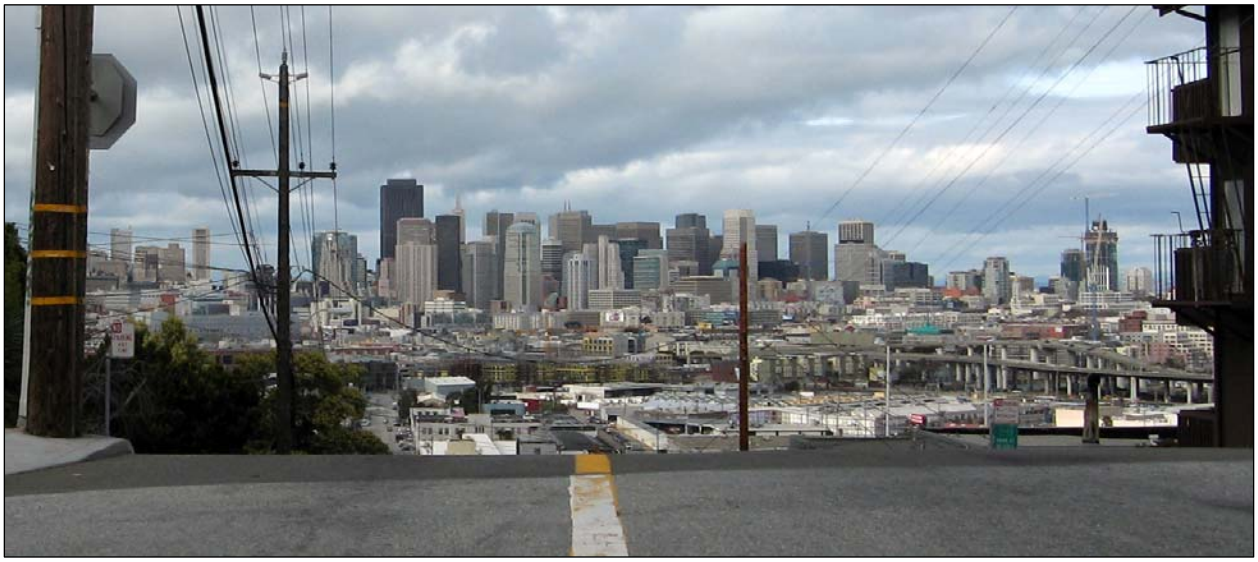

POTRERO HILL
TRAFFIC CALMING PROJECT
DECEMBER 2009

PREPARED BY:

SAN FRANCISCO MUNICIPAL TRANSPORTATION AGENCY
TRAFFIC CALMING PROGRAM
SUSTAINABLE STREETS DIVISION
1 SOUTH VAN NESS AVENUE
SAN FRANCISCO, CA 94103

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CHAPTER 1. EXECUTIVE SUMMARY

This document presents a summary of community input, data collection and data analysis compiled for this project. Drawing from these analyses, it also presents detailed, preliminary recommendations for addressing traffic calming issues throughout the Potrero Hill study area. It draws from meetings with the community and key local stakeholders, including:

- Potrero Boosters Neighborhood Association
- Kansas Street Neighborhood Association
- Dogpatch Neighborhood Association
- Municipal Transportation Agency (SFMTA)
- Department of Public Works (DPW)
- Fire Department
- Police Department

The proposed improvements to the Potrero Hill area will improve access and safety for pedestrians, transit users, and motorists in the area bounded by 16th and Cesar Chavez Streets, Highway 101 and Interstate 280.

The gateway treatments on Mariposa, 23rd and 26th Streets will announce to drivers that the conditions have changed from the nearby arterials and freeways to a residential street with a 25 MPH speed limit. The speed hump on 19th Street will slow traffic, while the many bulb-outs will ease pedestrian crossings and improve pedestrian visibility, mostly near local schools and parks. The combinations of parking changes, striping changes and median islands on Kansas, Wisconsin, Vermont, Mariposa, Rhode Island, Pennsylvania and Dakota Streets will narrow the roadway and slow vehicles. The chicanes on 18th and 26th Streets will break up long sightlines and slow vehicles on these east-west streets.

The Potrero Hill area is a vibrant neighborhood undergoing major changes. By making the proposed changes in this plan, there will be a clear announcement that one has entered the Potrero Hill, an area with abundant residences, schools, and many small commercial areas.

RECOMMENDED LOCATIONS

Based on the existing conditions data gathered in the Potrero Hill study area, the following are recommended locations for traffic calming measures, along with the factors influencing the selection of each location. In order for a street to qualify for a traffic calming recommendation, there must be a quantifiable traffic problem such as speeding, high traffic volumes, cut-through traffic, reported collisions, or a major pedestrian generator where access needs improvement. The locations that met these criteria correspond with the streets identified through neighborhood input as having the most critical traffic problems.

SPEEDING

The prima facie speed limit in residential or business districts is 25 MPH, whether it is posted or not. The 85th percentile speed statistic, which is the widely used standard for setting speed limits, is used as a guide in determining whether a street is a candidate for a speeding-related traffic calming measure. The 85th percentile speed is the maximum speed of the vast majority (85 percent) of drivers; or put another way, it is the speed at which 15 percent of vehicles exceed. Streets with an 85th percentile speed higher than 32 MPH are good candidates for a traffic calming device. Streets with an 85th percentile speed between 30 and 32 MPH merit consideration, whereas speeds below 30 MPH do not warrant installation of a measure. For example, a residential street with an 85th percentile speed of 33 MPH, where 15 percent are driving over 33 MPH, would be recommended whereas another street with an 85th percentile speed of 27 MPH will likely not be recommended for a measure. The latter street, though technically over the speed limit, is typical of the level of compliance one can expect on a residential street and is unlikely to be affected significantly by any traffic calming measure. The width of the roadway and other street conditions are also considered in determining the extent of speeding. Cut-through problems can usually be identified by reviewing the daily traffic volumes on a street in relation to the grid and observing motorists' use of the streets during field visit(s). Another factor that is considered is any evidence of exhibition driving, including "donuts".

