



# East Brown Street Traffic Calming Study

Prepared for:  
**The City of West Haven**

Funded by:  
**South Central Regional Council of Governments**

June 2009

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## Introduction

The City of West Haven East Brown Street Traffic Calming Study was conducted as part of the 2009 SCRCOG transportation planning program. The purpose of this study was to develop a traffic calming plan for East Brown Street to address residents' concerns related to cut-through traffic and high speeds. This study was conducted as a follow up to the Regional Traffic Calming Study completed by SCRCOG in 2008 and was initiated by request from the City of West Haven.

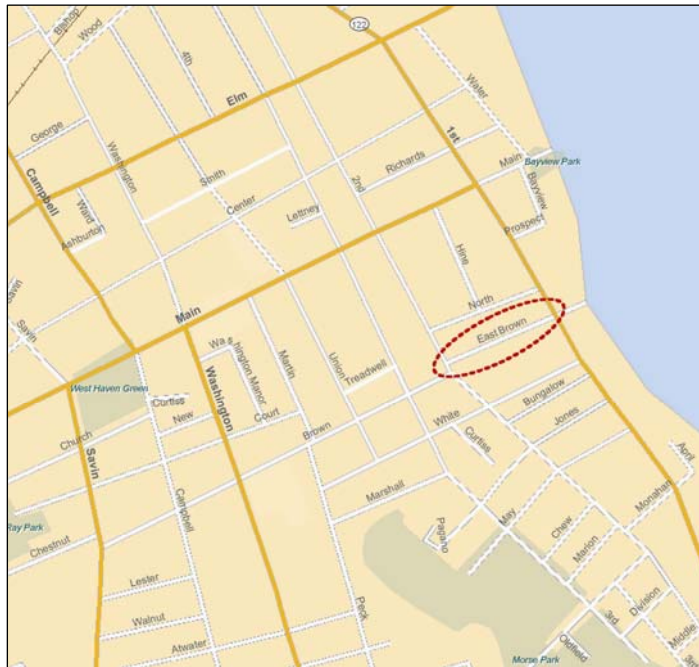
For several years, the City of West Haven has been working with residents of East Brown Street between First and Second Avenues to address concerns about speeds, traffic volumes and safety. The City has considered measures such as removal of parking and conversion to one-way flow and has surveyed residents twice to elicit feedback. As of 2008, no solutions had been determined or deemed acceptable by the residents, and the City of West Haven submitted an application to SCRCOG for consulting assistance for a traffic calming study.

This study incorporates elements from SCRCOG's Traffic Calming Tools Resource Guide and proposes various options for the City to consider in its quest to calm traffic, reduce speeds, and improve quality of life on East Brown Street.

## Study Area

The study area (Figure 1) is East Brown Street between First and Second Avenues. East Brown Street is a two-way residential street that connects – via an offset intersection at Second Avenue – with Brown Street, a larger east-west collector street leading to downtown West Haven. First and Second Avenues are both important north-south routes that carry higher volumes. All four streets are owned and maintained by the City of West Haven. The intersection of East Brown Street and Second Avenue is stop controlled, while the intersection with First Avenue is uncontrolled. The speed limit on East Brown Street is 25 miles per hour (MPH).

Figure 1: Study Area



The study area is located in the eastern portion of West Haven near the waterfront, and surrounding land use is primarily residential. Washington School, located at the corner of Brown Street and Washington Street four blocks from study area, generates vehicle and pedestrian traffic. Though pedestrian activity in the immediate study area is generally minimal, there are marked crosswalks across three legs of the intersection of Brown Street, Second Avenue, and East Brown Street.

### **Project Initiation**

The study was initiated with a meeting with the City of West Haven to gather input and information. City representatives from the Mayor's Office, Public Works Department, Department of Engineering, Department of Planning and Development, and Police Department provided detailed information about the existing issues on East Brown Street and actions that taken prior to initiation of this project. The City also provided data on accidents, speeds, and traffic counts.

### **Existing Conditions/Data Collection**

To better understand traffic operations in the study area, the consultant team collected supplemental traffic and pedestrian data and summarized new and/or previously available information on traffic volumes, pedestrian volumes, traffic speeds, parking and accident data. Visual observations of existing roadway signage, pavement markings, and pedestrian activity were also performed. The following summarizes the data collection.

