



# Technical Memorandum: Transforming Main Street, Smithtown

This memorandum summarizes observations and recommendations made by Dan Burden, executive director of the Walkable and Livable Communities Institute, in preparation for and during stakeholder meetings, walking audits and other public events in Smithtown, NY on December 4<sup>th</sup> and 5<sup>th</sup>, 2011.

The visit was made possible by AARP and AARP New York as part of their effort to help communities become more supportive of active living and aging “in place.” Partners included the Smithtown Chamber of Commerce, the Tri-State Transportation Campaign and Vision Long Island.

More than 60 people took part in the walking audits and related events. A special meeting was held with representatives of New York DOT to engage them in the process, keep them informed, learn of their achievements to-date and solicit additional ideas.

This memo includes recommendations supported by the engineering analysis of Michael J. Wallwork, P.E.

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## The Context

Various trends are changing the projections for future travel demands; that is, they are changing our understanding of the type of transportation systems people will want and need in the future. Aging population, rising fuel prices, growing traffic problems, increasing health and environmental concerns, and changing consumer preferences are all increasing demand for walking, cycling and transit.

Many efforts have been made or are underway in Smithtown to improve support for active living and active transportation. This memo complements earlier efforts, and suggests ratcheting up solutions to a much higher level.

Main Street in Smithtown has become one of New York State's most embarrassing "mean streets." Unfortunately and very tragically, lives have been lost.

Some drivers appear to be treating this street as their own personal speedway, a practice that is dangerous to others, irresponsible and uncivil. Businesses and the town image suffer from these behaviors. The social life of this street is nearly non-existent, and the speed and noise make walking almost anywhere very uncomfortable. The eroded built environment also effects whether the two biggest generations of Americans – the young Generation Y and the retiring baby boomers - will want to settle or visit here, which would bring jobs, investment and social life.

In short, Smithtown's Main Street is holding back the village, town, county and region in terms of health, safety and economic development.

### *The Study Area is Complex*

There is no single solution to the problems that have been emerging for more than 60 years along Main Street.

Route 25/25A and especially this study area of Main Street from the railroad underpass to Route 111 in Smithtown provide a complex challenge. Land settlement patterns such as light-density sprawl, strip commercial models, and low street connectivity have resulted in poor internal traffic circulation, shoving much traffic to this roadway.

The Smithtown Bypass has poorly designed links to an important freeway, and has been further eroded by commercial development, reducing its ability to draw regional traffic away from Main Street.

The lack of a sewer system complicates certain built-form solutions and deters investments. Main Street is too narrow for many treatments, and drivers are passing through town at speeds that threaten life and businesses.

### *There is Reason for Hope*

Meanwhile, not all of the news out of Smithtown's Main Street is bad. Attention is being paid to it. News outlets are covering it. Elected and appointed leaders are now focusing energy and their commitments on it. A coalition of government agencies, non-profits and community groups are willing to take serious action to amend what has become a very troubling ongoing problem. They are collaborating to make changes *now*, before there is another serious tragedy.

This memo lays out observations and recommendations that can be implemented immediately, as well as some that are longer-term. The observations and recommendations, however, are based on incomplete information. They are a good start, but as described in the sections that follow, the community truly does need another study to be conducted, to ensure the right solutions are being applied to the right conditions. That study is already underway with funding secured in large part as a result of the events on Dec. 4<sup>th</sup> and 5<sup>th</sup> supported by AARP, AARP New York, Smithtown Chamber of Commerce, Tri-State Transportation Campaign and Vision Long Island.

The community can and should get started with the recommendations in this report that are achievable in the short-term. Then, once the technical approach is documented and "tested," it will become the challenge of the coalition to carry out the entire resulting plan with courage and determination. This is not an undertaking for the timid; the challenge is significant. A Band-Aid approach will not work. But the desired outcome is even more significant than the challenge: people will be healthier, businesses will be stronger, the community will be better connected, and lives will be saved.

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## Existing Conditions along Main Street and within the Greater Area

The following observations are made regarding existing conditions along Main Street and within the greater area.

