park and Ride
- Ames Plaza
- SUNY parking facilities
- New Paltz High School

From these staging areas, patrons could be transported to the Fairgrounds via shuttle bus or bicycle. A shuttle bus system must be designed to provide travel time advantages to the bus. This could be achieved by designating a shuttle bus route from the parking area to Route 299 at Water Street or Huguenot Street Whenever a bus arrives at this point, traffic control (a police officer) would stop all other traffic and let the bus into the traffic stream at the Wallkill River Bridge. Buses returning to the parking area from the Fairgrounds would use the same route in reverse. With this system, shuttle buses would essentially skip the queue on Main Street, but would be part of the main traffic flow from the bridge to the fairgrounds.

Upon special request from the Village or Town of New Paltz, shuttle service will be provided by UCRT for special events. Arrangements are typically made with SUNY New Paltz to use SUNY parking areas for a shuttle pick up and drop-off point. Since the special events are usually held on weekends, the parking areas are typically available due to less use by students and faculty.

A park and bicycle system would need an alternative bicycle route to the Fairgrounds such as what is shown in Figure 25. This park and bike feature could be marketed as the healthy and quick alternative to get to the Fairgrounds.

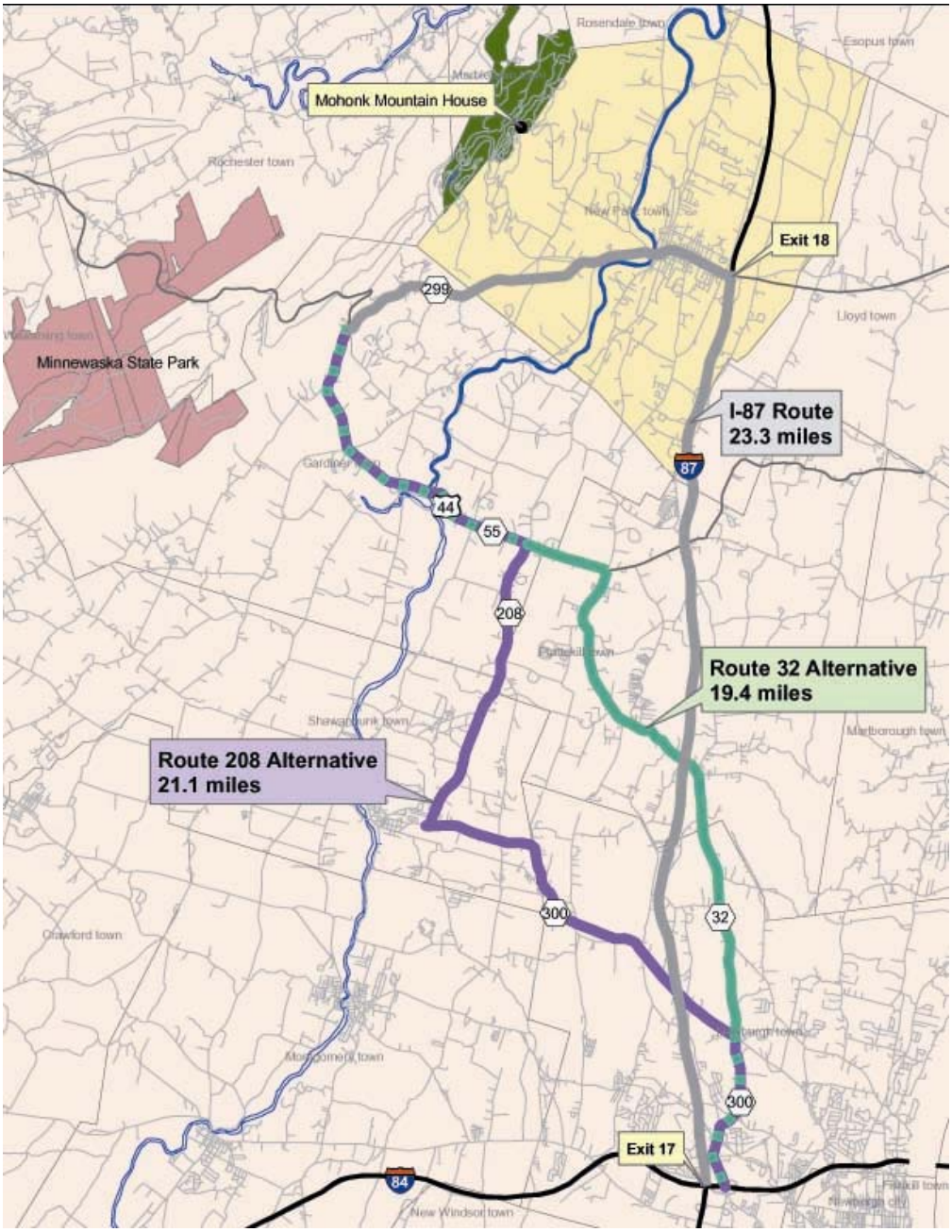
5.4.4 Alternate Route to Points of Interest West of the Wallkill River

There are several important tourist destinations west of the Wallkill River, including the Ulster County Fairgrounds, the Mohonk Mountain House, Minnewaska State Park, and the Shawangunk Mountains. On days of peak travel, managers of these facilities can provide alternative route maps for patrons wishing to arrive from, or travel to, points south. Exit 17 on the New York State Thruway can provide an alternative portal to lands west of the Wallkill River.