#### Traffic and Pedestrian Volumes

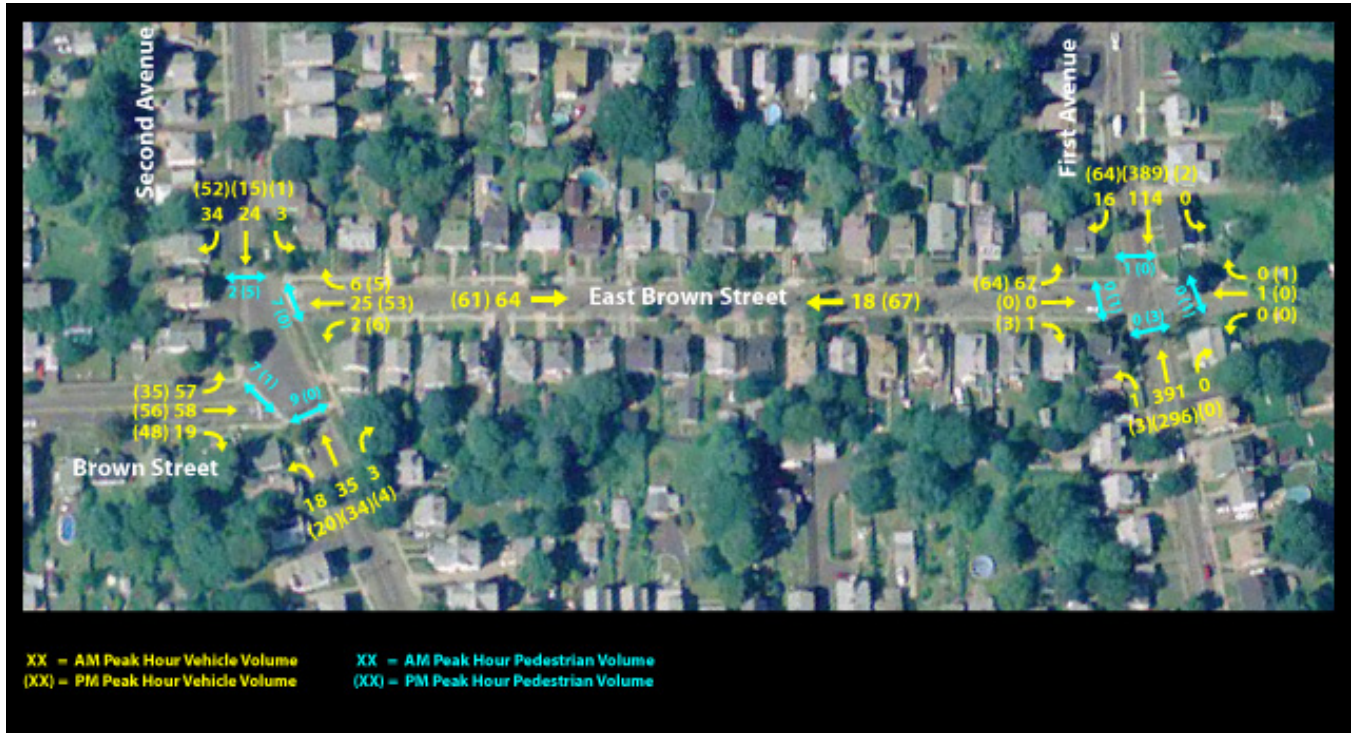
Vehicle turning movement counts and pedestrian counts were collected at two intersections: (1) East Brown Street and First Avenue and (2) East Brown Street, Second Avenue, and Brown Street. Counts were conducted from 7:00 – 9:00 AM and 4:00 – 6:00 PM on January 21, 2009. Based on the counts, the morning peak hour was determined to be 8:00 – 9:00 AM, and the evening peak hour was determined to be 4:30 – 5:30 PM. Figure 2 shows a summary of the peak hour counts.

The vehicle counts reveal the following key points about traffic operations on East Brown Street:

- There is relatively heavy volume on the northbound and southbound through movement on Second Avenue, as well as a heavy southbound right turn from Second Avenue to Brown Street (Figure 2).
- At First Avenue, most vehicles entering East Brown Street come from southbound First Avenue.

- At Second Avenue, most vehicles entering East Brown Street (90% in AM, 91% in PM) come from Brown Street.
- The percentage of eastbound vehicles on Brown Street continuing through to East Brown Street is strong, though not as heavy as expected (43% in the AM, 40% in the PM)
- There are very few southbound left turns from Second Avenue onto East Brown Street (3 in the AM, 1 in the PM).