- There are four vehicle travel lanes throughout the section (from the rail overpass to Route 111)
- The north side of Main Street has an urban form, and south side has a suburban form. This is unusual and dysfunctional; it hinders the effort to achieve town and village character.
- Two separate governmental jurisdictions – the town and the village – have competing codes and practices, which complicates building and street designs.
- Vehicle speeds are very high, and these speeds are having a major effect on the safety of all roadway users, including motorists, pedestrians and bicyclists.
- Peak-hour traffic volume passing by New York Avenue is 750 vehicles, while the volume passing Landing is 1,150. These numbers are consistent with high end numbers that still work with two-lane roads supported by roundabouts (an example is La Jolla Boulevard in Bird Rock, San Diego, California).
- Reports indicate this section of road is the most dangerous for pedestrians in downstate New York.
- Crossings Main Street is difficult and dangerous. Many customers get into their cars to shop on the other side of the street. This condition is detrimental to economic development, as Main streets thrive when it is easy to cross from one side to another.
- Blocks vary from 450 to 500 feet long.
- E. Main Street is between 48 and 50 feet wide. This includes parking on the north side, but no parking on the south.
- Vehicle travel lanes are 10 feet wide and parking is 8 feet.
- There are well-marked crosswalks, but some missing crosswalks.
- Signals do not rest on WALK, but recall is possible along Main Street.
- Many pedestrians do not push Walk button.
- At times, pedestrians cross away from intersections, which is a sign that the intersections don't support pedestrians well. In these cases, it likely is due to the intersection complexity.
- Most intersections are tee intersections, which tend to be safer than four cross.
- Pedestrian Lead Interval signals, which allow an early release of pedestrians, are installed on Lawrence and Main.
- Most signals are diagonal spans, which provide poor and inadequate motorist perception of gaps and pedestrian observations. This is especially problematic for aging drivers, who are challenged by left turns and gap perception.

- None of the signals have sun backing plates, which is important when motorists are facing east or west and looking into sunlight.
- None of the signals have enhancements, such as added post mounted signal displays.
- Signals appear to be running with long, two-minute cycles, with 90 seconds awarded to the dominant flow (Main Street).
- The posted speed limit is 30 mph, but actual speeds are much higher. Off-peak, most vehicle speeds seem to be in the high 30s, with a large number in the low 40's and a few driving the low 50's.
- Virtually all motorists are speeding when conditions allow.
- There appears to be an absence of speed enforcement. Motorists seem to understand this.
- Significant congestion occurs for east and west traffic in the mornings and afternoons.
- A school zone is found near Lawrence Avenue, but there is no system to slow traffic during these important crossing times. Many parents drive their children to school, further complicating this corridor.
- A school crossing guard assists children (and others), but reports only two children in the morning, and a few more crossing in the afternoons.
- Most commercial driveways are signalized.
- An attractive fence was installed on the south side of Main Street from Lawrence to Landing. Some pedestrians are reported to be jumping this fence in order to cross Main Street. Placement of this fence is a symptom of the problem, not the solution to an apparent need.
- Although the Main Street "WalkScore" is high (94 out of 100), it is nearly impossible to cross the street to the other half of attractions. Village and town life will greatly improve once this roadway becomes possible to cross.
- Intimidation is high. Very few people were seen walking, bicycling or socializing along the street. Huntington was mentioned by many as a desirable model.

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## Recommendations

A New York State Department of Transportation alternative proposal to use a one-way couplet system was ruled out for its inability to fully address safety; its generation of out-of-direction traffic; and its negative impacts on businesses and walkability in this corridor.

Another NYSDOT proposal to drop a single lane of traffic is not ruled out entirely, but is unlikely to produce the needed speed reductions, yielding behaviors and quality of service consistent with a successful town center.

The WALC Institute's first and highest recommendation is for a more complete analysis to be conducted. Although studies have been done in the past, it is important to update information with an in-depth review and determine causal factors for serious crashes. The NYSDOT is providing needed data, and a further analysis has been agreed to. This is the first and an essential early outcome of the events on December 4<sup>th</sup> and 5<sup>th</sup>.