Figure 32 shows a sample map providing 3 alternative routes from Minnewaska State Park to the Thruway. This map shows the mileage difference between the 3 routes. On days of peak travel flow,

travel through the center of New Paltz may be severely delayed and the alternative routes could provide a travel time savings for some patrons.

Figure 32: Sample Alternative Route Map, Exit 17 to the Minnewaska State Park Access Road



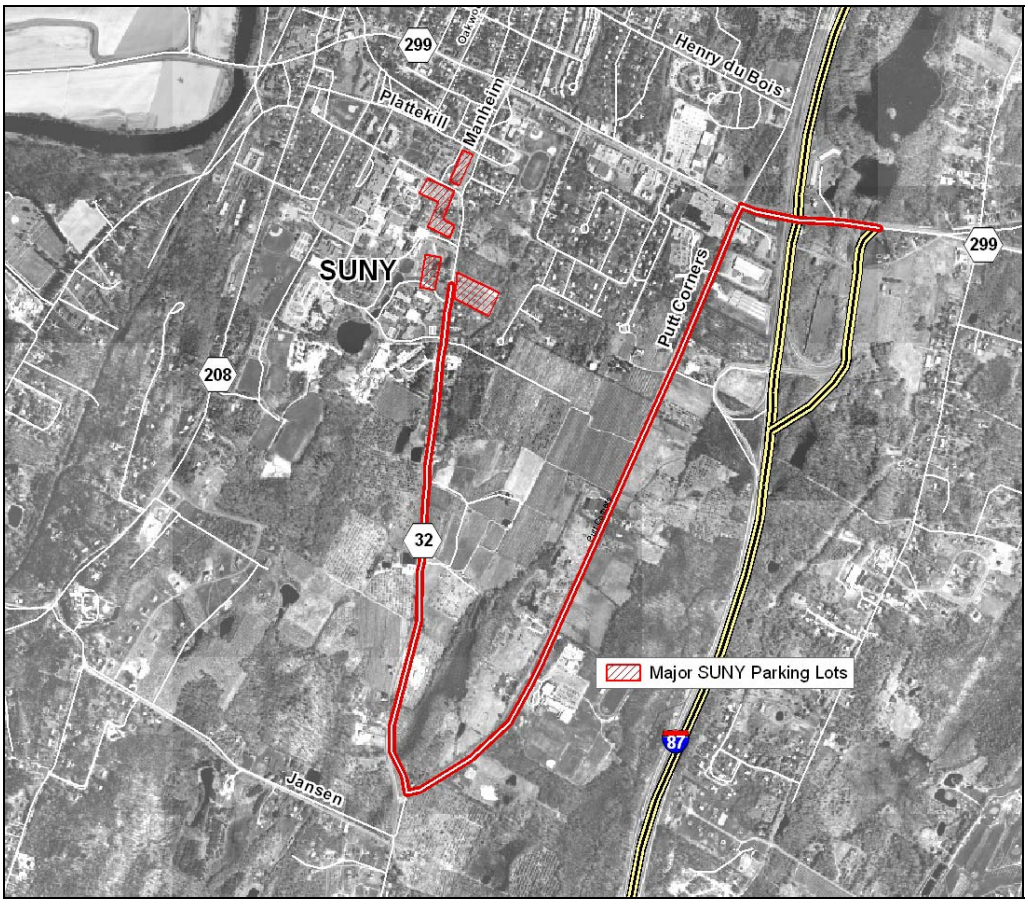
5.4.5 Alternate Route to SUNY New Paltz

SUNY New Paltz is a comprehensive, 4-year regional college founded in 1828 and is the 99th oldest collegiate institution in the country. Its campus is 216 acres with 50 non-residence buildings and 13 residence halls set in an area bounded by NY Route 208 on the west, NY Route 32 on the east, Hasbrouck Avenue to the north, and open land to the south. The campus is just a few blocks from the New Paltz Central Business District and Main Street.

There is no "Main Entrance" on Route 32 but several campus entrances on the westerly side of the road, depending on which part of campus you are visiting. Maps provided by SUNY in both paper and electronic form show the Main Entrance on Route 32 directly in front of the Haggerty Administration Building, and a university sign has been installed at this location on Route 32. SUNY has established a "West-Side Campus Entrance" off of Route 208 that replaces the Southside Street entrance. Southside Street has been closed to through-traffic and converted to green space.