Figure 2: Traffic Volumes



### Speed Data

The City of West Haven collected speed data during the period of August 9 – 16, 2006 at two locations: (1) midblock on East Brown Street between First and Second Avenues and (2) Second Avenue near East Brown Street. In evaluating speeds, the 85<sup>th</sup> percentile speed is generally considered the upper limit of a reasonable speed for prevailing conditions. The 85<sup>th</sup> percentile speed is defined as the speed at or below which 85 percent of the motorist on a street are traveling. Table 1 below lists the 85<sup>th</sup> percentile speeds as well as average speeds:



Table 1 – Speed Data Summary

	<b>85<sup>th</sup> percentile speed</b>	<b>Average speed</b>
E. Brown St. Westbound	31	25
E. Brown St. Eastbound	33	27
Second Avenue Northbound	35	28
Second Avenue Southbound	35	30

Source: Fitzgerald & Halliday, Inc and City of West Haven Police Department, 2009

Traffic volumes extracted from the speed data show the following volumes of average daily traffic (ADT):

- East Brown Street Westbound – 573 vehicles per day
- East Brown Street Eastbound – 750 vehicles per day
- Second Avenue Northbound – 1350 vehicles per day
- Second Avenue Southbound – 1271 vehicles per day

### Accident History

The following yearly crash data was obtained from the West Haven Police Department:

#### Intersection of East Brown Street and First Avenue

- 2006: 0 accidents
- 2007: 3 accidents, 1 injury
- 2008: 2 accidents, no injuries

#### Accidents on East Brown Street

- 2004: 2 accidents and 1 evading accident
- 2005: 2 accidents and 1 evading accident
- 2006: 0 accidents
- 2007: 2 accident
- 2008: 0 accidents

This data reveals no significant pattern of crashes in the study area. Discussion with police revealed that the intersection of East Brown Street and First Avenue had a previous history of accidents but this may have been reduced due to the installation of no parking signs on East Brown Street to help eliminate sight distance problems posed by vehicles parked too close to the intersection.

### Cut-Through Traffic

Residents and City representatives expressed a strong concern that, despite its residential character, many vehicles use East Brown Street as a short cut between downtown West Haven and Interstate 95. A license plate study was conducted to determine the number

cut-through vehicles on East Brown Street during the evening peak hour. A cut-through vehicle is defined as a vehicle whose license plate was recorded at both ends of the street within a short period of time, indicating that the vehicle entered and exited East Brown Street without making any stops. The study was conducted on January 22, 2009 from 4:15 – 5:30 PM. As expected, a high percentage of traffic on East Brown Street was found to be cut-through.

During the period specified, a total of 163 vehicles were counted on East Brown Street. Of those, 84 were traveling eastbound, 79 were traveling westbound, and 80% of all vehicles were cut-through. The numbers of cut-through vehicles can be further broken down as follows:

4:15 - 5:00 PM

- Total volume: 54 eastbound vs. 39 westbound
- 80% cut-through eastbound vs. 87% cut-through westbound

5:00 - 5:30 PM

- Total volume: 30 eastbound vs. 40 westbound
- 57% cut-through eastbound vs. 90% cut-through westbound

#### Parking Utilization Study

One of the measures previously considered for East Brown Street was the removal of parking on one side of the street to make the street wider and better able to accommodate existing traffic volumes. Residents were surveyed (July 2005 and October 2006) and in general did not approve of any parking removal, citing a lack of available on-street parking and concerns about increased speeds. As a result, the City declined to pursue the removal of parking.

This study did not consider parking removal and roadway widening as a solution to the speed and volume concerns on East Brown Street. However, some traffic calming solutions do require the loss of several on-street parking spaces. A parking utilization study was conducted during the period of March 27 – 31, 2009 to determine if the actual availability of parking corresponded to residents' perceptions of a lack of parking. East Brown Street contains approximately 30 on-street parking spaces, two of which are signed as handicap permit parking. Parked vehicles were counted at 6:00 AM, 12:00 PM, 5:00 PM, and 9:00 PM, and the following numbers were recorded:

- 6:00 AM – 17 vehicles (57% occupied)
- 12:00 PM – 10 vehicles (33% occupied)
- 5:00 PM – 14 vehicles (47% occupied)
- 9:00 PM – 14 vehicles (47% occupied)

The highest recorded utilization (57%) indicates that on-street parking on East Brown Street may be more plentiful than residents perceive. However, it is important to note that this parking utilization study provides merely a “snapshot” of parking availability on one

particular day and may or may not be representative of typical parking conditions. It should be noted that the parking utilization was not noted on weekends or during the summer months when residents indicated there is more of a demand. Figures 3 – 6 show specific locations of parked cars observed during the parking utilization study.