In the meantime, the community can and should start adopting as many of the following short- and long-term solutions as possible.

### *Short-Term*

- Place curb extensions on the north side of the intersection of Main Street and Lawrence. This will allow pedestrians to better see motorists and for motorists to see pedestrians about to cross. It will also shorten crossing distances, and open up sight lines.
- Evaluate all intersections for curb extensions. Curb extensions are very easy to apply at T-intersections.
- Enhance crossings by widening them to a minimum of 12 feet. Consider ladder-style crossings.
- Encourage more traffic on the Smithtown Bypass. A series of measures can be taken to return traffic to the Smithtown Bypass' intended purpose, including improving wayfinding. Start at the intersection with 347.
- Analyze signals to see if they are contributing to the desire to speed, and take remedial actions.
- Redesign key intersections with box span or square mast arm treatments. Eliminate all diagonal span signals. Use solar glare sun blocking backs for all signals serving east and west traffic. Use post mounted signals as enhancements to current or new standard signals.
- Plant additional trees to create strong vertical walls, especially on the suburban side where setbacks are helping induce the desire to speed.
- Take a more aggressive approach toward traffic law enforcement. Fines should be significant; high speeds warrant high fines.

### *Longer Term*

With commitment, the following can be achieved within one to three years. Note that if community agreement secures funding for longer-term solutions, some of the short-term recommendations above would be superseded.

- Set the target speed for Main Street at 25 mph, with advisory plates of 15 mph at new roundabout-controlled intersections. Create speed-controlling gateways on both ends of the corridor.
- Provide gateways into Smithtown. One should be placed on the uphill climb just after the railroad underpass, the other on the far side of the junction with Route 111. Use visual tools to slow speeds at these gateway locations.
- Place the length of this study area on a “road diet” and drop two through-lanes. A single lane in each direction of travel allows the prudent driver to set the speed. This design will reduce the most exotic, erratic high-end speeds and speeders.
- Install better controls at the intersections, such as small roundabouts and a two-lane roundabout, that bring down vehicle speeds. Place a series of roundabouts as follows: one two-lane roundabout at 111 and three to four small roundabouts at Lawrence Avenue and other key locations to be identified based on further analysis. As an option to roundabouts, a better signal coordination through town may better allow going to a single lane in each direction.
- Place as much median on Main Street as possible. Ideally, the median will be at least six to eight feet wide. Some sections of this median can support organized, focused, pedestrian crossings, and other portions can be partly mountable for emergency responders needs. Putting in a median strip, with several crossing locations (raised medians) will help slow down vehicles. A specially marked, textured, and perhaps slightly raised crossing is appropriate. With a median, pedestrians only need to focus on vehicular threats from one direction of traffic at a time and have as little as 15 feet of crossing exposure at one time.
- A midblock crossing is appropriate about halfway between Lawrence and Landing/Miller, across from the 911 memorial park. There is a natural desire line for crossing midblock between Lawrence and Landing.
- Use overhead lighting and back lighting for all mid-block crossings. Use all recommended signs and markings, including a notice to motorists the fees for failing to yield. Triple sign all mid-block crossings. Measure motorist compliance rates.
- Bike lanes on each side will create added separation from parking, from sidewalks, and create added border width and turning radius. Bike lanes should be colorized in order to make the roadway appear narrower. Bike lanes should have a very bold outer edge strip (8 to 10 inches is recommended).
- Consider creating an inner circulation road that would run east-west and connect New York Ave. to Hauppauge Rd. about one block south of Main

Street. The circulation road would utilize the existing Ma Bell Lane, Percy Avenue and parking lots behind the shopping center. This circulation road would be an important internal connector and allow residents and shop visitors to stay off of Main Street when not essential.