TABLE 1 RECOMMENDED LOCATIONS FOR TRAFFIC CALMING

Location	Limits	Factor
17th Street	Carolina to Missouri Streets	Long crossings for pedestrians at uncontrolled locations
18th Street	Vermont to De Haro Streets	School
18th Street	Carolina to Arkansas Streets	Speeding
19th Street	Carolina to Wisconsin Streets	Speeding
19th Street	Vermont to Carolina Streets	School
20th Street	Missouri to Texas Streets	School
23rd Street	Kansas Street	Cut-through traffic
26th Street	Kansas Street	Cut-through traffic
26th Street	Kansas to De Haro Streets	Speeding, cut-through traffic
Dakota Street	23rd to Texas Streets	Speeding
Kansas Street	23rd to 26th Streets	Speeding, cut-trough traffic
Mariposa Street	Vermont Street	Cut-through traffic
Mariposa Street	Pennsylvania Avenue to Mississippi Street	Cut-through traffic
Mariposa Street	Carolina to Arkansas Streets	Speeding
Pennsylvania Avenue	20th to 23rd Streets	Speeding, cut-through
Rhode Island Street	20th Street to Southern Heights Avenue	Speeding
Various		Crest of hill
Vermont Street	Mariposa to 17th Streets	Excess capacity, speeding
Wisconsin Street	25th Street to Coral Road	school

TABLE 2 RECOMMENDED TRAFFIC CALMING MEASURES

Location	Traffic Calming Measure	Impacts and Issues
17th Street from Carolina to Missouri Streets	Bulb-outs	Parking loss, need to accommodate turning vehicles, check for possible utility relocation
18th Street from Carolina to Arkansas Streets	Chicane	Parking changes and traffic lane alignment require neighborhood consensus.
18th Street from Vermont to De Haro Streets	Bulb-outs	Parking loss, need to accommodate turning vehicles, check for possible utility relocation
19th Street from Carolina to Wisconsin Streets	Speed Hump	Some inconvenience to motorists
19th Street from Vermont to Carolina Streets	Bulb-outs	Parking loss, need to accommodate turning vehicles, check for possible utility relocation
20th Street from Missouri to Texas Streets	Bulb-outs	Parking loss, need to accommodate turning vehicles, check for possible utility relocation
23rd Street at Kansas Street	Gateway	Preserve driveway access. Turning clearance is a critical design issue.
26th Street at Kansas Street	Gateway	Preserve driveway access. Turning clearance is a critical design issue.
26th Street from Kansas to De Haro Streets	Chicane	Parking changes and traffic lane alignment require neighborhood consensus
Dakota Street from 23rd to Texas Streets	TBD	Public housing area redesign
Kansas Street from 23rd to 26th Streets	Median Islands, Edgelines	Parking loss, need to accommodate turning vehicles, check for possible utility relocation
Mariposa Street at Vermont Street	Gateway	Preserve driveway access. Turning clearance is a critical design issue.
Mariposa Street from Carolina to Arkansas Streets	Bulb-outs	Parking loss, need to accommodate turning vehicles, check for possible utility relocation
Mariposa Street from Pennsylvania Avenue to Mississippi Street	Gateway, Islands	Preserve driveway access. Turning clearance is a critical design issue.
Pennsylvania Avenue from 20th to 23rd Streets	Parking Changes, Edgelines	Addition of angled parking can allow driveway access

TABLE 2 (CONT) RECOMMENDED TRAFFIC CALMING MEASURES

Location	Traffic Calming Measure	Impacts and Issues
Rhode Island Street from 20th Street to Southern Heights Avenue	Bulb-out, Median Islands	Parking loss, need to accommodate turning vehicles, check for possible utility relocation
Various Locations	Crest of Hill Treatments	
Vermont Street from Mariposa to 17th Streets	Median Island	Need to accommodate turning vehicles, check for possible utility relocation
Wisconsin Street from 25th Street to Coral Road	TBD	Public housing area redesign

* Placement of measures such as median islands necessitates a certain level of fronting property owner approval. Some measures require balloting of residents within the immediately affected block(s). At least 20 percent of the ballots must be returned, and a majority of the ballots returned must show support for the measure. A public hearing will be scheduled after ballot approval.

CHAPTER 2. BACKGROUND AND COMMUNITY INPUT

SFMTA planning staff worked from spring of 2007 to fall of 2008 to develop a comprehensive traffic calming plan for the Potrero Hill neighborhood. During the course of this study, the team completed the following tasks:

- Collected detailed traffic speed and volume data throughout the study area and compared it with historical data
- Organized two neighborhood-wide community workshops

GOALS AND OBJECTIVES

As a result of data analysis and community input, the team was able to obtain consensus on a set of objectives and performance measures.

TABLE 3 PROJECT OBJECTIVES AND PERFORMANCE MEASURES

Objective	Performance Measurement	Measurement Tools
Encourage through traffic to remain on arterials like 16th and Cesar Chavez Streets.	Overall traffic on other streets is lower than before study	Before and after tube counts
Avoid shifting of traffic on one residential street to another residential street	There should be no more traffic volume on residential streets than before the study	Before and after tube counts on parallel routes
Calm the neighborhood streets	Reduce the 85th percentile speeds to below 30 MPH on all streets	24 hour speed and volume count
Improve safety for all users of the neighborhood streets	Increase the comfort levels of pedestrians and cyclists	SFMTA and community observations
Improve access for bikes, pedestrians, the disabled and transit users	Increase connections for cyclists and reduce barriers at crossing locations	SFMTA and community observations
Accommodate Muni and emergency vehicles	Minimize vertical displacement devices. Ensure other devices accommodate vehicle size and turning requirements	Agreement by Muni and emergency services
Enhance the streetscape	Use trees and other urban design features in traffic calming devices	SFMTA and community observations

TABLE 4 APPROACH TO NEIGHBORHOOD CONSENSUS

Task	Goal	Results
Community Meeting #1 (March 22, 2007)	Introduce project and receive community input	Formulated initial list of problem locations and identified future working group members
Community Working Group Meeting #1	Introduce traffic calming concepts and get feedback	Strong guidance on where to focus data collection efforts
Data collection	Collect initial round of data	Identified locations for traffic calming devices
Community Working Group Meeting #2	Begin developing initial traffic calming plan	Draft plan prepared. Further locations identified.
Community Working Group Meeting #3	Review draft plan	Working group consensus achieved
Community Meeting #2 (December 10, 2008)	Present plan and achieve general consensus	Community supported design concepts

CHAPTER 3. RECOMMENDED IMPLEMENTATION PLAN AND PHASING

Two key issues determine the best phasing strategy for implementing traffic calming in Potrero Hill:

- Recognizing that there is limited funding available, the most cost effective solutions should be implemented first, along with solutions for the most serious traffic safety problems.
- Recognizing that there is rarely universal support or understanding among residents for any traffic calming project, low-cost temporary installations may be preferable over the short term to test certain ideas. For example, installing temporary choker islands can be done with glue down bollards and paint first, before the installation of expensive and permanent concrete islands.