## Visual Observations

Several visits to the study area were made to note existing conditions and observe pedestrian and vehicle movements. The following was noted:

- East Brown Street is 29'-9" wide, which is an awkward width for both two-way and one-way operation. Two-way streets with parking on both sides are typically at least 38' wide, while one-way streets with parking on both sides should be no more than 27' wide.
- Visibility of the speed limit sign on East Brown Street in the eastbound direction is obstructed by a light pole, other signs, and parked cars.
- There is no speed limit sign on East Brown Street in the westbound direction.
- Pavement markings at the intersections of East Brown Street and First and Second Avenue are faded and not sufficiently visible to motorists.
- The intersection of East Brown Street and Second Avenue is an offset intersection with a wide open expanse of pavement. As a result, traffic flow is not well controlled, and vehicles can easily make a zig-zag movement between Brown and East Brown Streets.
- Sight distances are limited at the intersection of East Brown Street and First Avenue. It can be difficult for vehicles to pull out into traffic from East Brown Street onto First Avenue.
- The intersection of Brown Street and Second Avenue is part of a school route, and a crossing guard is stationed there during school arrival and dismissal.





- There are crosswalks across three legs of the intersection of East Brown Street, Second Avenue and Brown Street. There are no crosswalks at the intersection of East Brown Street and First Avenue.
- Sidewalks in the study area are generally in good condition, and minimal pedestrian activity was observed.

## **Community Involvement**

The first of three community meetings was held on February 5, 2009 in the community room of the West Haven Police Department from 6:30-8:30 PM. A formal presentation was made and included information on the study, the schedule and traffic calming. Attendees were divided into small workgroups to further discuss the resident's concerns and needs. Nineteen (19) people attended the meeting, including residents of East Brown Street and representatives from the City of West Haven, SCRCOG and the Connecticut Department of Transportation (CT DOT). The following is a summary of the feedback received at the meeting.

- Speeding is a concern in both directions especially in the eastbound direction (Second Avenue to First Avenue)
- Cut-through traffic is a concern especially in the PM peak hour and by service vehicles
- Safety concerns for our children and pets
- Don't want to lose parking
- Have noticed road rage
- Intersection with Second Avenue used to be signalized
- Drivers are rude and there is a lack of enforcement
- Problem with parked vehicle being hit or almost hit
- Consider stop sign on First Avenue
- Don't want to see parking eliminate on one side
- Vehicles using East Brown Street seem to be in a hurry
- Volumes are too much for the width of the street
- Consider one way, some type of barriers and speed bumps
- The problem is that East Brown Street has main streets on both sides
- Do not want to see East Brown Street made one-way
- Consider one-way
- I got broadsided while pulling into my driveway – wet road and the driver was speeding
- Non East Brown Street residents use the on-street parking
- Consider radar sign, one way and Second Avenue island

A second community workshop was held on April 2, 2009 in the community room of the West Haven Police Department from 6:30 – 8:30 PM. The presentation provided an update on the progress of the study along with a detailed explanation of potential traffic calming tools. Also presented were updated traffic volumes, speed data, results from the

parking utilization survey, and a graphic showing a potential reconfiguration of the Second Avenue/E. Brown Street intersection. Seventeen (17) people attended the meeting, including residents of East Brown Street and representatives from the City of West Haven and SCRCOG. After the main presentation, attendees were asked to fill out a questionnaire about issues and possible solutions for E. Brown Street and then participate in a roundtable discussion.