A typical route to SUNY New Paltz from the Thruway is to travel west on Route 299 and then turn left onto Route 32 (South Manheim Boulevard). The university's website provides an alternative route from the Thruway via a left turn on South Putt Corners Road and a right turn onto Route 32 heading north (Figure 33).

Figure 33: Alternate Route to SUNY New Paltz



Directions on the website could be supplemented by on-street signage directing motorists to the alternate route in the following locations:

- Westbound approach at Route 299/South Putt Corners Road
- Along South Putt Corners Road roughly midway between Route 299 and Route 32
- Southbound approach at Route 32/South Putt Corners Road
- Along Route 32 approximately midway between Route 299 and South Putt Corners Road

5.5 KEY TRANSPORTATION ELEMENTS OF LAND USE PLANNING

When developing a comprehensive transportation plan, it is important to consider the dynamic linkages between land use policies and transportation investments. The availability of new or expanded roadways is often a precursor to new development. Similarly, new development will add additional trips onto the road network and degrade capacity and level of service. Therefore, it is

important to consider the transportation impacts of land use polices and to ensure that those land use policies encourage the most sensible and cost-efficient use of the existing and planned transportation infrastructure.

Within a municipal planning environment, the large-scale vision for the future is typically captured in the municipal Master Plan or Comprehensive Plan. This Plan will usually provide a general framework to guide land use and infrastructure decisions. The land use future envisioned in the Master Plan is typically codified in the zoning ordinance which identifies particular geographic zones and the permitted uses and standards in each zone. The subdivision regulations will typically identify standards and regulations applicable to the subdivision of a parcel. The site plan regulations identify the standards and regulations applicable to the approval of a site plan on a single parcel. The subdivision and site plan regulations are important from a transportation planning perspective as these are the places where access and connectivity issues are defined.

This report is intended to serve two primary purposes: 1) to provide an overview of existing transportation-related land use policies in the Town and Village of New Paltz, and 2) to provide specific land use recommendations related to access management, connectivity, zoning, traffic impacts studies, and overlay districts.

5.5.1 Access Management

Access management is the systematic control of the location, spacing, design, and operation of driveways, median openings, interchanges, and street connections to a roadway. Access Management seeks to limit and consolidate access along major roadways, while promoting a supporting street system and unified access and circulation systems for development.[1]

Access management can provide a number of benefits including:

- Improved traffic flow through decreased delays and occurrences of vehicle blockages;
- Improved vehicular and pedestrian safety through elimination of conflict points;
- Improved driveway and site designs;
- Decreased cut-through traffic through residential areas;
- Support for economic development activities through improved access;
- Support for local land use plans; and
- Improved aesthetics and community character through reduction in paved surface area and incorporation of landscaping, sidewalks, and lighting into plans.

A comprehensive approach to access management is needed to realize its benefits. There are a variety of access management applications that can be applied at various stages in the planning, permitting,

[1] NCHRP Synthesis 304 – Driveway Regulation Practices, Transportation Research Board, 2002

and site development processes. The Transportation Research Board[1] (TRB) Access Management Subcommittee has identified ten key principles of access management:

1. Identify a specialized roadway system hierarchy
2. Limit direct access to major roadways
3. Promote intersection hierarchy
4. Locate signals to favor through movements
5. Preserve the functional area of intersections and interchanges
6. Limit the number of conflict points
7. Separate conflict areas
8. Remove turning vehicles from through traffic lanes
9. Use non-traversable medians to manage left-turn movements
10. Provide a supporting street circulation system.

Figure 34 below shows an example of some of the access management principles citied above.

Figure 34: Access Management Examples

[1] The Transportation Research Board is a branch of the National Academy of Sciences.

Existing Access Management Policies and Regulations in New Paltz

The Town and Village of New Paltz's Zoning, Subdivison, and Site Plan regulations currently include a number of policies to encourage access management as part of the regular planning and permitting process. Relevant sections from the Town and Village's regulations are shown below.

From the Town:

- Planned Commercial Park District: Vehicular access shall be allowed at a maximum of two locations along the frontage of the parcel, except in the case of an exceptionally large holding wherein the traffic circulation will be improved and safety maintained if additional access is provided. (§140.22.G.8)
- Gasoline Filling Stations: No access drive shall be within 200 feet of and on the same side of the street as a school, public library, theater, church or other public gathering place, park, playground or fire station unless a street 50 feet or more wide lies between such service station and such building or use. (§140.35.E)

From the Village:

- Driveway Permit Applications. No person shall open or cause to be opened by cutting or digging the surface, pavement, or soil in any street, highway, or public place under the jurisdiction of the Village without first obtaining the written consent of the Superintendent of Public Works and complying with the provisions and conditions relating thereto as hereinafter provided. (§175.1.A)
- B-1 Limited Business District: The Planning Board shall refer all proposed site plan and special use permit applications for premises having access to a state highway to the New York State Department of Transportation for an advisory opinion on the proposed access arrangements, regardless of whether a state highway work permit is required. (§212.E.9.b.7)
- Residential driveways. Residential properties, not including apartment complexes, are permitted to have one driveway which shall not exceed a width of 18 feet and shall not cover more than 30% of the lot frontage. (§212.43.F)
- Intersections. No entrance or exit drive connecting a parking area to a public street shall be permitted within 25 feet of an intersection of two public streets. (§212.43.G)
- Treatment of major streets.