To achieve these key points, the following phasing strategy is recommended:

PHASE 1

Phase 1 improvements seek to address the worst speeding and pedestrian safety problems in the neighborhood in the most affordable manner. Projects include:

- **18th Street chicane.** Install chicane on 18th Street between Carolina to Arkansas Streets
- **19th Street speed hump.** Install speed hump on 19th Street between Carolina and Wisconsin Streets.
- **Kansas Street islands and edgelines.** Install edgelines on Kansas Street between 23rd and 26th Streets. Install islands at intersections.
- **Mariposa Street gateways.** Install gateway on Mariposa Street at intersections of Vermont Street and Pennsylvania Avenue.
- **Rhode Island/Southern Heights intersection improvements.** Install median islands and bulb-out at the intersection of Rhode Island and Southern Heights.

PHASE 2

- **23rd Street gateway.** Install gateway on 23rd Street near Kansas Street.
- **Mariposa Street gateway 2.** Install gateway at intersection of Mariposa and Mississippi Streets.
- **Pennsylvania Avenue striping changes.** At edgelines on Pennsylvania Avenue between 20th and 23rd Streets. Institute angled parking between 22nd and 23rd Streets.
- **Vermont Street road diet.** Institute striping changes on Vermont Street between 17th and 16th Streets.

- **Crest of Hill treatments.** Evaluate potential crest of hill treatment(s) in project area.

PHASE 3

- **Rhode Island Street median island.** Construct median island at the intersection of Rhode Island and 20th Streets.
- **Vermont Street median island.** Modify road diet and add landscaped median island to Vermont Street between Mariposa and 17th Street.

PHASE 4

- **19th Street chokers.** Install chokers at the intersection of 19th and Carolina Streets.

PHASE 5

- **26th Street gateway.** Install gateway near the intersection of 26th and Kansas Streets.
- **26th Street chicane.** Install chicane on Kansas Street between Kansas and De Haro Streets.

FUTURE FUNDING PHASE

- **17th Street bulb-outs.** Install bulb-outs at the intersections of 17th Street with Carolina, Arkansas and Missouri Streets.
- **Mariposa Street bulb-outs.** Install bulb-outs at the intersections of Mariposa Street with Carolina and Arkansas Streets. Install bulb-outs and mid-block crosswalk between Carolina and Arkansas Streets.
- **18th Street bulb-outs.** Install bulb-outs at the intersections of 18th Street with Vermont, Kansas, and De Haro Streets.
- **19th Street bulb-outs.** Install bulb-outs at the intersections of 19th Street with Vermont, Kansas, and De Haro Streets.
- **20th Street bulb-outs.** Install bulb-outs at the intersections of 19th Street with Missouri and Texas.
- **7th Street two-way conversion.** Convert 7th Street from one-way to two=way between Bryant and Brannan Streets.

ONGOING FUNDING PHASE

- **Potrero Hill Public Housing area redesign.** Assist with street design for redesign efforts of Potrero Hill Public Housing area.

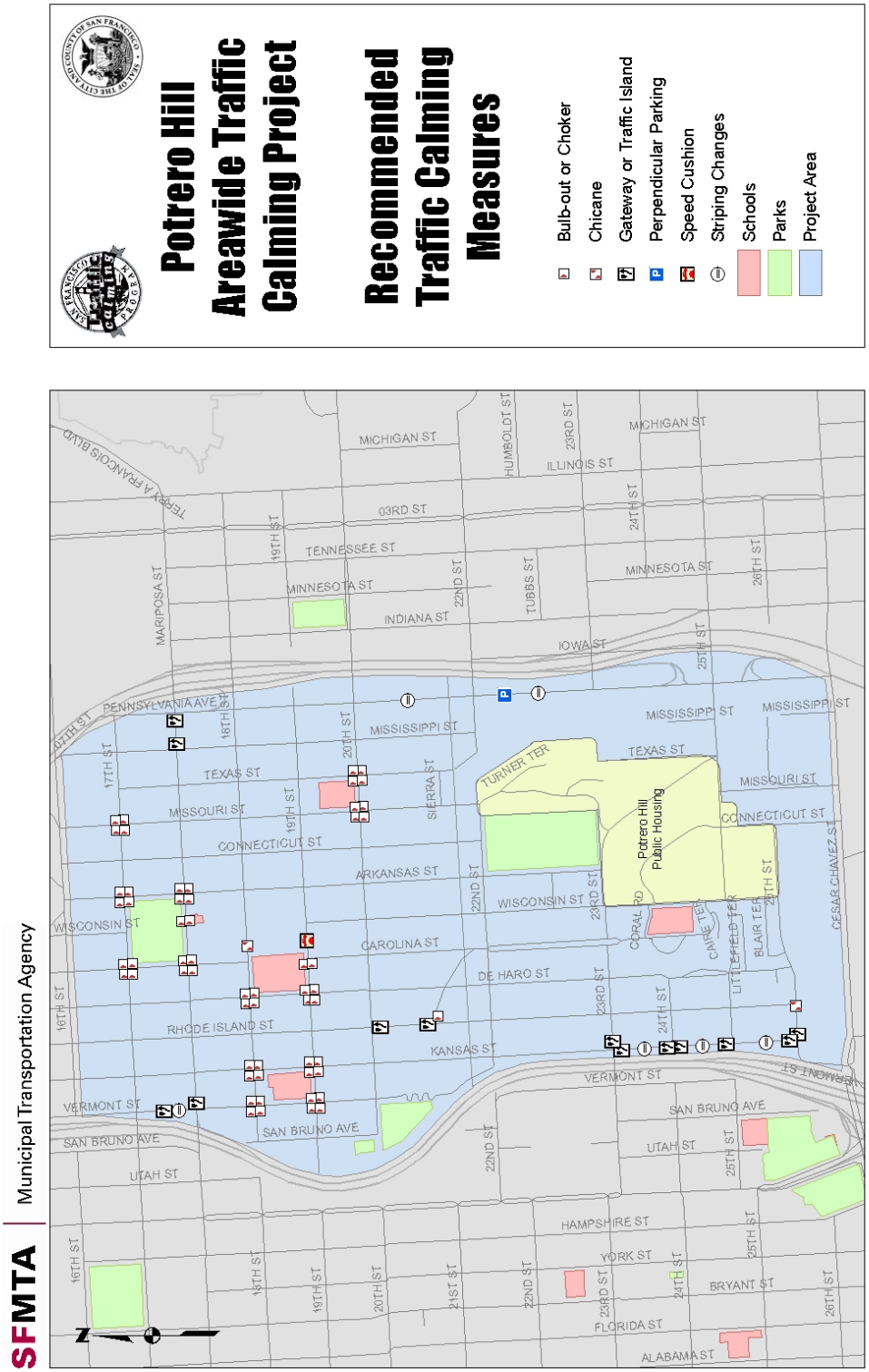
Potrero Hill Areawide Traffic Calming Project
Recommended Traffic Calming Measures
Bulb-out or Choker
Chicane
Gateway or Traffic Island
Perpendicular Parking
Speed Cushion
Striping Changes
Schools
Parks
Project Area
SFMTA
Municipal Transportation Agency
MICHIGAN ST
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TABLE 5 FUNDING PLAN

