Traffic Calming Program

ST. TAMMANY PARISH

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Department of Engineering
ST. TAMMANY PARISH GOVERNMENT

Table of Contents

1.0 St. Tammany Parish Traffic Calming Program 2

1.1 Goals of the Program 2

1.2 Eligibility of Streets 2

1.3 Best Practices 3

2.0 Traffic Calming Measures 4

2.1 Community Action 5

2.1.1 Neighborhood Education/Sign Campaign 5

2.1.2 Temporary Radar Speed Signs 5

2.1.3 Selective Traffic Enforcement 5

2.2 Striping and Signage Improvements 5

2.2.1 Existing Signage and Striping Review 6

2.2.2 Street Narrowing Through Striping 6

2.2.3 Supplemental Signage and Pavement Markers 6

2.2.4 Turning Prohibition/Traffic Restriction 6

2.3 Roadway Features 6

2.3.1 Speed Tables/Raised Crosswalks 6

2.3.2 Median Choker/Corner Extension 6

2.3.3 Lateral Shift/Chicane 7

2.3.4 Realigned Intersection 7

2.3.5 Mini-Roundabout 7

3.0 Traffic Calming Program Processes 7

3.1 Step 1: Application Acceptance 7

3.2 Step 2: Review and Processing of Application 8

3.3 Step 3: Collection and Analysis 9

3.4 Step 4: Feasibility Notification and Resident Action 9

3.5 Step 5: Engineering Design and Cost Estimation 10

3.6 Step 6: Project Implementation 10

3.6.1 Community Action 10

3.6.2 Striping and Signage Improvements 10

3.6.3 Roadway Features 10

1.0 St. Tammany Parish Traffic Calming Program

The St. Tammany Parish Traffic Calming Program was developed to help mitigate speeding and safety concerns on parish-maintained residential roadways. St. Tammany Parish is experiencing a growing demand from the public for implementation of traffic calming measures. Both residents and visitors to the Parish express growing concern over speeding vehicles within the residential areas of St. Tammany Parish. The Traffic Calming Program is intended to provide for uniform process and application for the evaluation and implementation of traffic calming measures in St. Tammany Parish.

Through this application-based program, residents can identify vehicular speed-related concerns on their streets. Requests for local street traffic calming must be submitted on a road-by-road basis with demonstrated support from more than half of the households along both sides of the street. To be effective, these traffic calming measures must be carefully considered using best practices and community involvement. The Parish will apply a data-driven approach to evaluate the traffic calming requests, to determine the roadways that will be addressed, and to identify the traffic calming measures available for implementation.

1.1 Goals of the Program

Traffic calming is the application of a combination of physical and educational techniques intended to reduce the negative effects of motor vehicle use and improve roadway conditions for all roadway users. The goal of St. Tammany Parish Traffic Calming Program is to increase the quality of life, to create safe and attractive streets and help reduce the undesirable effects of vehicles on the residential environment. The implementation of traffic calming measures is expected to help slow excess speeding of vehicles, to reduce the frequency and severity of collisions and increase the safety of the roadway.

This program is an effort in streamlining the Parish's approach to handling neighborhood traffic calming requests, to align with the Parish's overarching goals to eliminate traffic-related collisions that result in serious injuries and fatalities, and to create a path forward for large traffic calming project incorporation into the Parish's Capital Improvement Plan.

The document enumerates the steps that residents and Parish staff will take in processing traffic calming requests. This program also provides a list of criteria by which streets can qualify for different types of traffic calming measures. The process outlined provides a method for residents and Parish staff to work together to identify vehicle speed issues, to propose solutions based on a determination of the severity of the issues identified, and to allocate funds needed for acceptable traffic calming improvements.

1.2 Eligibility of Streets

Roadways requested for inclusion in the Traffic Calming Program will be reviewed for acceptable methods for traffic control given all of the following conditions are satisfied for the roadway:

i. The street shall be listed in the Parish Road inventory.

ii. The street shall not be identified as an arterial roadway per the latest roadway functional classification map published by the Louisiana Department of Transportation.

iii. The street shall be a road with a projected average daily traffic count not exceeding 3,000 vehicles per day (VPD) under current condition.

iv. The posted speed limit is 35 mph or less.

While the Traffic Calming Program provides minimum eligibility requirements, the program shall not limit the Department of Engineering's ability to recommend the installation of any devices upon the Parish roadway system that a licensed professional engineer has justified for the maximum safety of the motorists or the residents.

1.3 Best Practices

St. Tammany Parish utilizes current best practices and engineering standards to ensure that any traffic calming measures implemented are effective in addressing the identified speeding issues on local streets. A brief summary of general best practices guidelines utilized in the Parish's application of this program is as follows:

- **Decisions for implementation of traffic calming measures should be based on traffic data and engineering standards**. The Traffic Calming Program relies on vehicle-speed and collision data to analyze and inform decisions regarding appropriate traffic calming measures. Engineering expertise is employed to assess the data and determine which measures are most suitable for specific areas and to align selected measures with the characteristics of individual roadways. No traffic calming device shall be installed or placed on any street without approval by the Department of Engineering.

- **Traffic calming measures should focus on reducing speeding and improving safety.** To be effective, traffic calming devices must be carefully considered and applied on local streets where speeding may adversely impact the safety and quality of life in the community. In the assessment of traffic calming measures, speeding shall be considered excessive when the 85th percentile speed for one lane of a roadway is 25% over the posted speed.

- **Traffic calming measures should not be used to directly affect cut-through traffic volumes.** In general, traffic calming measures do not directly address cut-through traffic on residential streets. Cut-through traffic can be difficult to quantify and can be more of a neighborhood-scale concern if through-traffic is simply addressed by pushing the problem to another street. The main intent of the Traffic Calming Program is to make Parish streets safer and more comfortable for all by reducing excessive vehicle speeding.

- **Traffic calming measures involving the modification of roadway features require support from the community, emergency responders, and parish government.** Either the representative home owner's association or at least 50% of the residents of the impacted area must demonstrate support of the project by signature of a petition for projects of this nature. Local emergency responders must also demonstrate support of the project.

- **Traffic calming measures should be implemented in a cost-effective manner.** The less restrictive and the least costly method should be attempted prior to the application of more restrictive traffic calming, such as speed tables, chicanes and mini-roundabouts

- **Traffic calming measures shall not be allowed where no traffic problems are identifiable.** Unwarranted "STOP" signs shall not be used as traffic calming devices. Four way stop signs and children at play signs will not be installed for speed control in accordance with the Manual for Uniform Traffic Control Devices (MUTCD).