  (1) Residential areas. Where a subdivision abuts or contains an existing or proposed major street, the Planning Board may require marginal access streets, reverse frontage with screen planting contained in a non-access reservation along the rear property line, or such other treatment as may be necessary for adequate protection of residential properties and to afford separation of through and local traffic.

  (2) Business areas. In areas zoned or designed for commercial use, or where a change of zoning is contemplated for commercial use, the Planning Board may require that the

street width be increased or that a service road be constructed, to assure the free flow of through traffic without interference by parked or parking vehicles, and to provide adequate and safe parking space for such commercial area. (§178.18.D)

- Intersection Design. Intersections of major streets by other streets shall be at least 800 feet apart. Cross (four cornered) street intersections shall be avoided, except at important traffic intersections. A distance of at least 150 feet shall be maintained between offset intersections. (§178.18.G)
- Access from major streets. Lots shall generally not have their vehicular access from a major street. Where driveway access from a major street may be necessary for several adjoining lots, the Planning Board may require that such lots be served by a combined access drive in order to limit possible traffic hazard on such street.(§178.18.K)

Access Management Recommendations

As the previous section shows, the access management regulations in the Village are more extensive than those in the Town. However, the recommendations listed below are applicable in both the Village and Town:

- Define acceptable levels of access (i.e. number of driveways) for each class of roadway to preserve its function, including criteria for the spacing of signalized and unsignalized access points.
- Apply appropriate geometric design criteria and traffic engineering analysis to each allowable access point.
- Where necessary, acquire property access rights to limit the opportunity for new curb cuts. The acquisition of access rights, while often costly and time consuming, is a strong and long lasting solution.
- Work with the County or Regional Planning Commission or State Department of Transportation to develop an access management guidebook for land owners, business owners, and developers.
- Encourage developers, architects, and engineers to consider innovative approaches within their plans and to quantify the impacts of various elements of the proposed site design. One example is the Smart Design Report Card (see Figure 35) developed by RSG for use in quantifying various aspects of a site design, including access, parking, circulation, and site amenities. A report card like this can serve as a tool for providing objective feedback to developers, architects, and engineers on additional opportunities to enhance their design.

Figure 35: Smart Design Report Card

Smart Transportation/Site Design Evaluation

Access Management

	Yes	No	NA	Comment
Minimize Driveways/Curbcuts	☐	☐	☐	
Align Driveways or Provide Adequate Driveway Separation	☐	☐	☐	
Share Driveways	☐	☐	☐	
Provide Connections to Adjacent Lots	☐	☐	☐	
Provide Adequate Corner Clearance	☐	☐	☐	
Provide Access on Local Street, Not Arterial	☐	☐	☐	
Enhances Connectivity	☐	☐	☐	

Parking and Circulation

	Yes	No	NA	Comment
Parking to Rear of Building	☐	☐	☐	
Preferential Parking for HOV	☐	☐	☐	
Minimize On-Site Conflicts; Widely Separated Decision Points	☐	☐	☐	
Obvious, Safe, and Attractive Ped Connections from Buildings to Sidewalk and Parking	☐	☐	☐	
Site On-Site Parking/Circulation to Give Buildings Energy Efficient Orientation	☐	☐	☐	
Provide Bike/Ped Shortcuts to Avoid Travel on High Volume Streets	☐	☐	☐	
Reduce Total Parking by Sharing Multiple Uses	☐	☐	☐	

Site Design

	Yes	No	NA	Comment
On-Site or Close Proximity to a Mix of Uses -- office/retail/restaurant/residential/civic/rec	☐	☐	☐	
Cluster Buildings to Maximize Open Space	☐	☐	☐	
Keep On-Site Speeds < 15 mph, 20 mph for Local Streets	☐	☐	☐	
Keep Local Streets Narrow While Accommodating Design Vehicle	☐	☐	☐	
Proximity to Transit/Transit Amenities On-Site	☐	☐	☐	