The following is a summary of the feedback received from meeting attendees during the roundtable discussion:

- Both speed and traffic volumes are an issue. The high volume of vehicles using East Brown Street as a cut-through (shortcut) leads to speeding. Reducing the volumes would result in lower speeds.
- Service vehicles using East Brown Street as a cut-through. Specifically mentioned were vehicles from Mantilia Motors, Emmett Auto Parts, Fed-EX and UPS.
- There used to be a traffic light at the intersection of Second Avenue, East Brown Street, and Brown Street.
- An enforceable radar speed camera would be helpful, however it is currently illegal in the state of Connecticut to issue tickets based on cameras. The General Assembly is considering legislation to allow a pilot program in New Haven.
- There is support for an entry island at Second Avenue, but not at First Avenue. There is some concern that entry islands may make conditions more dangerous. Also, entry islands would have to be combined with other measures to slow speeds midblock.
- If East Brown Street were converted to one-way operation, most attendees favor the eastbound direction.
- There is a need for an all-way stop control at the intersection of East Brown Street and First Avenue. It is difficult to exit East Brown Street, especially in the summer with high volumes of beachgoers on First Avenue. An all-way stop would increase noise levels at the adjacent properties.
- The residents are active in watching for, and sometimes chastising, speeders.
- Neckdowns are not a good option.
- Midblock chokers would require the loss of too much parking and would create snow plowing issues.
- Attendees were generally not in favor of speed humps due to concerns about noise, maintenance, and drainage. If speed humps are used, they should be removable. One person strongly favored removable ones. Due to the length of East Brown Street and least two speed humps would be needed.
- There is a need for a crosswalk on the north side of the Second Avenue/East Brown Street intersection.

- There is support for a double stop at the large Second Avenue intersection (adding one stop sign on Second Avenue in each direction, creating two separate intersections at Brown Street and East Brown Street). This needs further engineering evaluation.
- Attendees strongly support the reconfiguration of the Second Avenue intersection with islands and curb extensions.
- An island in the midblock of East Brown Street was suggested, but this may require the loss of too much parking and needs to consider length vs. driveway locations.
- Attendees strongly support enhanced signage and pavement markings, as well as increased police enforcement.
- The width of East Brown Street was discussed. It is an awkward width at 29 feet 9 inches. Not quite wide enough for two-way travel and parking but too wide for just two-way travel. North Street is 26 feet and can accommodate one-way and parking on both sides. With 29 feet – a one-way with parking will provide an extra wide travel lane (13 feet) which might invite people to speed. If East Brown Street is converted to one-way other traffic calming measures should be considered.
- In general attendees felt that a phased approach would make sense. First to start off with some signing and pavement marking enhancements and then a re-configured with islands intersection of East Brown Street and Second Avenue and add an all-way stop at East Brown Street and First Avenue. Then, if this does not slow and deter traffic consider speed humps and conversion to one-way. The signing and pavement marking could include 25 MPH speed limit signs in both directions with fluorescent pole strips, epoxy style stop bars and crosswalks and use of a radar speed sign.

Feedback from the second community meeting was used to create a Traffic Calming Toolbox (Appendix A), which summarizes the pros and cons of all of the traffic calming measures that had been considered and discussed. It also summarizes the feedback from the residents and prioritizes recommended elements.

A third community workshop was held on May 28, 2009 in the community room of the West Haven Police Department from 6:30 – 8:30 PM. A review of the study progress was presented as well as a discussion on the elements of the draft plan. The Traffic Calming Toolbox, summarizing the pros and cons of each traffic calming measure considered was also presented. Nineteen (19) people attended the meeting, including residents of East Brown Street and representatives from the City of West Haven and SCRCOG. The following is a summary of the discussion of the draft plan and the feedback received from meeting attendees:

- On-street parking causes East Brown Street to be too narrow, and vehicles are forced to stop to allow one another to pass. Entry islands would further exacerbate this problem and would cause safety issues. Not in favor of an entry island on East Brown Street at Second Avenue.

- The installation of the islands at the intersection of Second Avenue and East Brown Street would likely not require another public involvement process. Only one house is directly adjacent.
- There is a school bus that cuts through East Brown Street every day between 7:20-7:25 AM. Sgt. Pimer will follow up with the bus company.
- As part of the Second Avenue island proposal, a double stop on Second Avenue was considered, but it would likely become a rolling stop and therefore create safety issues.
- One attendee stated that the proposed solutions only address the intersections, but that the primary problem is in the midblock of East Brown Street. What measures will be targeted to the middle of the block? The radar speed signs and “Slow” pavement marking would be at least 1/3 of the way into the block.
- There used to be a traffic light at the intersection of Second Avenue and East Brown Street that was removed around 1977 for unknown reasons.
- Speed cameras are currently against the law, though a pilot program for red light cameras in New Haven is currently before the State Legislature.
- Residents can report speeders – and license plate numbers – to the West Haven Police.
- The sign “children playing” has been replaced by the Manual on Uniform Traffic Control Devices with a playground symbol sign, which is not appropriate for use on East Brown Street.
- There was a question about the feasibility of conversion to one-way operation. Mary Manning reviewed the pros and cons of one-way conversion that had been discussed at the previous meetings and stated that one-way conversion was not currently being recommended.
- Speeding is very bad between 8 – 10 PM, and residents do not see police enforcement. Per Sgt. Pimer, West Haven Police have carried out enforcement activities on East Brown Street, though they are limited by the fact that there is only one police car assigned to the area.
- Attendees favor enhanced signs and markings but not entry island on East Brown Street. The entry island will be removed from the plan.
- The all-way stop at First Avenue will be considered by the City. It may create more accidents and generate noise, but it will slow traffic and make it easier to pull out onto First Avenue from East Brown Street.