- **Traffic calming measures shall not be installed where the installation of the devices would inconvenience or potentially endanger the general public.** The needs of emergency response should be strongly considered when implementing a traffic calming measures. The police and fire departments could be especially helpful during evaluation of the traffic calming measure design, of its exact placement and of alternative response routes, if needed, around the traffic calming measure.

While these best practices offer a basis for the Parish's approach to traffic calming, the implementation of traffic calming programs involves many trade-offs that must be carefully reviewed and evaluated. The object of the program practices is finding a balance between providing an efficient transportation network and maintaining a livable and safe environment for all roadway users. The challenge of a traffic calming program is selecting the appropriate measures and locations to reach that balance.

2.0 Traffic Calming Measures

Traffic calming tools cover a wide range of options and vary in intensity, time of implementation and associated cost. In some cases, addressing the issue of high speeds on a residential street may simply require increased awareness within a neighborhood. For others, more restrictive measures such as speed tables are required to encourage motorists to reduce speed. For this program, traffic calming measures will be divided into three classifications: (1) Community Action, (2) Striping and Signage Improvements, and (3) Roadway Features.

The following table compares the relative cost and relative time for the implementation of the traffic calming measures described on the subsequent pages.

Traffic Calming Measure	Relative Cost	Relative Time
Community Action		
Neighborhood Education/Sign Campaign	$	●
Temporary Radar Speed Signs	$	●
Selective Traffic Enforcement	$	●
Striping and Signage Improvements		
Existing Signage and Striping Review	$	●●
Street Narrowing through Striping	$$	●●●
Supplemental Signage and Pavement Markings	$$	●●●
Turning Prohibitions and Traffic Restrictions	$$	●●●●
Roadway Features		
Speed Tables/Raised Crosswalks	$$$	●●●●
Median Choker/Corner Extension	$$$$	●●●●●
Lateral Shift/Chicane	$$$$	●●●●●
Realigned Intersection	$$$$$	●●●●●●
Mini-roundabout	$$$$$	●●●●●●

There may be other types of traffic calming measures not listed and consideration will be given to other measures that have been proven to be reasonable and effective in practice. These traffic calming measures are generally described in the next section and general qualification criteria are provided in further detail in Appendix A.

2.1 Community Action

Traffic calming measures may be addressed or complemented by educational efforts that empower residents to influence behaviors that affect the safety for drivers, cyclists, and pedestrians. These measures are community-driven and allow residents to take immediate action to address traffic concerns. These measures are inexpensive and can often be implemented quickly. Residents may request tools in the Community Action category for use on their street at any time through this program.

2.1.1 Neighborhood Education/Sign Campaign

St. Tammany Parish encourages community-driven neighborhood traffic safety campaigns that include activities such as personalized letters, flyers, and newsletters; meetings, workshops, and school programs; and neighborhood speed awareness signs or banners. Campaigns focus on subjects such as pedestrian safety, enforcement, and speeding impacts to heighten community awareness.

For neighborhoods developing these type of campaigns, St. Tammany Parish can offer participation and assistance such as attending community meetings. In a passive approach, the Parish loans yard signs to a neighborhood on a short-term basis to encourage motorists to respect the neighborhood and to drive responsibly. Every few days, residents move the signs around the neighborhood to different yards so drivers and pedestrians notice the newly placed signs.

2.1.2 Temporary Radar Speed Signs

The most common form of radar speed signs is a portable trailer equipped with a radar unit that detects the speed of passing vehicles and displays it on a reader board, often with a speed limit sign next to the display. The primary benefit of speed display units is to discourage speeding along residential streets and provide data for review of traffic calming assessments.

2.1.3 Selective Traffic Enforcement

The goal of selective traffic enforcement is to induce motorists to drive safely. To achieve this goal, the selective traffic enforcement model combines intensive enforcement of a specific traffic safety law with extensive communication, education, and outreach informing the public about the enforcement activity. Selective Traffic Enforcement on a local level bring a smaller community approach similar to high-visibility enforcement campaigns like the National Highway Traffic Safety Administration's Click It or Ticket seat belt program.

2.2 Striping and Signage Improvements

In cases where resident action is not sufficient to resolve speeding issues, striping and signage measures may prove effective, such as by reminding drivers of the need to proceed slowly or visually narrowing the roadway so that drivers are less confident in going faster. If determined to be appropriate by Parish engineering staff, these measures encompass such efforts as enhancing crosswalks, visually narrowing travel lanes, modifying speed limits, or installing high visibility crosswalks.

2.2.1 Existing Signage and Striping Review

Striping and signage throughout St. Tammany Parish should conform with the requirements of the Federal Highway Administrations' Manual for Uniform Traffic Control Devices (MUTCD). In order to verify compliance with the MUTCD, a thorough review of the existing signage and striping can be conducted. If the review identifies signage and/or striping that is not compliant with MUTCD, then a work order request will be submitted to the Department of Public Works for reconciliation.

2.2.2 Street Narrowing Through Striping

Lane striping and markings can be used to modify traffic lane widths, add center lines, and reinforce safety zones. Striping is usually used to create narrow lanes - often about 10 feet wide. A centerline stripe helps drivers stay on the "right" side of the road and not use the entire roadway width as a travel lane. On wide roadways, the "unused" pavement created by restriping can sometimes be used to stripe a bicycle lane, a parking lane, or a pedestrian shoulder.

2.2.3 Supplemental Signage and Pavement Markers

Additional signage or pavement markings can assist in drawing motorist attention to particular roadway conditions. Advance warning signs (e.g., pedestrian crossing ahead), supplemental regulatory signs (e.g., an added speed limit sign), and pavement markings (e.g., "Keep Clear", "Ped Xing") can be used. Supplemental signage can also include rapid flashing beacons and permanent speed detection signage.

2.2.4 Turning Prohibition/Traffic Restriction

In some instances, prohibiting turning movements or restricting traffic may prove to be beneficial for the overall traffic in an area. Restriction and prohibition should be utilized only after other options are ruled out or determined to be infeasible. In some instances, changing entrances to right-in right-out or promoting one-way traffic can be beneficial.

2.3 Roadway Features

If needed and appropriate, roadway traffic calming measures, sometimes called engineering treatments, can be used to manage vehicle speeds. These features, such as speed cushions or tables, raised crosswalks, and median islands have been proven to reduce speeds and improve safety. Speed humps are the most common traffic calming measures due to their effectiveness in reducing vehicle speeds and relatively low cost to install. The severity of a speeding issue may warrant adding materials in the street to slow traffic. These tools can be very expensive and require detailed design and engineering, substantial community input, and Parish Council review.