Amenities/TDM

	Yes	No	NA	Comment
On-Site Services (e.g. Recreation, Cafeteria, Dry Cleaner, Daycare)	☐	☐	☐	
Shower Facilities for Employees	☐	☐	☐	
Lockers for Employees	☐	☐	☐	
Flextime for Employees	☐	☐	☐	
Free Bus Passes/Transit Reimbursement for Employees	☐	☐	☐	
Bicycle Parking	☐	☐	☐	
Broadband Access to Site	☐	☐	☐	

5.5.2 Foster Connectivity

The establishment of an interconnected street network, or grid, can provide a number of benefits including:

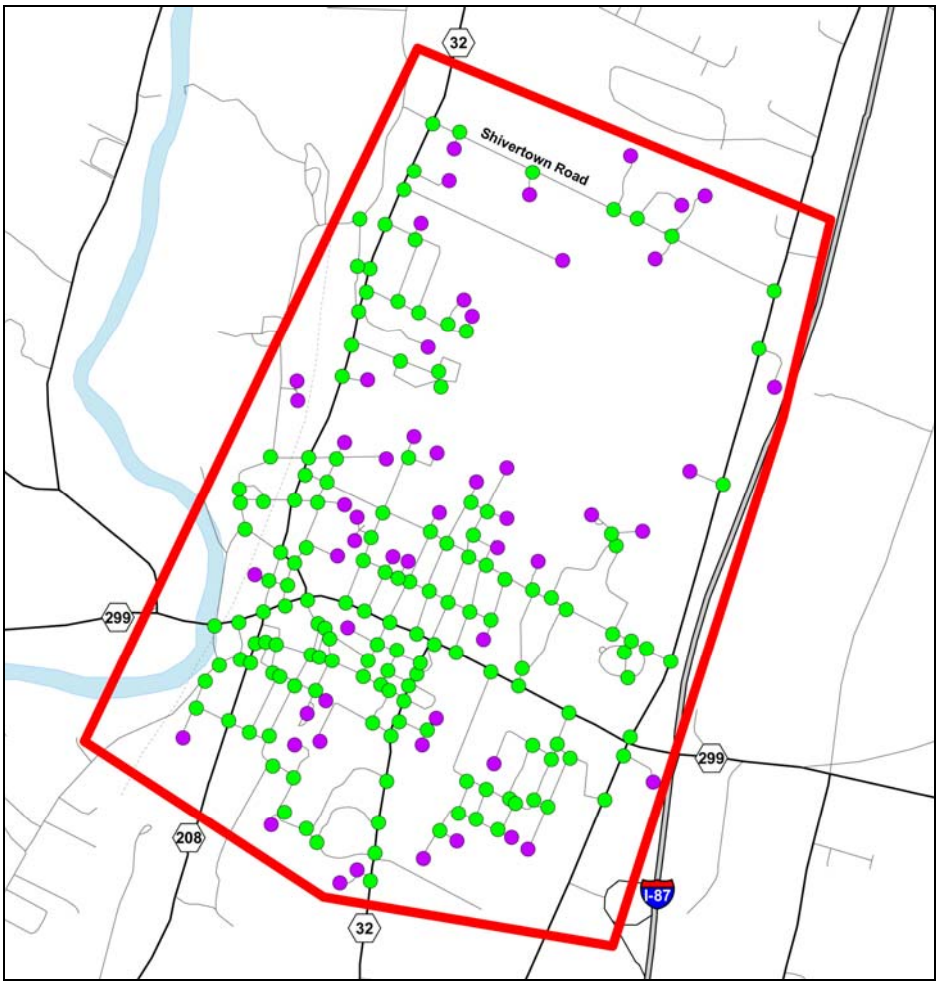
- Alternative routes for local trips
- Shorter travel times
- Reduced demand on major highways
- Ability to establish a roadway hierarchy
- Decreased congestion
- Improved accessibility of developed areas

A common metric used to measure the connectivity of a street network is to divide the total number of intersections within a defined area by the sum of the total number of intersections plus the total number of dead-ends or cul-de-sacs. Typically, a value of 0.7-0.9 indicates a highly connected street network while a score below 0.4 indicates a poorly connected network.

Figure 36 below shows the street connectivity assessment methodology for New Paltz. In the figure, the green balls indicate intersections while the purple dots indicate dead-ends. At a glance, the figure shows the more dense green areas of high connectivity along Main Street and areas of less connectivity moving away from Main Street.

Quantitatively, there are 160 intersection and 54 dead-ends within this area resulting in a connectivity score of 0.75. Based on the ranges above, this score indicates a relatively high level of connectivity.

Figure 36: Street Connectivity Assessment (Green=Intersection, Purple=Dead-End)



Current Connectivity Regulations in New Paltz

From the Town:

- The arrangement of streets in the subdivision shall provide for the entrance and continuation of principal streets from adjoining subdivisions and for the extension of principal streets into adjoining land which has not yet been subdivided. Such arrangement shall be required in order to facilitate fire protection, movement of traffic… (§121.21.B)
- Minor streets shall be laid out in a manner to discourage their use by through traffic. Minor and collector street openings onto an arterial road shall normally be at least 500 feet apart. (§121.21.F)

- Planned Unit Development: Adequate but not excessive entry points to the site from major through roads shall be planned and provided. The street system within the parcel shall be organized in a logical structure with collector and local streets and forming a unified neighborhood. (§140.25.F.2.)