		Construction					Cost		
Phase	Measure	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	Prop K	Non-Prop K	Total
1	Mariposa Street gateways						$29,000	-	$29,000
1	18th Street chicane						$29,000	-	$29,000
1	19th Street speed hump						$6,400	-	$6,400
1	Kansas Street islands and edgelines						-	$72,500	$72,500
1	Rhode Island/Southern Heights intersection improvements						$96,500	-	$96,500
1	Phase 1 Subtotal						$160,900	$72,500	$233,400
2	23rd Street gateway						$14,500	-	$14,500
2	Mariposa Street gateway 2						$14,500	-	$14,500
2	Pennsylvania Avenue striping changes						$60,000	-	$60,000
2	Vermont Street road diet						$80,000	-	$80,000
2	Crest of Hill treatments						$14,500	-	$14,500
2	Phase 2 Subtotal						$183,500	-	$183,500
3	Rhode Island Street median island						$14,500	-	$14,500
3	Vermont Street median island						$145,000	-	$145,000
3	Phase 3 Subtotal						$159,500	-	$159,500
4	19th Street choker						$58,000	-	$58,000
4	Phase 4 Subtotal						$58,000	-	$58,000
5	26th Street gateway						$14,500	-	$14,500
5	26th Street chicane						$29,000	-	$29,000
5	Phase 5 Subtotal						$43,500	-	$43,500
FF	17th Street bulb-outs						-	$810,000	$810,000
FF	Mariposa Street bulb-outs						-	$675,000	$675,000
FF	18th Street bulb-outs						-	$810,000	$810,000
FF	19th Street bulb-outs						-	$810,000	$810,000
FF	20th Street bulb-outs						-	$540,000	$540,000
FF	7th Street two-way conversion						$200,000	-	$200,000
FF	Future Funding Phase (Funding not yet secured)						$200,000	$3,645,000	$3,845,000
Ongoing	Potrero Hill Public Housing area redesign						$42,500	$42,500	$85,000
Ongoing	Ongoing Funding Phase						$42,500	$42,500	$85,000
Total							$847,900	$3,760,000	$4,607,900

CHAPTER 4. RECOMMENDED FUNDING SOURCES

Sales Tax Funds (Proposition K)

Up to $70 M over the next 30 years is allocated for traffic calming projects, under the Proposition K Expenditure Plan. This equates to roughly $1.5 - $2M per year for planning, outreach, design and construction of traffic calming projects for the entire City. **Prop K** funds were used to develop this Plan.

Safe Routes to School Grant Programs (SR2S, Federal and State)

There are two parallel Safe Routes to School (**SR2S**) grant programs (Federal and State) intended to improve conditions for children to safely walk and bicycle to school. Physical improvements must be located within a two-mile radius of a school. Federal funds are restricted to kindergarten through eighth grade schools, while State funds may also be spent to improve conditions around high schools. Applications that have the best chance of being selected for funding are those that are developed with community participation and incorporate key elements referred to as the five E's – education, encouragement, engineering, enforcement and evaluation. All else being equal, applications are stronger for areas that have a documented collision history. In the past, the SFMTA has been successful in securing both State and Federal SR2S grants for a number of elementary and middle schools in the City including Fairmount, Flynn, Mann, Peabody, Marshall, Gordon Lau, San Francisco Community, Monroe , Buena Vista, and Claremont Schools. Historically grant amounts have been on the order of $200,000 to $500,000, but the current funding limit is $1,000,000 for construction projects.

Safe Routes to Transit Grants (SR2T)

The $22.5 million Safe Routes to Transit (**SR2T**) Program received Bay Area voter approval in March 2004 through Regional Measure 2, the $1 bridge toll increase for transit. Of the SR2T funds, $20 million will be allocated on a competitive grant basis. To be eligible, projects must have a "bridge nexus," that is, reduce congestion on one or more state toll bridges by facilitating walking or bicycling to transit services or City CarShare pods. SR2T funds can be used for:

- Secure bicycle storage at transit stations/stops/pods
- Safety enhancements for ped/bike station access to transit stations/stops/pods
- Removal of ped/bike barriers near transit stations
- System-wide transit enhancements to accommodate bicyclists or pedestrians

Transportation Fund for Clean Air (TFCA) Grants

The Bay Area Air Quality Management District (BAAQMD) administers TFCA funds. Funds are generated from a $4 surcharge on the vehicle registration fee. TFCA funds are distributed to public agencies to implement projects to reduce air pollution from motor vehicles in accordance with the requirements of State law and BAAQMD's *Bay Area 2000 Clean Air Plan (CA)* and the *2001 Ozone Attainment Plan.*

Eligible projects include:

- Arterial Management: Implementation and maintenance of local arterial traffic management, including, but not limited to, signal timing, transit signal preemption, bus stop relocation and "smart streets."

- Bicycle Projects: Implementation of bicycle facility improvement projects that are included in an adopted countywide bicycle plan or congestion management program.

- Smart Growth/Traffic Calming: The design and construction by local public agencies of physical improvements that support development projects that achieve motor vehicle emission reductions.

Projects are usually expected to be completed in 2 years. The minimum grant for a single project is on the order of $10,000 and the maximum grant is $1.5 million for public agencies. Each application will be screened for meeting the Air District's policies and the cost-effectiveness threshold. Only projects with a cost-effectiveness ratio of less than $90,000 per ton of reduced emissions will be considered for funding. The SFMTA has secured TFCA funds for numerous bicycle lane striping projects in the past.