2.3.1 Speed Tables/Raised Crosswalks

Speed tables are traffic calming devices that raise the entire wheelbase of a vehicle to reduce its traffic speed. Speed tables are longer than speed humps and flat-topped. A raised crosswalk is a variation of a flat-topped speed table. A raised crosswalk is marked and signed as a pedestrian crossing.

2.3.2 Median Choker/Corner Extension

A median island is a raised landscaped area along the street centerline that narrows the travel lanes at that location. The visual appearance of narrowed lanes encourages motorists to slow down. A curb

extension is a horizontal extension of the sidewalk into the street resulting in a narrower roadway section. This device may be used at either a corner or mid-block. A curb extension at an intersection is called a corner extension or bulb-out. A curb extension located mid-block is called a choker.

2.3.3 Lateral Shift/Chicane

A chicane is created by staggered curb extensions, that are placed on both sides of the street. These curb extensions alternate on the street and force motorists to substantially decrease their speed when driving around them. In addition, depending on the design, motorists may have to yield to oncoming traffic, when the curb extension is designed to allow only enough space for one car to pass at a time. The extensions, often landscaped with bushes and trees, decrease the driver's line of sight, and therefore, decrease the speed with which he or she can drive with comfort.

Chicanes can be costly to construct and because of the drastic physical changes to street characteristics, they need strong residential support. However, the drastic changes have a more immediate and forceful effect on decreasing speeding and through-traffic.

2.3.4 Realigned Intersection

Existing eccentric intersections, such as cross streets at less than 90 degrees angle, can have limitations in sight distance or can create unsafe turning movements. Realignment of intersections can reduce conflict points or align the roadway perpendicular to cross streets for increased sight distances.

2.3.5 Mini-Roundabout

A mini-roundabout is a large circular area in the middle of an intersection meant to control the right-of-way of vehicles. The mini-roundabout is used to decrease vehicular speeds on a residential street and may decrease traffic volume as well. Traffic approaching the intersection must drive around the circle and yield to those cars which have already entered the circle. Designated by a curbed island, a traffic circle makes the driver generally lower his or her driving speeds. Mini-roundabout may be used at four-way intersections of local residential streets where a speeding problem has been determined or when an accident problem exists but does not meet warrants for a four way stop installation.

3.0 Traffic Calming Program Processes

The Program operates on a continual cycle for St. Tammany Parish resident applications accepted and evaluated on a rolling-basis with requests accepted any time of year. The step-by-step procedure from the time an application is submitted to the time when traffic calming is implemented is described in the following sections.

3.1 Step 1: Application Acceptance

In an effort to provide more efficient use of staff resources and properly track requests, anyone requesting traffic calming measures implemented through the traffic calming program must complete an application. A resident group or representative can submit an application to the Department of Engineering at any time. The resident or resident group is asked to return a completed application to the Department of Engineering for review and processing. General questions and answers for the application are as follows:

- **Who can complete the application?** Applicants must live on the portion of street listed on the application or provide documentation from a functional Home Owners Association or Board authorizing the request.

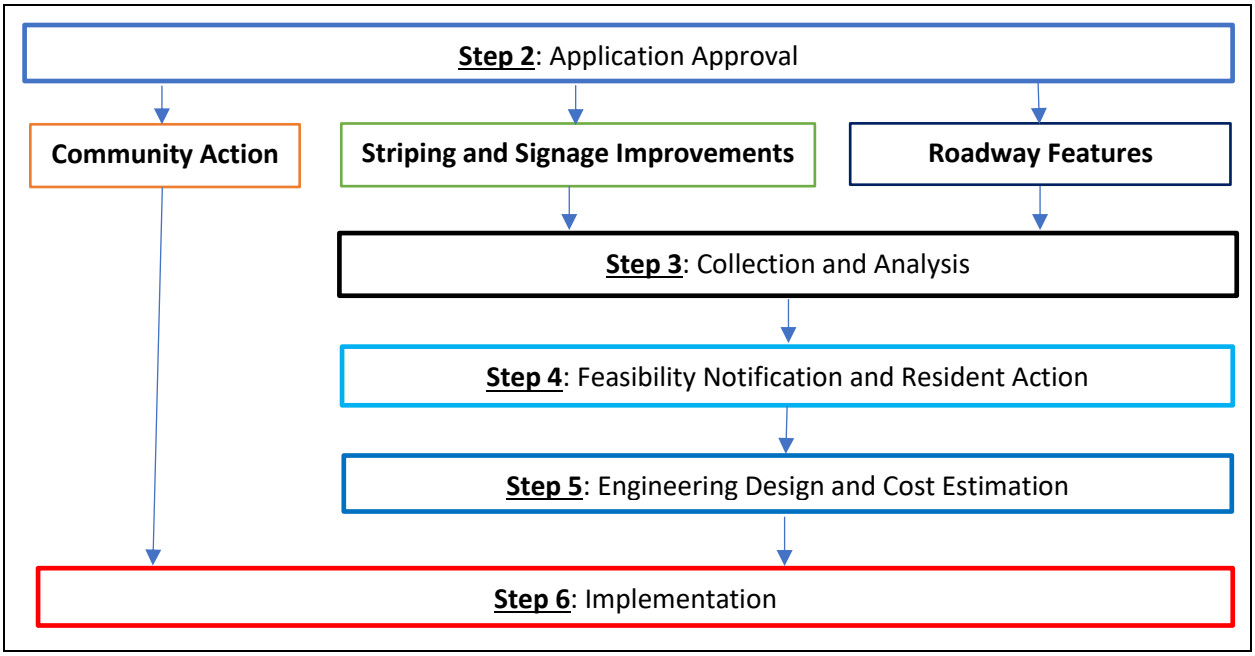
- **What information has to be provided on the application?** This application is an effort to identify a key contact person in the neighborhood for purposes of communicating information and coordinating any activities. The application also provides the location of the request and a summary of the traffic issue. In the event that the information provided is unclear, Department of Engineering staff may contact the applicant for clarification of request.

A copy of the Traffic Calming Program application is located in Appendix B. Upon receipt of the application for the Traffic Calming Program, the Department of Engineering will notify the Parish President's Office, Parish Council Office and CAO Office of receipt of the application.

3.2 Step 2: Review and Processing of Application

All applications submitted will be reviewed for eligibility by the Department of Engineering. If the request is determined to be not acceptable during initial processing, the Department of Engineering will notify the requestor that the request has been denied documenting the justification for the denial. If the application is acceptable, the traffic calming requests will move to the appropriate path forward.