From the Village:

- B-1 Limited Business District: Whenever possible, the parking areas for all new commercial development shall connect with parking areas of adjacent commercial uses at the rear of buildings. (§212.E.9.b.6)
- Continuation of streets into adjacent property. Streets shall be arranged to provide for the continuation of principal streets between adjacent properties where such continuation is necessary for convenient movement of traffic, effective fire protection, efficient provision of utilities, and particularly where such continuation is in accordance with the Master Plan. Reserve strips, controlling access to streets, shall be prohibited except where their control is placed with the Village under conditions approved by the Planning Board. If adjacent property is underdeveloped and the street must temporarily be a dead-end street, the right-of-way and improvements shall be extended to the property line. A temporary circular turnaround with a traveled way radius of at least 50 feet shall be provided on all temporary dead-end streets, with the notation on the plat that land outside the normal street right-of-way shall revert to abutting properties. (§178.18.C)

Street Connectivity Recommendations

There are several locations within New Paltz where connectivity could be improved. As shown below in Figure 37, the first location is north of Henry DuBois and runs between Bonticou View Drive, Cooper Street, and Prospect Streets. The second location is south of Route 299 and includes Holland Lane, Apple Road, and Howard Street.

Figure 37: Identified Locations with Lack of Connectivity

The Village Planning Board is currently reviewing potential connections north of Main Street as part of their review of two current development proposals – Woodland Pond and Stoneleigh Woods.

5.5.3 Zoning to Promote Dense Core Development

One of the major points of consensus in New Paltz when discussing future growth and development is that the growth should be *concentrated*. One zoning tool for achieving a concentrated land use pattern is transect zoning.

Transect Zoning[1]

The Transect is a categorization system that organizes all elements of the urban environment on a scale from rural to urban. Its potential lies in:

- Education (it is easy to understand)
- Coding (it can be directly translated into zoning categories)

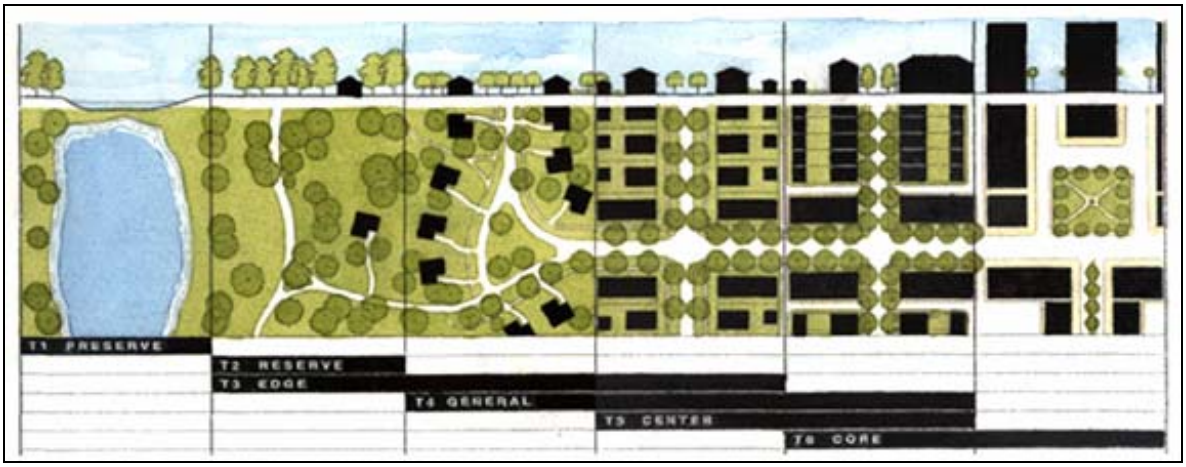
[1] Extracted from *New Urban News*, September 2000.

- Creating "immersive environments." An immersive environment is one where all of the elements of the human environment work together to create something that is greater than the sum of the parts.

The Transect has six zones, moving from rural to urban. It begins with two that are entirely rural in character: Rural preserve (protected areas in perpetuity); and Rural reserve (areas of high environmental or scenic quality that are not currently preserved, but perhaps should be).

The transition zone between countryside and town is called the Edge, which encompasses the most rural part of the neighborhood, and the countryside just beyond. The Edge is primarily single family homes. Although Edge is the most purely residential zone, it can have some mixed-use, such as civic buildings (schools are particularly appropriate for the Edge). Next is General, the largest zone in most neighborhoods. General is primarily residential, but more urban in character (somewhat higher density with a mix of housing types and a slightly greater mix of uses allowed).