## Traffic Calming Options for the City to Consider

Traffic calming plans generally utilize a combination of tools/strategies. There is usually not a single solution or combination that is the right or the only answer to alleviate the problems. In addition, solutions are often implemented in stages, starting with simple, inexpensive measures and moving on to more complex solutions as needed. Options for the East Brown Street plan have been divided into three different categories: immediate options (within a year), short term options (2-4 years) and after short term options(as requested/needed).

The goal of this plan is to reduce speeds and cut-through traffic on East Brown Street. The plan is based on input from East Brown Street residents at three community meetings, as well as from representatives of the City of West Haven.

### Immediate Options:

The following are immediate options which are generally lower cost and require minimal design/construction effort:

#### *Enhanced signing and pavement markings:*

- Relocate the speed limit sign on East Brown Street in the eastbound direction to be more visible.
- Install a speed limit sign on East Brown Street in the westbound direction to alert motorists.
- Paint the stop bars and crosswalks at the intersection of Second Avenue and Brown Street/East Brown Street.
- Paint the stop bars on East Brown Street and extension at the intersection with First Avenue.
- Consider installing word “SLOW” pavement marking on East Brown Street – one for eastbound and one for westbound traffic flow.



Eastbound – sign in front of truck



Westbound – no speed limit sign



Existing faded crosswalk



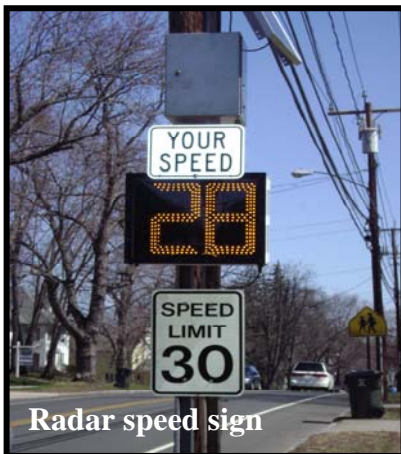
SLOW pavement marking

*Police Enforcement:*

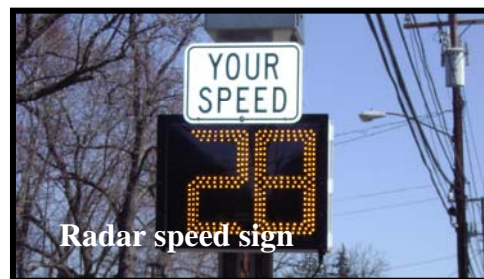
- Actively enforce speed on East Brown Street – schedule at least two to three speed traps.

*Radar Speed Signs:*

- Procure funding/grant to purchase and install two radar speed signs (one in each direction approximately 300 feet +/- from the intersection). These can be moved to other locations around the City as needed.



Radar speed sign



Radar speed sign

*Evaluate All Way Stop at First Avenue and East Brown Street*

- Investigate the feasibility of making this intersection an all way stop. The intersection is located approximately 1,280 feet from the signal at Main Street and 1,760 feet from the stop sign at Monahan Place (boat ramp). While it would mostly benefit traffic on First Avenue it would also slow turns onto East Brown Street and help drivers exit East Brown Street and the extension.

Short Term Options:

The following are short term options which will require more funding and/or design to implement.

*Second Avenue Intersection Reconfiguration*

- Design and construct islands to slow and channelize traffic through the offset intersection of Second Avenue and East Brown Street/Brown Street. For the interim, the City can install the islands using pavement markings. It was also requested at the third community meeting that an entry island not be installed on East Brown Street. While the painted islands will not provide the benefit of the raised islands, it is something that can be done in the interim while the City designs and funds the costs of the raised islands. With the painted islands, the City could also use reflective strips and poles as requested by the Department of Public Works.