In general, accepted requests for Community Action measures will be processed to move directly forward to Step 6: Project Implementation. Accepted requests for Striping and Signage Improvements and Roadway Features will be moved forward to Step 3: Data Collection and Analysis. The following flow chart shows the path moving forward:



3.3 Step 3: Collection and Analysis

Based on the information provided in the application, the Department of Engineering will perform traffic data collection for the analysis of feasibility of traffic calming measures. Traffic data collection schedule will vary dependent up available resources and applicable collection times. The Department of Engineering will typically collect traffic data and perform a traffic study within 60 days of the request (when school is in session) to determine if the candidate location meets the minimum criteria for traffic calming; and if the minimum criteria are satisfied, then provide a recommended type of improvement to be installed.

The collection of data may include, but is not limited to, traffic counts, speed studies, traffic turning movement counts, crash reports, roadway geometrics, and existing regulatory signage. Site surveys will be made to inventory site specific information which may contribute to traffic concerns. Area inventory shall include review of visual obstructions, street grades, street widths, street network, sidewalk network, major thoroughfare plan, sidewalk and bicycle plans, existing traffic control, parking prohibitions, speed limits, school zones, and future CIP projects which may affect the traffic in the study area

A preliminary report will be prepared indicating results of studies, surveys, and resident requests. The report will contain staff recommendations for action and cost estimates. The report will explain the results of the traffic calming study, indicate the presence of safety concerns and determine if warrants for installing traffic calming measures are satisfied. In Step 4, the preliminary report will be provided to residents and other impacted city departments for review and final comment prior to being submitted to Parish President and Parish Council.

3.4 Step 4: Feasibility Notification and Resident Action

Upon completion of the preliminary analysis, the applicant will be notified of the results with a report stating the conclusions and recommendations of St. Tammany Parish staff. Should it be determined that the location is not appropriate for a traffic calming project requiring physical alterations to the roadway or that the concerns can be addressed in some other form, the applicant is provided the opportunity to meet with Department of Engineering staff to review these results. Applications that are not approved can be re-submitted in the year following the previous request.

If the request receives preliminary approval, the applicant will be requested to provide the following documentation in order for the project to move forward:

- Resident Petition: If the applicant is an individual homeowner and no Homeowners Association (HOA) exists; upon written notification by the Department of Engineering, the applicant must conduct and return a petition drive in the format requested. A standard petition is included with the notification and sent to the application for the collection of signatures from more than 50% of the residential units within the affected area. Only one signature per address is needed to satisfy this petition; if property is being rented, the renter rather than the owner represents a valid signature. Once the petition is returned, staff reviews the signatures for completeness.

- Letters of Support: To ensure public safety is protected and the traffic calming measure does not impede emergency response, the applicant is responsible for providing letters of support from the St. Tammany Parish Sherriff's Office and the Fire Chief of the local fire district.

- Home Owners Association Support: If there is a functional Home Owners Association, the applicant must first receive written approval from the Home Owners Association. A Home Owners Association resolution approving the application and the petition must be included with the petition documents.

Once the required documentation has been submitted, the traffic calming project will be placed on a list of approved projects and proceed Step 5 for project design and cost estimation.

3.5 Step 5: Engineering Design and Cost Estimation

Due to the scope and scale of projects involving signage, striping or other roadway features, engineering plans, as well as, detailed cost estimates must be prepared in order for the project to be implemented. Based on the preliminary determination completed in the prior step, the Department of Engineering staff will perform a conceptual design and cost estimates for the traffic calming measure(s) deemed most appropriate for each approved roadway.

The size of the project will dictate the time needed for Step 5: Engineering Design and Cost Estimation to be completed. Smaller projects, such as signage and striping changes, can be moved to Step 6: Project Implementation in a more rapid manner than larger projects, such as speed tables and roundabouts. If the scope and scale of work exceeds in-house staff capacity, a request may be made by the Department of Engineering for funding for consultant engineer support.

Once engineering design and cost estimation is complete, the project will be moved to Step 6: Project Implementation for any necessary budgetary approvals and for construction activities.

3.6 Step 6: Project Implementation

The process for implementation will vary dependent upon the level of traffic calming measure. As previously, the implementation of traffic calming measures will be divided into three classifications: (1) Community Action, (2) Striping and Signage Improvements, and (3) Roadway Features. The implementation process for each classification is summarized in the following sections.

3.6.1 Community Action

For Community Action items, traffic calming measures can typically be implemented quickly. Department of Engineering for Community Signs and Radar stations. Sheriff for patrols and enforcement. These measures can typically be implemented in 1-2 months.

3.6.2 Striping and Signage Improvements

For Striping and Signage measures, the request will require the development of an engineered signage and striping plan. The signage and striping can typically be installed by the Department of Public Works through their annual contracts. Given level of work involved, these measures may take 3-6 months

3.6.3 Roadway Features

Roadway features tend to be the most complicated approach with the need for full engineering design, budgeted funds, and construction through contractor. For Traffic Calming improvements that involve Roadway Features, the Program operates on an annual cycle that will result in a more transparent, predictable, and easier to understand process for St. Tammany Parish residents. In addition, the annual cycle provides residents with more certainty regarding annual funding levels and provides shorter waiting

time between acceptance into the program and implementation timelines. Finally, an annual program cycle for larger roadway features results in a more efficient use of staff resources.

Appendix A

TRAFFIC CALMING MEASURES

Neighborhood Education & Sign Campaign

St. Tammany Parish loans yard signs to a neighborhood on a short-term basis to encourage motorists to respect the neighborhood and to drive responsibly.

Qualifying Applications	
Type of Street	• Parish-maintained street
Intersection or Roadway Segment	• Applicable at roadway or intersection
Roadway Cross-section	• Roadway must have adequate shoulder area for placement of signs
Roadway Grade	• Signs shall not be placed in a manner that reduces sight distances along roadway
Speed Limit	• Any applicable speed limit
Vehicle Traffic Volume	• Any applicable traffic volume
Emergency Route	• Acceptable on emergency routes
Transit/Access Route	• Acceptable on transit, bicycle and pedestrian routes

Effects and Issues	
Vehicle Speed	• The warning signs will cause motorists to slowdown reminding them of the consequences of speeding
Vehicle Volume	• Vehicle volume should stay unchanged
Vehicle Safety and Mobility	• Vehicle safety and mobility will be better because motorists will see signs throughout the street reminding them to be safer
Bicycle and Pedestrian Safety and Mobility	• The street will become safer for non-drivers
Emergency Vehicle Safety and Mobility	• Emergency vehicles will be safer and mobile
Environment	• The environment should be unchanged from the adage of the signs
Design Issues	• No law enforcement is present, the signs are just a suggestion for motorists to slow down

Temporary Radar Speed Signs

St. Tammany Parish sends radar speed signs to a neighborhood on a short-term basis to encourage motorists to respect the neighborhood and to drive responsibly.