Regional Bicycle and Pedestrian Program (RBPP) Grants
Transportation for Livable Communities (TLC) Grants

MTC's **RBPP** funds transportation infrastructure improvements to pedestrian and bicycle facilities. The key objective of this program is to encourage convenient and safe pedestrian and bicycle trips to shift trips to non-motorized modes to improve air quality. Typical RBPP capital projects include new or improved pedestrian facilities at schools, transit stations, or regional activity centers; bicycle facilities will serve schools, transit stations or be included in the Regional Bicycle network.

Project activities eligible for **TLC Capital** funding include bicycle and pedestrian paths and bridges; on-street bike lanes; pedestrian plazas; pedestrian street crossings; streetscaping such as median landscaping, street trees, lighting, furniture; traffic calming design features such as pedestrian bulb-outs or transit bulbs; transit stop amenities; way-finding signage; and gateway features. While these discrete activities are eligible for funding, the TLC capital program is intended to fund projects that are

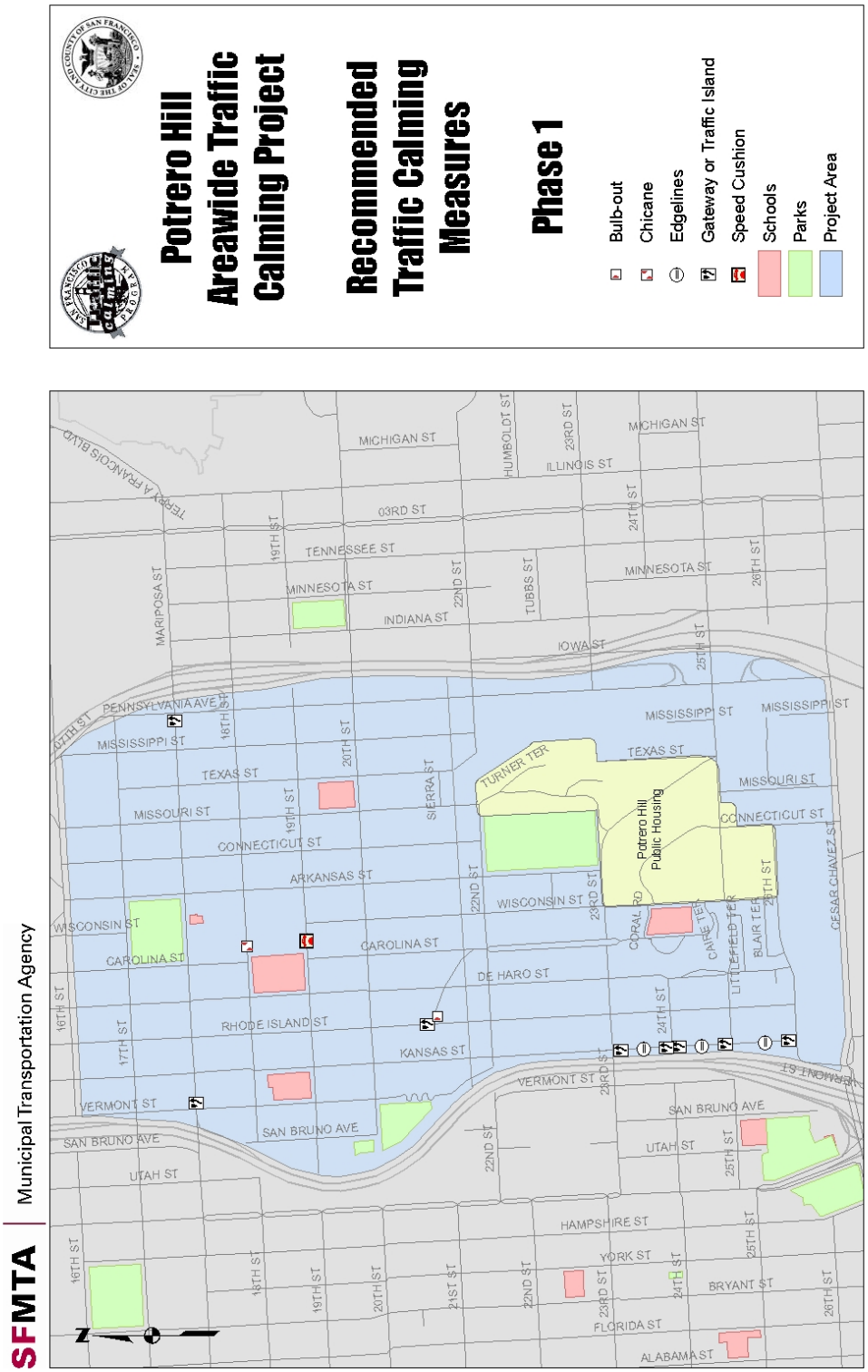
well-designed, uses a variety of different design features, results in numerous community benefits, and is part of a community's broader revitalization and development efforts.