**Example of a raised island, West Hartford, CT**

**Proposed Island Configuration for East Brown Street/Brown Street and Second Avenue**

### *First Avenue Intersection Traffic Control*

- If deemed feasible (i.e. sightlines, warrants, etc) – install an all way stop control at First Avenue and East Brown Street. Although not a traffic calming measure per se, this could improve conditions on East Brown Street by lowering vehicle turning speed onto East Brown Street and facilitating turns out of East Brown Street.

### *Police Enforcement*

Continue to actively enforce speed on East Brown Street.

### After Short Term Option:

- Conduct an after study to measure traffic speeds and cut through traffic after the short term strategies have been implemented and in place for at least several months.
- Conduct a community/resident meeting to receive feedback on strategies.
- If the speeds and cut- through traffic have not been reduced, than additional measures should be considered.

### **Other measures considered but not recommended at this time**

The following measures were also considered in the traffic calming toolbox evaluation.

### Conversion of East Brown Street to one-way operation

The conversion of East Brown Street from two-way to one-way operation has been considered by the City of West Haven for several years and was part of the series of surveys that was sent to residents. It was also considered as part of this study. While some residents were in favor of one-way conversion, this study does not recommend it for the following reasons:

1. One-way streets tend to have higher speeds because opposing traffic acts as “natural” traffic calming.
2. East Brown Street is 29-9” wide, which would create a one-way travel lane of approximately 15’. Typically, travel lanes on local streets are no more than 12’ wide; wider lanes allow and encourage higher speeds.
3. Traffic would be shifted onto nearby streets.
4. Most of the burden would actually be on local residents who would be inconvenienced by circuitous traffic patterns.
5. A one-way street would increase response time for emergency vehicles.
6. North Avenue is currently one way westbound. To be a true one-way pair, the travel direction for East Brown Street should be eastbound heading towards First



Avenue. Concerns were raised with this due to previous accident experience at First Avenue.

### Speed humps

The City of West Haven does not currently have speed humps on any residential streets. The City continues to have concerns with maintenance and liability associated with speed humps including the rubberized, removable speed humps. While speed humps would likely reduce speeds and discourage cut-through traffic, they are not currently recommended for East Brown Street, for the following reasons:

1. Speed humps would require the removal of on-street parking. Two humps would be needed due to the length of East Brown Street, which would require the removal of approximately eight parking spaces.
2. The City of West Haven has expressed concern about maintenance, drainage and liability issues and does not want to consider speed humps prior to implementing the other calming measures presented in this plan.
3. Vehicles traversing the speed humps would create noise for adjacent residents.
4. Most of the burden would actually be on local residents who would have to drive over the speed humps every day.

Despite their drawbacks, support remains for speed humps among some residents.

### Neckdowns and radii treatment

This study considered the possibility of installing neckdowns at the intersections at either end of East Brown Street. Neckdowns physically narrow the entrance to a street and force vehicles to make turns more slowly. While a neckdown is proposed above for the intersection of Second Avenue and Brown Street, neckdowns are not recommended for East Brown Street for the following reasons:

1. Neckdowns would further reduce the width of a street that is already too narrow for two-way traffic. Visual observations indicate that opposing vehicles already have difficulty negotiating past one another at the intersection of East Brown Street and Second Avenue.
2. Neckdowns may require the removal of some on-street parking. The number of spaces would be determined by the size of the neckdown.

### Chokers/chicanes

Chokers and chicanes physically narrow the roadway somewhere in the middle of the block. They were considered as part of this study but are not recommended for East Brown Street for the following reasons:

1. Chokers/chicanes would require the loss of several on-street parking spaces on each side of the street and would not provide sufficient benefit to offset the loss of parking.

2. Chokers/chicanes may create maintenance and drainage issues and are cost prohibitive.

### Double stop on Second Avenue

The intersection of East Brown Street, Second Avenue and Brown Street is a wide, offset intersection that is currently controlled by an all-way stop. The island/neckdown configuration proposed above would make the intersection operate more like two separate intersections (East Brown Street/Second Avenue and Brown Street/Second Avenue). The possibility of stop signs at each of these new intersections was considered, but was deemed undesirable for the following reasons:

1. The two stop-controlled intersections would be too close to each other based on engineering standards.
2. The stop signs would likely become ineffective and unsafe “rolling” stop signs, as drivers tend to ignore stop signs that they perceive as unnecessary or too close together.