Qualifying Applications	
Type of Street	• Any parish-maintained street
Intersection or Roadway Segment	• Applicable at roadway
Roadway Cross-section	• Roadway must have adequate shoulder area for placement of signs
Roadway Grade	• Signs shall not be placed in a manner that reduces sight distances along roadway
Speed Limit	• Any applicable speed limit
Vehicle Traffic Volume	• Any applicable traffic volume
Emergency Route	• Acceptable on emergency routes
Transit/Access Route	• Acceptable on transit, bicycle and pedestrian routes

Effects and Issues	
Vehicle Speed	• The motorists will see their actual speed and compare it to the speed limit posted, this will cause motorists to slow down
Vehicle Volume	• Vehicle volume should stay unchanged
Vehicle Safety and Mobility	• Vehicle safety and mobility will be better because more motorists will be going the appropriate speed
Bicycle and Pedestrian Safety and Mobility	• Cyclists and pedestrians will be safer and more mobile
Emergency Vehicle Safety and Mobility	• Emergency vehicles will be safer and be able to maneuver around the neighborhood at a better pace not having to worry about other motorists.
Environment	• The environment should be unchanged
Design Issues	• Motorists may become distracted looking at the sign instead of focusing on the road and pedestrians

Selective Enforcement

St. Tammany Parish requests law enforcement support to a neighborhood on a short-term basis to encourage motorists to comply with speed limits and to drive responsibly.

Qualifying Applications	
Type of Street	• Any parish-maintained street
Intersection or Roadway Segment	• Applicable for roadways and intersections
Roadway Cross-section	• Can be used for any type of roadway unless there isn't room for the law enforcement to park their vehicles
Roadway Grade	• Can be used at any grade
Speed Limit	• Any applicable speed
Vehicle Traffic Volume	• If traffic volume is unbalanced coming from one direction for the majority of the time
Emergency Route	• Can be applicable along emergency route
Transit/Access Route	• Can be appropriate along a transit route

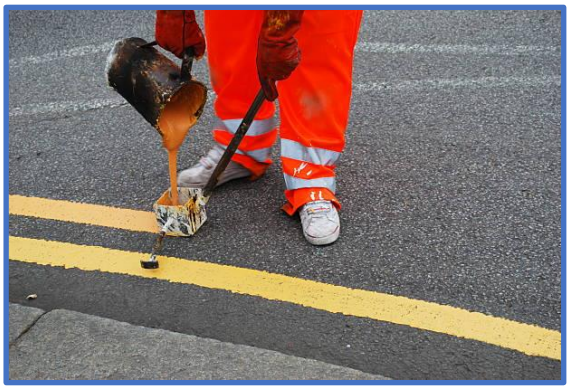
Effects and Issues	
Vehicle Speed	• Vehicle speed will be reduced because people will understand the consequence of speeding around law enforcement
Vehicle Volume	• Vehicle volume should go down because motorists tend to avoid law enforcement
Vehicle Safety and Mobility	• Vehicle will be safer with the protection of law enforcement and traffic will move smoother without the fear of wreak less drivers
Bicycle and Pedestrian Safety and Mobility	• Cyclists and pedestrians will be safer under the protection of law enforcement
Emergency Vehicle Safety and Mobility	• Emergency vehicles will be able to maneuver around the street better with the added protection of the law enforcement
Environment	• Very little effect on the environment
Design Issues	• Motorists may only follow the traffic laws while the enforcement is there and return to their old habits after they leave

Existing Signage and Striping Review

St. Tammany Parish will review signage and striping for compliance with the Manual for Uniform Traffic Control Devices (MUTCD) and other applicable traffic regulations.

Qualifying Applications	
Type of Street	• Any Parish-maintained Street
Intersection or Roadway Segment	• Applicable for intersections and roadways
Roadway Cross-section	• Can be used for any roadway
Roadway Grade	• Can be applicable on any grade
Speed Limit	• Any applicable speed limit
Vehicle Traffic Volume	• Any applicable traffic volume
Emergency Route	• Can be appropriate among emergency routes
Transit/Access Route	• Can be appropriate among transit routes

Effects and Issues	
Vehicle Speed	• The motorists will see the signage or striping change and be more focused and aware of their surroundings
Vehicle Volume	• Vehicle volume should be unchanged
Vehicle Safety and Mobility	• Vehicle mobility will likely be unchanged
Bicycle and Pedestrian Safety and Mobility	• Dependent on outcome, signage and striping review could give cyclists as bike lane and make the roads safer for pedestrians
Emergency Vehicle Safety and Mobility	• Emergency vehicle safety and mobility will be unchanged
Environment	• Very little impact on the environment
Design Issues	• Motorists may drive on the roads the way that they did before and ignore the new signage and striping



Street Narrowing Through Striping

St. Tammany Parish narrows the roads in a neighborhood to encourage motorists to slow down.

Qualifying Applications	
Type of Street	• Any parish-maintained roadway
Intersection or Roadway Segment	• Applicable for roadways
Roadway Cross-section	• Can be used for one-lane and two-way traffic
Roadway Grade	• Any grade is applicable
Speed Limit	• Any applicable speed limit
Vehicle Traffic Volume	• Higher traffic volume is when it would be most effective
Emergency Route	• Not appropriate for emergency routes
Transit/Access Route	• Not appropriate for a transit route

Effects and Issues	
Vehicle Speed	• Can slow traffic by funneling through narrower street opening than is provided in upstream cross-section; traffic speeds likely to decrease slightly • Amount of speed reduction depends on volume and distribution of traffic; reduction is lessened when the volume of traffic is significantly higher in one direction than the other or volumes are so low that the likelihood of a motorist encountering an opposing motorist within the narrowed area is low
Vehicle Volume	• Has little effect on traffic volumes
Vehicle Safety and Mobility	• Likely to have minimal effect on motorist mobility and safety • Minimal impact on motorist comfort
Bicycle and Pedestrian Safety and Mobility	• May reduce travel way width and force bicyclist and motor vehicle to share travel lane; if the vehicle volume is high, use of shared lane markings and "bike may use full lane" signage could be necessary and appropriate
Emergency Vehicle Safety and Mobility	• Retains sufficient roadway width to allow for continued flow of emergency vehicles
Environment	• Very little impact on the environment

Street Narrowing through Striping (Continued)

Effects and Issues	
Design Issues	• Removal of existing striping will increase cost

Supplemental Signage and Pavement Markings

St. Tammany Parish puts down supplemental signage and pavement markings (in addition to minimum required by MUTCD) to encourage motorists to respect the street and to drive responsibly.