Figure 38: Transect Zoning Classifications (Source: Duany Plater-Zyberk)



At the urban end of the spectrum are two zones which are primarily mixed use: Center (this can be a small neighborhood center or a larger town center, the latter serving more than one neighborhood); and Core (serving the region — typically a central business district). Core is the most urban zone.

Candidate Area for Dense Core Development—Main Street from Manheim to Prospect

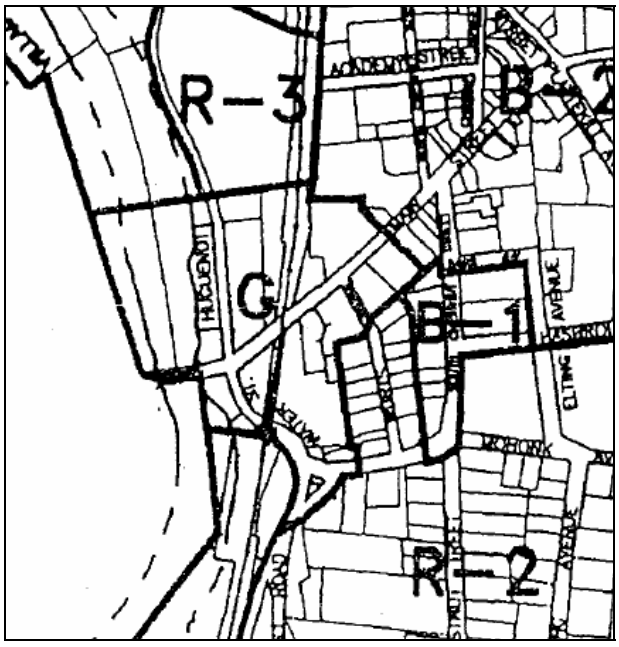
- Mixed Uses, Ranging from Residential to Low Intensity Commercial (Retail and Office)
- Approximately 120 feet Between Building Fronts
- Paved Travel Way 38 to 50 Feet in Width
- Assuming a High Concentrated Development Pattern with Moderate Growth, this Area Would Need to Accommodate Approx. 700 New Housing Units, 250 Jobs.

Figure 39: Candidate Area for Dense Core Development

Gateway Zoning District

Pursuant to the provisions of § 7-700 of the Village Law, it is hereby declared that, the Village of New Paltz, being bounded on its westerly side by the Wallkill River and Main Street (Route 299) constituting the sole approach from the west into the Village, the general welfare of the community will be enhanced by the establishment of a district with special standards in the vicinity of this approach to be a particular attraction to residents and tourists alike. The regulations enacted also intend to preserve to the extent practicable the unique views of the Shawangunk Mountain range to the west and the natural beauty of the area.

Figure 40: Gateway Zoning District (G)



Traffic Impact Studies

To ensure that a proposed development does not unduly burden the road network, developers are often required to prepare and submit a Traffic Impact Study during the permitting process. A typical Traffic Impact Study will:

1. Quantify the traffic impacts from existing and future traffic volumes with and without the development;
2. Identify pre-existing safety issues;
3. Evaluate the need for new or expanded roads or traffic controls; and
4. Identify appropriate mitigation elements to ensure impact is minimal.

A number of regulations are currently in place in the Town and Village ordinances defining the need for and the elements of a traffic impact study.

Town of New Paltz Traffic Regulations

- Special consideration must be given to the traffic generated by each proposed use in a Light Industrial District, and no undue traffic volumes shall be permitted on residential streets. Such data is to be submitted with each petition for amendment. (140-18-D-4 Light Industrial District)

- Standards for site development plan approval. In acting on any site development plan application, the Planning Board shall take into consideration … traffic circulation within and without the site; provision of off-street parking… so that pedestrian and vehicular traffic will be handled safely and adequately both within the site and in relation to the adjoining street system. In considering any proposed site development plan, the Planning Board may require review by appropriate professionals of the Town's choosing.