### **Summary**

As highlighted in the public community meetings, a successful traffic calming solution involves three “E”s – Engineering, Education, and Enforcement. The traffic calming options presented here include strategies encompassing the Three-E philosophy. The City of West Haven should consider immediate-, short-, and after short-term options presented in this technical memorandum and seek funding, design, and approvals as necessary for implementation of options selected.

# APPENDIX A

# East Brown Street Traffic Calming Toolbox



Traffic Calming Tool	PROS	CONS	COMMUNITY FEEDBACK	COMMENTS
<b>Enhanced signing and pavement markings</b>	Heighten awareness Low cost – generally easy to install	Generally will not solve problem alone Additional maintenance Aesthetics	Residents strongly support enhanced signing and pavement markings, as well as increased police enforcement.	Consider immediate implementation.
<b>Radar speed signs</b>	Heighten awareness Low cost “Big Brother” Can move them around	Aesthetics How fast can I drive? Not typically permanent	Residents support radar speed signs.	Consider immediate implementation.
<b>Entry islands</b>	Physically narrows the pavement Gateway feeling – makes statement Aesthetics Pedestrian refuge Can try out with painted island	Small island due to 29’ width Emergency vehicle access Aesthetics Potential parking loss Maintenance	There is support for an entry island at Second Avenue, but not at First Avenue. There is some concern that entry islands may make conditions more dangerous. Also, entry islands would have to be combined with other measures to slow speeds midblock.	Consider for implementation on E. Brown Street at Second Avenue in the short term. Not recommended for First Avenue intersection.
<b>Neckdowns and radii treatment</b>	Physically narrows the pavement Gateway feeling – makes statement Aesthetics Reduces speed of turning vehicles Shorter pedestrian crossing	Small due to 29’ street width Potential parking loss Aesthetics Maintenance	Residents are not in favor of neckdowns. The intersections, particularly First Avenue and E. Brown Street, are too narrow already.	Low priority option.
<b>Chokers and chicanes</b>	Physically narrows the pavement Aesthetics Shorter and potentially safer pedestrian crossing	Small due to 29’ street width Parking loss Aesthetics Maintenance Cost	Residents are not in favor of chokers/chicanes due to loss of midblock parking.	Low priority option.
<b>Speed humps/tables</b>	Slows traffic Vertically deflects traffic Cost vs Aesthetics	Noise Parking loss (@8 spaces) Length of Road would require two (2) humps Emergency response/access Maintenance	Mixed support among residents due to concerns about noise, maintenance and drainage. If speed humps were installed, they should be removable.	Low priority option.



Traffic Calming Tool	PROS	CONS	COMMUNITY FEEDBACK	COMMENTS
<b>One-way streets</b>	<p>Reduces Volume</p> <p>Cost</p> <p>Can improve intersection</p>	<p>Potential to increase speed</p> <p>North Street is 26' wide</p> <p>Emergency</p> <p>Inconvenience to residents – more circuitous</p> <p>Shift traffic elsewhere</p>	<p>Mixed support among residents for one-way operation. It was agreed that if the street were made one-way, it should be eastbound.</p>	<p>Low priority option.</p>
<b>Second Avenue intersection reconfiguration</b>	<p>Slows turns and through movement</p> <p>Discourages cut-through traffic</p> <p>Reduces pedestrian crossing distances</p>	<p>Maintenance</p> <p>Cost</p> <p>Emergency vehicle access</p>	<p>Residents strongly support the reconfiguration of the Second Avenue intersection with islands and curb extensions. There is also support for a double stop at the large Second Avenue intersection (adding one stop sign on Second Avenue in each direction, creating two separate intersections at Brown Street and E. Brown Street). This needs further engineering evaluation.</p>	<p>Consider for short term implementation.</p>
<b>All-way stop at First Avenue and E. Brown Street</b>	<p>Slow traffic on First Avenue</p> <p>Slow turns onto E. Brown Street</p> <p>Help drivers pull out of E. Brown Street</p>	<p>May not meet warrants</p> <p>Stop signs not typically used as traffic calming measure</p> <p>Increased noise for adjacent homes</p>	<p>Residents strongly in favor of all-way stop signs at First Avenue and E. Brown Street.</p>	<p>Evaluate for short term implementation.</p>