Qualifying Applications	
Type of Street	• Any Parish-maintained roadway
Intersection or Roadway Segment	• Applicable for intersections and roadways
Roadway Cross-section	• Can be used for any roadway
Roadway Grade	• Can be applicable on any grade
Speed Limit	• Any applicable speed limit
Vehicle Traffic Volume	• Best at reducing speeds is traffic volume is equal from both sides
Emergency Route	• Can be appropriate among emergency routes
Transit/Access Route	• Can be appropriate among transit routes

Effects and Issues	
Vehicle Speed	• The motorists will see the signage or striping change and be more focused and aware of their speed and the surroundings
Vehicle Volume	• Vehicle volume should be unchanged
Vehicle Safety and Mobility	• Vehicle mobility will likely be unchanged
Bicycle and Pedestrian Safety and Mobility	• Supplemental signage and striping could give cyclists as bike lane and make the roads safer for pedestrians
Emergency Vehicle Safety and Mobility	• Emergency vehicle safety and mobility will be unchanged
Environment	• Very little impact on the environment
Design Issues	• Motorists may drive on the roads the way that they did before and ignore the new signage and striping

Turning Prohibition/Traffic Restriction

Turning prohibition and traffic restrictions can be used to eliminate specific traffic flows (in example, cut-through traffic, truck traffic, non-school traffic) from entering or exiting a street.

Qualifying Applications	
Type of Street	• Can be appropriate on any type of street • Can be appropriate in both an urban and suburban setting
Intersection or Roadway Segment	• Applicable only at a roadway intersection
Roadway Cross-section	• Can be used on both a one-way and two-way street • Typically found only on a roadway with an urban cross-section (i.e., curb and gutter) but it is not necessary • Can be applied both with and without a bicycle facility • Can be applied on a roadway with on-street parking
Roadway Grade	• Can be installed on a crest vertical curve only if there is adequate stopping sight distance or if appropriate warning signs are provided
Speed Limit	• Maximum speed limit on side street is typically 25 mph
Vehicle Traffic Volume	• No maximum volume for side street restricted by turning prohibition or traffic restriction
Emergency Route	• Not appropriate if primary emergency vehicle route is blocked or side street provides access to a hospital or emergency medical services
Transit/Access Route	• Not appropriate if transit route is blocked unless route can be altered • Not appropriate if primary access route to a commercial or industrial site is blocked

Effects and Issues	
Vehicle Speed	• Not expected to reduce vehicle speed on local street approach to intersection • Could reduce speed on major street leg of intersection
Vehicle Volume	• Can reduce traffic volume on local street approach to intersection • Left-turning and straight-through traffic from local street is redirected to either (1) turn right onto the major street or (2) follow another local street that can enable a left turn or to cross to the other side of the major street
Vehicle Safety and Mobility	• Can improve motorist safety at the intersection by removing some conflicting traffic movements
Bicycle and Pedestrian Safety and Mobility	• Pedestrian safety on local street presumably improves with reduction in vehicle volume for some pedestrian-vehicle conflict areas

Turning Prohibition/Traffic Restriction (Continued)

Effects and Issues	
Bicycle and Pedestrian Safety and Mobility	• A corner extension could shorten the street crossing distance and further improve pedestrian safety; If sufficient in width to offer a pedestrian refuge area, pedestrian safety and mobility can be improved • Bicyclist safety on local street presumably improves with reduction in vehicle volume
Emergency Vehicle Safety and Mobility	• Restricts emergency vehicles from passing straight through or turning left from the minor street and from turning left into the minor street; emergency access and response time is affected
Environment	• Can be used to visually enhance the street with landscaping, provided visibility of pedestrian in crossing is not compromised
Design Issues	• Because of potential for significant impact on traffic patterns, can be controversial

Speed Table / Raised Crosswalks

A speed table or raised crosswalk is a raised area placed across the roadway designed to physically limit the speed at which a vehicle can traverse it.

Qualifying Applications	
Type of Street	• Can be installed on a local street or collector street
Intersection or Roadway Segment	• Typically placed at a midblock location • Shall be located a distance of 200 feet intersections and horizontal curves • Should not be placed on a sharp curve with a minimum horizontal curve radius of 300 feet or less
Roadway Cross-section	• Can be used on a single-lane one-way or two-lane two-way street • Typically installed with an urban cross-section (i.e., curb and gutter) but an open section can be acceptable • Can be applied both with and without sidewalks or bicycle facilities
Roadway Grade	• Can be installed on, or beyond, a crest vertical curve only if there is adequate stopping sight distance or warning signs are provided
Speed Limit	• Speed tables shall not be installed on roadways with posted speed limits above 35 mph
Vehicle Traffic Volume	• The street shall not have a projected average daily traffic count exceeding 3,000 vehicles per day under current condition.
Emergency Route	• Generally, not appropriate for a primary emergency vehicle route or street that provides access to a hospital or emergency medical services
Transit/Access Route	• Generally, not appropriate for a bus transit route with BRT, Express, or Limited Stop service (unless the posted speed limit is 30 mph or less); speed cushion could be appropriate • Can be appropriate along a neighborhood circulator or other local bus service route • Not appropriate along the primary access to a commercial or industrial site

Effects and Issues	
Vehicle Speed	• Single speed table reduces 85th percentile speeds to the range of 25 to 35 mph when crossing the table • Speed reduction effects decline at the rate of approximately 0.5 to 1 mph every 100 feet beyond the 200 foot approach and exit of a speed table; in order to retain slower vehicle speeds over a longer

Speed Table/Raised Crosswalk (Continued)