- Resolve whether Main Street is to be urban or suburban, and end the imbalanced condition through codes and incentives. An urban form is highly recommended, especially within a half-mile radius of transit, and through the entire town center.
- Consider liner buildings where the effects of suburban sprawl create un-walkable environments.
- Look seriously into a sewer system, certainly for commercial development, and provide for mixed use investments.
- A more uniform and supportive practice is needed to reward pedestrians for coming to intersections. This should include building an automatic rest on WALK on all phases that have sufficient time.

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## Best Practices and Tools

Consider the following best practices and tools as they relate to the recommendations above.

*Put signals where they are more easily seen.*

Box span or mast arm signal systems are superior to older, cheaper diagonal spans that are harder to see and respond to. Shown here are mast arm signals with solar blocked backs and post mounted signals. Posted mounted signals bring the motorists' gaze down to where dangers and people are located. This helps older drivers, who lose the ability to quickly shift their view from one location above the street to a location near the ground, which is an important task if they are to make safe assessments of gaps to make left turns.



*Design for target speeds.*

Under the conventional highway design process, many arterial thoroughfares have been designed for high speeds and traffic volumes. As the contexts of these thoroughfares change over time - such as to walkable, compact, mixed-use centers, with active transportation and greater retail and social life - the speeds encouraged by design become a matter of concern. Further, municipalities establishing speed limits based on current measured 85th percentile speed are finding they are required to establish higher speed limits than these communities desire for safety and livability. In these cases, traffic engineers are tasked with identifying methods to reduce arterial speeds to desired levels. A "target speed" is set and design follows.

What features work best? Colorized turn lanes, colorized bike lanes, wider edge stripes, well developed tree canopies, and defining roadway edges with variable heights of ground cover are all proving to help lower speeds toward desired levels.

Shown here are a variety of methods used to complete streets by assuring that all modes of transportation and movements are fully supported. Target speeds are achieved through careful selection of design tools that help reduce drivers' inclination to travel at speeds faster than desired. Retail and social life of areas tend to increase as speeds decrease.



***Install roundabouts to calm traffic and improve safety.***

Also called “modern roundabouts,” they navigate cars around a circulating island, usually about 60 feet in diameter. Roundabouts are ideal for collector and arterial roads, and around freeway on-off ramps. They eliminate the need for cars to make left turns, which are particularly dangerous for pedestrians and bicyclists. Properly designed, roundabouts hold vehicles speeds to 15 to 20 mph. They can reduce injury crashes by 76 percent and reduce fatal crashes by 90 percent.

Roundabouts also can increase capacity by 30 percent by keeping vehicles moving. When installing roundabouts in a community for the first time, care should be taken to make roadway users comfortable with the new traffic pattern and to educate them about how to navigate roundabouts properly and to yield as appropriate.

Below are images that illustrate the proposed location and design of a two-lane roundabout for the study area.



*Add liner buildings to change suburban to urban.*

The photos here show how Kingston, WA repaired the harmful effects of sprawl by creating a sense of “enclosure,” on the streets. Liner buildings are placed between the street and large off-street parking lots or other nonfunctional space. Developers don’t have to install added parking. The liner buildings bring life back to the street.

One version of Smithtown's future could create a balanced street, with on-street parking on both sides of the street. A simple setback can be worked out, with drainage pretty well left in place (this makes use of valley gutters and inset parking.) To make this work, added development rights would be needed. Buildings as narrow as 20 feet perform enclosure magic, returning scale, lower speeds and social life to streets.



***Consider other tools.***

The images below, from left to right:

1. Gateway with inset parking, curb extensions, tall vertical trees, bike lanes and medians. In background, roundabout and terminating vista. This road achieved its target speed of 30 mph in a semi-rural suburban location.
2. A Smithtown location for a curb extension.
3. Tall vertical walls of trees are visual tools that help calm traffic and slow vehicles down. Note the six-foot-wide median and bike lanes.



*Envision it.*

Below are before-and-after images that visualize a roadway where a much lower target speed is sought. Note the importance of the streetscape, combined with building placements. Strong collaboration is needed to make similar changes to Smithtown's Main Street.