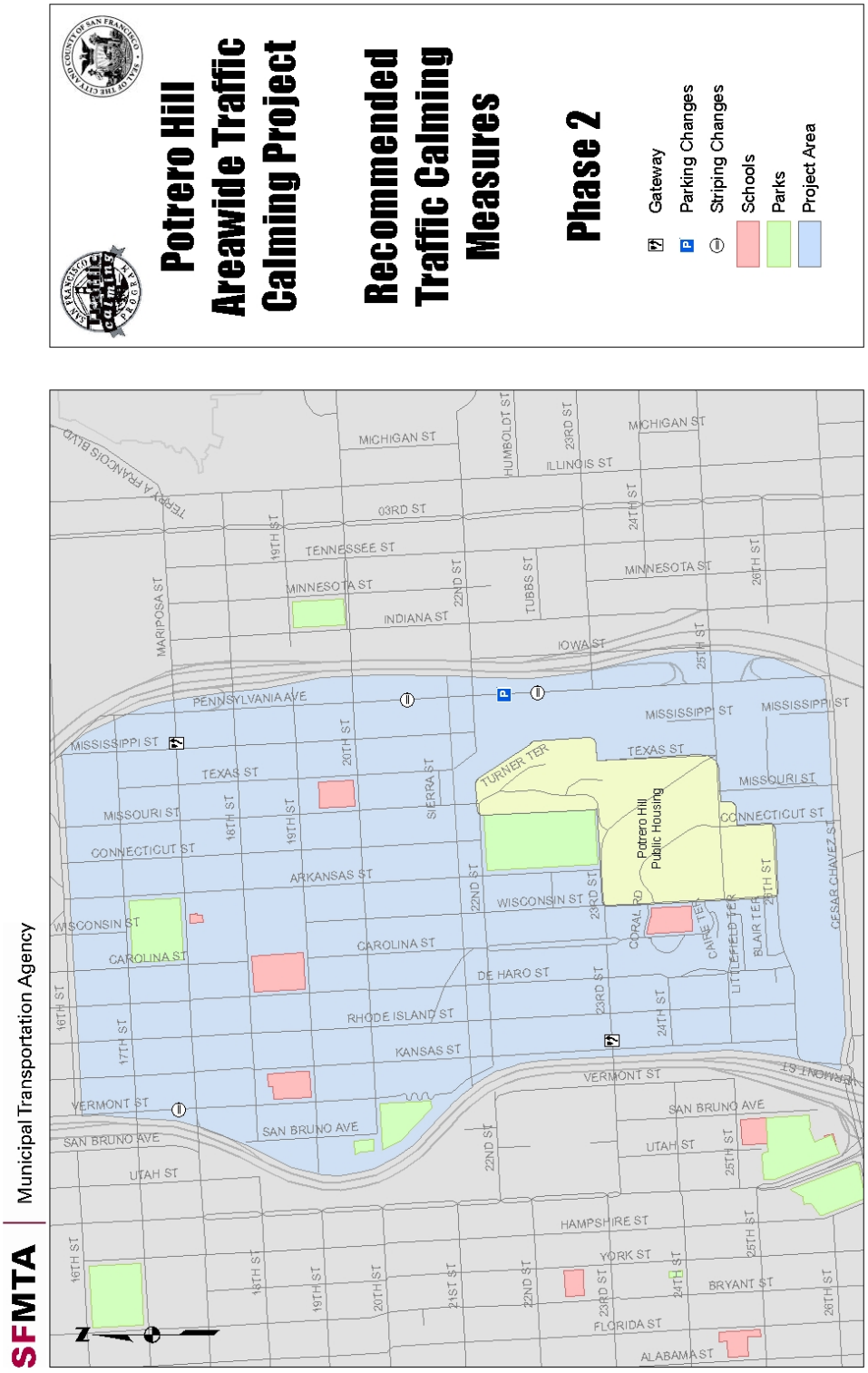
The most recent funding cycle had a maximum grant award of $3 M and a minimum of $500,000 for TLC grants, and a total of $2.748M for RBPP. RBPP awards will require 11.47% of the total project cost, while TLC funds do not require local match.

Other Funding Sources

- Coordination with DPW Paving Projects
- Private Development Transportation Impact Fees
- Assessment Districts (Mello Roos)