Effects and Issues (continued)	
Vehicle Speed (continued)	distance, a series of speed tables is needed with recommended spacing between 300 and 500 feet apart.
Vehicle Volume	• As single installation, there is little traffic diversion from the street; as part of a series, typical volume reductions of 20 percent observed
Vehicle Safety and Mobility	• Produces sufficient discomfort to a motorist driving above the speed table design speed to discourage speeding • All speed tables shall be posted with advance warning signs and an advisory speed of 15 mph. • Can be constructed with brick or other textured materials on the flat section
Bicycle and Pedestrian Safety and Mobility	• Appropriate location for a crosswalk; in traffic calming terms, a crosswalk on a speed table is called a raised crosswalk • Bicyclist safety should not be affected; some jurisdictions use a maximum street grade of 5 percent if the street is designated as a bicycle route • Bicyclist can negotiate a speed table with little delay or discomfort; it is also possible to bypass speed table by passing through the gap between the table and the curb and gutter
Emergency Vehicle Safety and Mobility	• Less speed delay than for a speed hump • Has less jarring effect on long, stiff-bodied emergency service vehicle than speed hump
Environment	• Potential for increased noise due to vehicle braking and accelerating and to the vibration of loose items in truck beds or trailers
Design Issues	• Placement factors include vertical and horizontal alignment of street, proximity to nearest intersection, location of driveways and on-street parking, presence or absence of street lighting, location of designated pedestrian crossings, drainage, and utility access points (drains, valves, etc.) • Should not be located as to require the relocation of above-ground and below-ground utilities • A speed table does not extend from curb to curb • Typically, does not interfere with drainage because table does not extend from curb to curb; however, if drainage gutter or flow of water is in the center of the roadway, drainage and hydraulic impacts need to be evaluated

Median Choker/Corner Extensions

A median choker or corner extension is a horizontal extension of the curb into the street resulting in a narrower roadway section.

Qualifying Applications	
Type of Street	• Appropriate for a collector or local street – whether in an urban or suburban setting
Intersection or Roadway Segment	• Median choker is only applicable at midblock; if placed at an intersection, the measure is considered a corner extension/bulb out
Roadway Cross-section	• Can be used on a one-lane, one-way and two-lane, two-way street • Most easily installed on a roadway with an urban cross-section (i.e., curb and gutter) • Can be applied both with and without a bicycle facility • Can be applied on a street with, and can protect, on-street parking
Roadway Grade	• Can be installed on a crest vertical curve only if there is adequate stopping sight distance or if appropriate warning signs are provided • Maximum grade should be below 6 percent
Speed Limit	• Can be appropriate for any speed limit under 35 mph, provided an adequate shy distance is provided between the travel lane and the choker curb
Vehicle Traffic Volume	• Can be appropriate at all levels of traffic volume
Emergency Route	• Can be appropriate along a primary emergency vehicle route or street that provides access to a hospital or emergency medical services
Transit/Access Route	• Can be appropriate along a bus transit route • Can be appropriate along a primary access route to a commercial or industrial site

Effects and Issues	
Vehicle Speed	• Can slow traffic by funneling through narrower street opening than is provided in upstream cross-section; traffic speeds likely to decrease slightly. • Amount of speed reduction depends on volume and distribution of traffic; reduction is lessened when (1) the volume of traffic is significantly higher in one direction than the other or (2) volumes are so low that the likelihood of a motorist encountering an opposing motorist within the narrowed area is low

Median Choker/Corner Extension (Continued)

Effects and Issues (Continued)	
Vehicle Volume	• Has little effect on traffic volumes
Vehicle Safety and Mobility	• Likely to have minimal effect on motorist mobility and safety Minimal impact on motorist comfort • Can serve as protection for downstream on-street parked vehicles
Bicycle and Pedestrian Safety and Mobility	• May reduce travel way width and force bicyclist and motor vehicle to share travel lane • If the vehicle volume is high, use of shared lane markings and "bike may use full lane" signage could be necessary and appropriate
Emergency Vehicle Safety and Mobility	• Retains sufficient width to allow for continued flow of emergency vehicles
Environment	• Can be used as landscaping opportunity • If the choker includes a pedestrian crossing, the landscaping should be designed to not obstruct pedestrian visibility
Design Issues	• Relocation of curbing may require relocation of drainage features such as catch basins, concrete channels, valley gutters, inlets, and trench drains • May require relocation of above- and below-ground utilities • Where the crown of a street is steep, a choker may actually go "uphill" because the new curb is higher than the original curb; this has the potential to cause drainage problems both at the curb and on the sidewalk

Lateral Shift/Chicane

A lateral shift or chicane is a single or series of curves or lane shifts that are located in a position to force a motorist to steer back and forth out of a straight travel path.

Qualifying Applications	
Type of Street	• Local road or low-volume collector road • Urban or suburban setting
Intersection or Roadway Segment	• Applicable for mid-block locations • Applicable for entire block if block length is short
Roadway Cross-section	• Can be used on one-lane, two-lane, and two-way roadways • Can be installed with open ditch or curb and gutter section
Roadway Grade	• Can be installed on a crest vertical curve or horizontal curve only if there is adequate stopping sight distance and warning signs are provided
Speed Limit	• Recommended speed of 25 mph or below
Vehicle Traffic Volume	• Most effective in reducing speeds if traffic volumes are relatively balanced in each direction
Emergency Route	• Can be appropriate along an emergency vehicle route provided traffic volumes are low enough to allow an emergency vehicle to straddle the street centerline
Transit/Access Route	• Can be appropriate along a transit route

Effects and Issues	
Vehicle Speed	• The curvilinear path is intended to reduce the speed at which a motorist is comfortable travelling through the feature.
Vehicle Volume	• The lower speed could in turn result in a traffic volume reduction.
Vehicle Safety and Mobility	• Likely to have minimal effect on motorist mobility and safety Minimal impact on motorist comfort • Aggressive motorist may view a chicane as an "obstacle course" with sharp cornering, braking and acceleration
Bicycle and Pedestrian Safety and Mobility	• Can narrow the travel way and force a bicyclist and motor vehicle to share a travel lane

Lane Shift/Chicane (Continued)

Effects and Issues (Continued)	
Emergency Vehicle Safety and Mobility	• Should retain sufficient width to allow for the continued easy flow of emergency vehicles; should have little effect on emergency response times
Environment	• Opportunity for landscaping • Attention needs to be given to appearance to counter potential for visual clutter
Design Issues	• Attention needed to avoid need to relocate drainage features such as catch basins, concrete channels, valley gutters, inlets, and trench drains • Should not require relocation of above- and below-ground utilities

Realigned Intersection

A realigned intersection is the reconfiguration of an intersection to reduce potential collisions and slow traffic at intersections. Realigned intersection may result in skewed approach or perpendicular approaches dependent upon situation and desired outcome.