Village of New Paltz Traffic Regulations

- Site Plan Approval: An application for a building permit for a use requiring site plan approval shall include…The location and treatment of proposed entrances and exits to public rights-of-way, including the possible utilization of traffic signals, channelization, acceleration and deceleration lanes, additional width, and any other device necessary to traffic safety and/or convenience. (212-23-A-1)
- Standards for Site Plan Approval: Traffic flow, circulation, and parking shall be reviewed to ensure that there is no unreasonable interference with traffic on surrounding streets. (212-23-D-1)
- Restaurant/Fast Food Use: A traffic plan prepared by a qualified expert shall be included with other site plan review documents. Such plan shall attest to the adequacy of sight distances at entrances and exits, on-site circulation and parking, and the ability of the proposed facility to operate without impeding traffic flow on boundary streets.(212-41-U)
- Retail business not otherwise mentioned. Such business shall be reviewed for its ability to function without negative impacts, such as traffic and noise, on neighboring properties. Off-street parking and loading requirements will be drawn from the most comparable retail activity for which standards have been established. (212-41-V)
- Transportation Uses: A report by a certified traffic expert shall be submitted with other site plan documents certifying the adequacy of on-site circulation and parking and the appropriateness of vehicular entries and exits to maximize sight distances and minimize interference with through traffic. (212-41-W)
- Warehouse and storage facility adjoining a retail business: The Planning Board may require a traffic plan prepared by a qualified expert to attest to the adequacy of the site distances at entrances and exits, on-site circulation and parking for retail consumers and delivery vehicles, and the ability of the proposed facility to operate without impeding traffic flow on boundary streets and the impact of vehicular ingress and egress on neighboring properties. (212-41-X)
- Subdivision of Land: General. Streets shall be suitably located, of sufficient width and adequately improved to accommodate prospective traffic, to afford satisfactory access to police, fire fighting, snow removal or other road maintenance equipment, and shall be coordinated so as to compose a convenient system. (178-18-A)

5.5.4 Conservation Overlay Districts

Along with the sentiment to concentrate future development, one of the most commonly stated sentiments at the Project's public meetings is the desire to maintain open spaces for the portion of New Paltz west of the Wallkill River. The most effective means of protecting open space is through voluntary agreements between landowners and qualified conservation organizations called conservation easements. Short of the permanent protections provided by conservation easements, land use planning incorporating conservation overlay districts can assist in protecting some of the most valuable natural resource features.

New Paltz currently has such an overlay district governing those areas proximate to the Wallkill River, as described in the Wallkill River Recreation Overlay District.

Wallkill River Recreation Overlay District (ARTICLE XI)

§ 140-80. Legislative intent.

The Town Board of the Town of New Paltz finds that it is in the best interests of Town residents to provide a means and procedure by which river-oriented recreational facilities may be located and developed in the Town.

§ 140-81. Purpose and objectives.

A. The Community Comprehensive Plan, adopted in August 1995, affirmed environmentally sound planning along with policies for economic growth that enable responsive and responsible growth while retaining the Town's unique features, protecting agriculture and preserving natural resources. The Comprehensive Plan guides the Town Board in making provisions for appropriate recreational facilities for all ages within the bounds of affordability. The plan recognizes that recreation and tourism are an important economic driver for the Town, while it also promotes the consideration of the Town as a part of a larger environmental region.

B. The Comprehensive Plan expresses a desire to protect the unique aesthetic character of New Paltz; to maintain a balance between environmental protection and future development; to preserve open space; and to preserve one-hundred-year floodplain lands which add an additional component of open space to the character of the Town and which have recognized environmental significance. Among the purposes of the plan is to provide additional protective measures to existing regulations to ensure protection from changes to the physical character of the land.

C. For open space and recreational endeavors, the Comprehensive Plan acknowledges the importance of designating areas for open space and planning efficient, appropriate recreational facilities. The plan advances the concept that specific approaches used to protect open space should be determined by the attributes of particular sites and that development should be prevented, or restricted, in environmentally sensitive areas (floodplains, steep slopes, continuous open space areas and wildlife corridors, wetlands, lakes, ponds and streams).

D. It is the objective of the Wallkill River Recreational Overlay District to recognize the opportunities presented by the Wallkill River as an area of varied natural resources that can be used and enjoyed by the public while preserving and protecting sensitive wildlife habitat. As such, an objective of the overlay district is to encourage river-oriented recreational facilities, and associated accessory uses, as an integrated development with adequate transportation and utility facilities, while maintaining the integrity of the river environment.

Other features may be preserved through conservation overlay districting. The Town of Lyme, New Hampshire has overlay districting incorporated within its zoning ordinance. The sample language provided below is from the Lyme Zoning Ordinance:

Sample Conservation Overlay districts (Lyme, New Hampshire)

3.27 Conservation Districts. The Conservation Districts are established in order to protect Lyme's natural heritage and agricultural soils and to ensure that land is developed only according to its natural capability.

3.27.1 Wetlands Conservation District. The Wetlands Conservation District is hereby defined as any area that is inundated or saturated by surface or ground water at a frequency and duration to support … a predominance of vegetation typically adapted for life in saturated soil conditions, together with a 100 foot buffer zone around such areas. Wetlands include but are not limited to swamps, marshes, bogs, and similar areas. Wetlands shall be delineated … in accordance with the current NH Department of Environmental Services Wetlands Bureau Code of Administrative Rules. One hundred percent (100%) of such wetland areas and 80% of the 100 foot buffer zone shall be excluded in the calculation of lot size. Wetlands less than 2,500 square feet in size are excluded from the provisions of the Wetlands Conservation District, although State regulations may apply.