Qualifying Applications	
Type of Street	• Appropriate for collector, local, and subdivision streets • Can be appropriate in both an urban and suburban setting
Intersection or Roadway Segment	• Applicable only at intersections
Roadway Cross-section	• Can be used on both one-way and two-way streets • Most commonly installed on a roadway with an urban cross-section (i.e., curb and gutter); could be acceptable for an intersection with shoulders only • Can be applied both with and without a bicycle facility • Can be applied on a roadway with or without on-street parking
Roadway Grade	• Can be installed on a crest vertical curve only if there is adequate stopping sight distance or warning signs are provided • Maximum grade shall be less than 6 percent
Speed Limit	• Should be in line with the nature of the street network; 25 mph speed limit is the most common maximum for approach
Vehicle Traffic Volume	• Not typically a direct consideration in determination of applicability
Emergency Route	• Can be appropriate along a primary emergency vehicle route or street that provides access to a hospital or emergency medical services if appropriate turning radii can be provided
Transit/Access Route	• May be appropriate along a bus transit route if adequate turning radii can be provided • Not appropriate along primary access route to a commercial or industrial site if adequate turning radii are not provided

Effects and Issues	
Vehicle Speed	• Slows traffic by introducing horizontal deflection to an otherwise straight path of travel • Skewed intersections can reduce speeds within intersection limits between 5 and 13 mph and between 1 and 6 mph in the vicinity
Vehicle Volume	• As a single installation, there is little traffic diversion from the street
Vehicle Safety and Mobility	• Likely introduces delay on the major (i.e., realigned) leg of the intersection • Minimal impact on motorist comfort

Realigned Intersection (Continued)

Effects and Issues (continued)	
Bicycle and Pedestrian Safety and Mobility	• Introduction of stop- or signal-control reduces pedestrian/vehicle conflicts and improves pedestrian safety • Median Island can be placed on the intersection approach and serve as a pedestrian refuge (if its width is at least six feet) • No direct effect on bicyclists
Emergency Vehicle Safety and Mobility	• Little effect on emergency vehicle safety or on emergency response time
Environment	• Could be used as a landscaping opportunity
Design Issues	• Attention needed to avoid need to relocate drainage features (catch basins, concrete channels, valley gutters, inlets, and trench drains) • May require relocation of above- and below-ground utilities • Prior to design of a realigned intersection, a traffic review and capacity analysis should be completed for the intersection. The analyses should determine the appropriate traffic controls for the intersection and determine the extent of queuing and delay (vehicle and pedestrian) changes. • As with any intersection, a typical realigned intersection design needs to consider lighting, drainage, pedestrian safety, pedestrian mobility, and bicyclist access. • The curb extension or narrowing at the intersection should include signs or landscaping that draw attention to it. However, adequate intersection sight distance should be maintained.

Mini-Roundabout

A mini-roundabout is a small circular, unsignalized intersection where all traffic moves in a counter clockwise direction around a central island. A defining feature of a mini-roundabout is a fully traversable central island and splitter islands that larger vehicles can drive over.

Qualifying Applications	
Type of Street	• Appropriate for the junction of two local roads or of a local and collector road • Can be appropriate in both an urban and suburban setting
Intersection or Roadway Segment	• Applicable only at an intersection • Typically, not appropriate for an offset intersection unless intersection realignment also occurs
Roadway Cross-section	• Can be used at the intersection of both one-way and two-way streets • Approach legs must be one lane in each direction (two-lane approaches are addressed through the use of a roundabout) • Typically, preferable to have an urban cross-section (i.e., curb and gutter) but there are many built where shoulder cross-section is transitioned to the roundabout • Can be applied on a cross-section both with and without a bicycle facility; a bicycle lane is not striped within a small modern roundabout or mini-roundabout • Can be applied along a roadway with on-street parking
Roadway Grade	• Can be installed on a crest vertical curve only if there is adequate stopping sight distance or warning signs are provided • Maximum grade should not exceed 10 percent
Speed Limit	• Requires a slow approach by vehicles; either with a relatively low speed limit or other features on the approaches to warn of the roundabout intersection
Vehicle Traffic Volume	• Can be an appropriate measure at lower traffic volume levels than a roundabout
Emergency Route	• Appropriate along a primary emergency vehicle route or on a street that provides access to a hospital or emergency medical services
Transit/Access Route	• Although a transit vehicle can negotiate the turn, in general, transit route should not include a left turn at a small modern roundabout or mini-roundabout • Can be applied along a primary access route to a commercial or industrial site

Mini-Roundabout (Continued)

Effects and Issues	
Vehicle Speed	• Speed reduction largely dependent on proper design of approach lanes to deflect each vehicle as it passes through intersection; without adequate deflection, motorists can pass through small modern roundabout and mini-roundabout without lowering vehicle speed • FHWA publication *Roundabouts: An Informational Guide* shows travel speeds approximately 40% lower within mini-roundabout than 350 feet away from intersection
Vehicle Volume	• As single traffic calming treatment, there is little traffic diversion from the street
Vehicle Safety and Mobility	• Can improve motorist safety at the intersection; has fewer potential vehicle/vehicle conflicts points than traditional four-leg intersection; left-hand turn crashes eliminated • Minimal impact on motorist comfort
Bicycle and Pedestrian Safety and Mobility	• Fewer vehicle/pedestrian conflict points than traditional four-leg intersection • Depending on geometry of overall intersection, horizontal deflection may force motor vehicles into pedestrian crossing area on the cross street; may be necessary to move crosswalks further away from mini-roundabout to prevent vehicles from encroaching on the crosswalk • Bicyclist and motor vehicle to share travel lane within mini-roundabout
Emergency Vehicle Safety and Mobility	• Turns made smoothly across small modern roundabout apron or mini-roundabout center island
Environment	• Small modern roundabout can be used as landscaping opportunity; for a traversable mini-roundabout, color or texture treatment can be used or center island can even be branded to relate to a nearby school, neighborhood, business district, etc.
Design Issues	• Drainage typically better if cross-section slopes away from center island; reverse superelevation can reduce vehicle speed • May interfere with and require redesign of access to an existing utility (e.g., a manhole) • May require additional street lighting

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Appendix B

FORMS

St. Tammany Parish
Department of Engineering

APPLICATION FOR TRAFFIC CALMING PROGRAM

Applicant Information			
Name:		**Application Date:**	
Address:			
Phone Number:		**E-mail:**	
Name of Community or Subdivision:			
Problem Identification			
Identify street or streets with traffic concern (Please be specific):			
Briefly describe traffic concerns:			

Please return this application to:

St. Tammany Parish Government
Department of Engineering
21454 Koop Drive, Mandeville, LA 70471
engineering@stpgov.org

Traffic Calming Request Petition

We the undersigned hereby petition St. Tammany Parish Government to perform the necessary design and construction of traffic calming measures for the following request:

_____

_____

By signing this petition, I agree to have an appropriate traffic calming measure installed in front of my residence if deemed the most appropriate solution by the St. Tammany Parish Department of Engineering.

#	Print Name	Sign (to agree with statement above)	Address (one signature will be counted per unit/address)	E-mail address
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