APPENDIX A. TRAFFIC CALMING PLAN BY PHASE




Potrero Hill Areawide Traffic Calming Project
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Phase 2
Gateway
Parking Changes
Striping Changes
Schools
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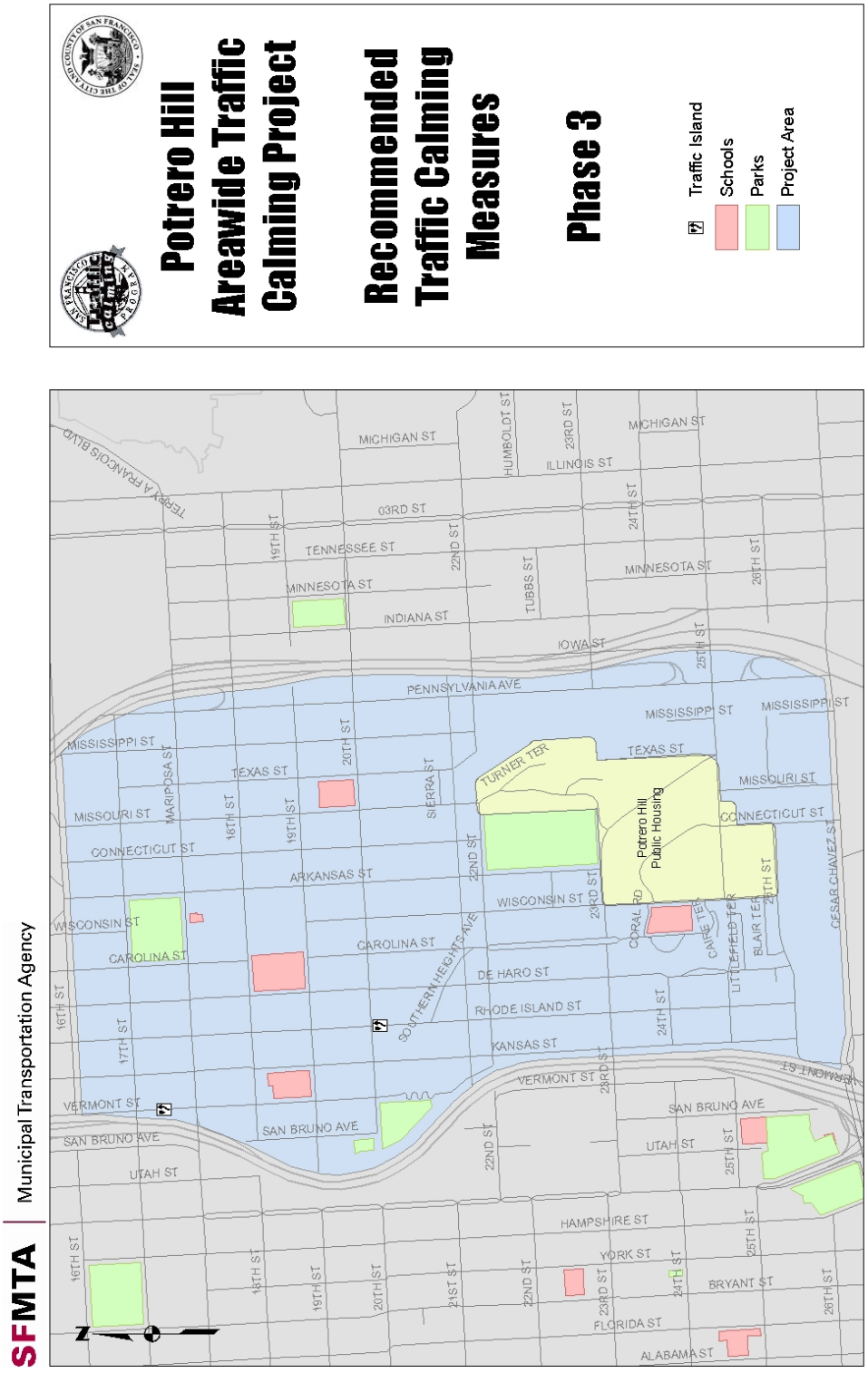
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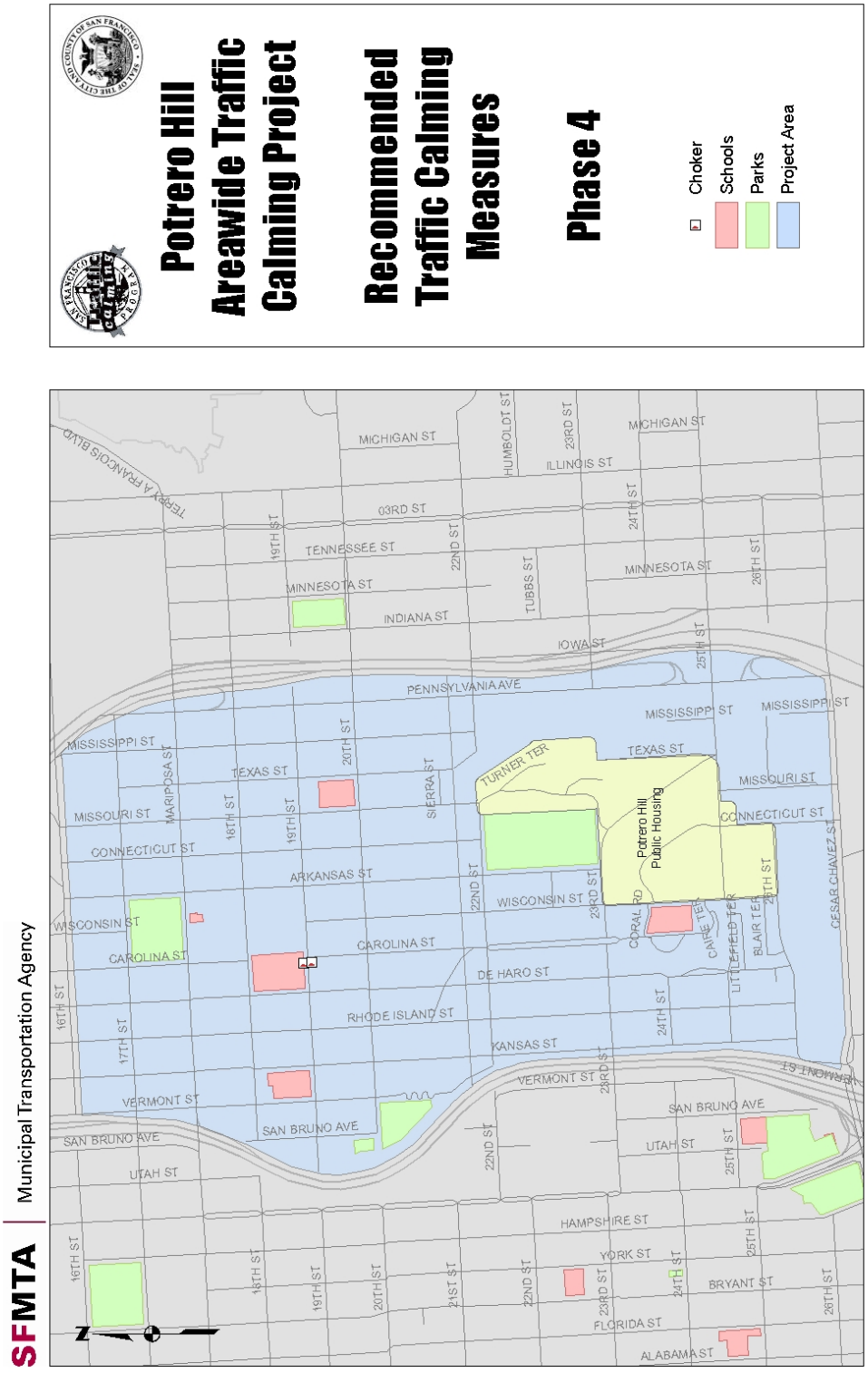
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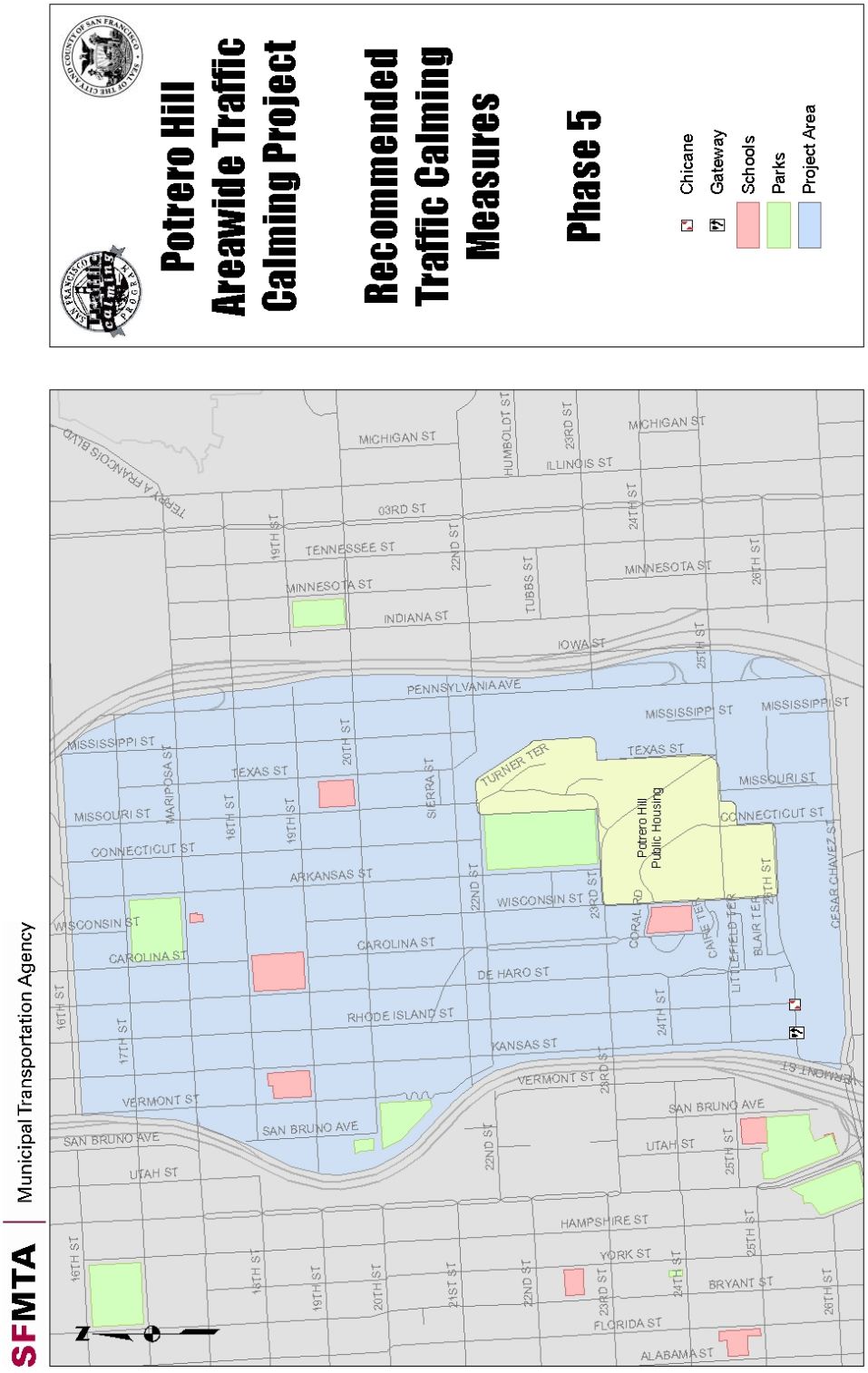
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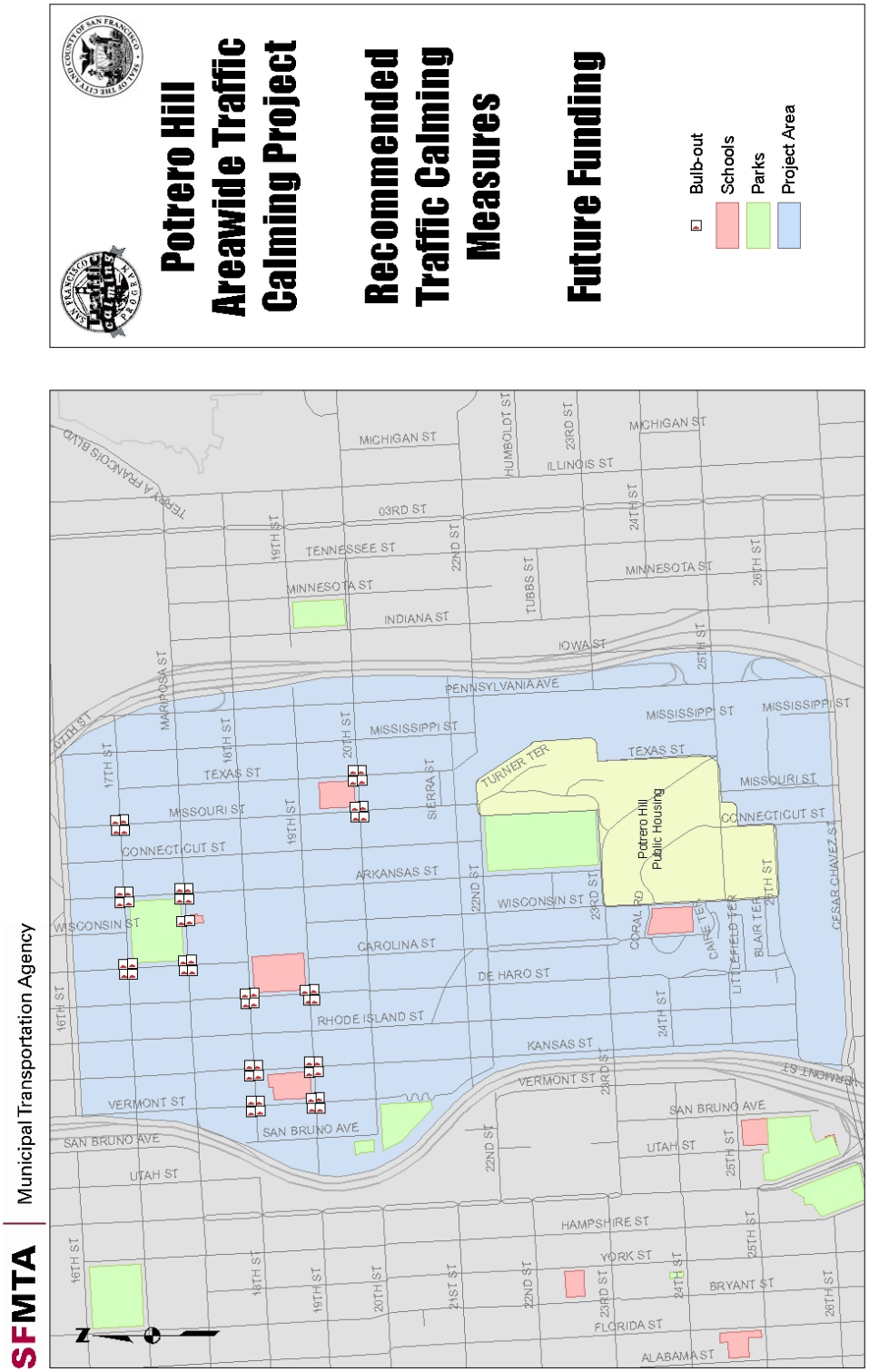
18TH ST
17TH ST
16TH ST
21ST ST


Potrero Hill Areawide Traffic Calming Project
Recommended Traffic Calming Measures
Future Funding
Bulb-out
Schools
Parks
Project Area
SFMTA
Municipal Transportation Agency
MICHIGAN ST
ILLINOIS ST
03RD ST
TENNESSEE ST
MINNESOTA ST
INDIANA ST
IOWA ST
PENNSYLVANIA AVE
MISSISSIPPI ST
TEXAS ST
MISSOURI ST
CONNECTICUT ST
ARKANSAS ST
WISCONSIN ST
CAROLINA ST
DE HARO ST
RHODE ISLAND ST
KANSAS ST
VERMONT ST
SAN BRUNO AVE
UTAH ST
HAMPSHIRE ST
YORK ST
BRYANT ST
FLORIDA ST
ALABAMA ST
TURNER TER
Potrero Hill Public Housing
CORAL RD
CARE TER
LITTLEFIELD TER
BLAIR TER
CESAR CHAVEZ ST
HUMBOLDT ST
23RD ST
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22ND ST
TUBBS ST
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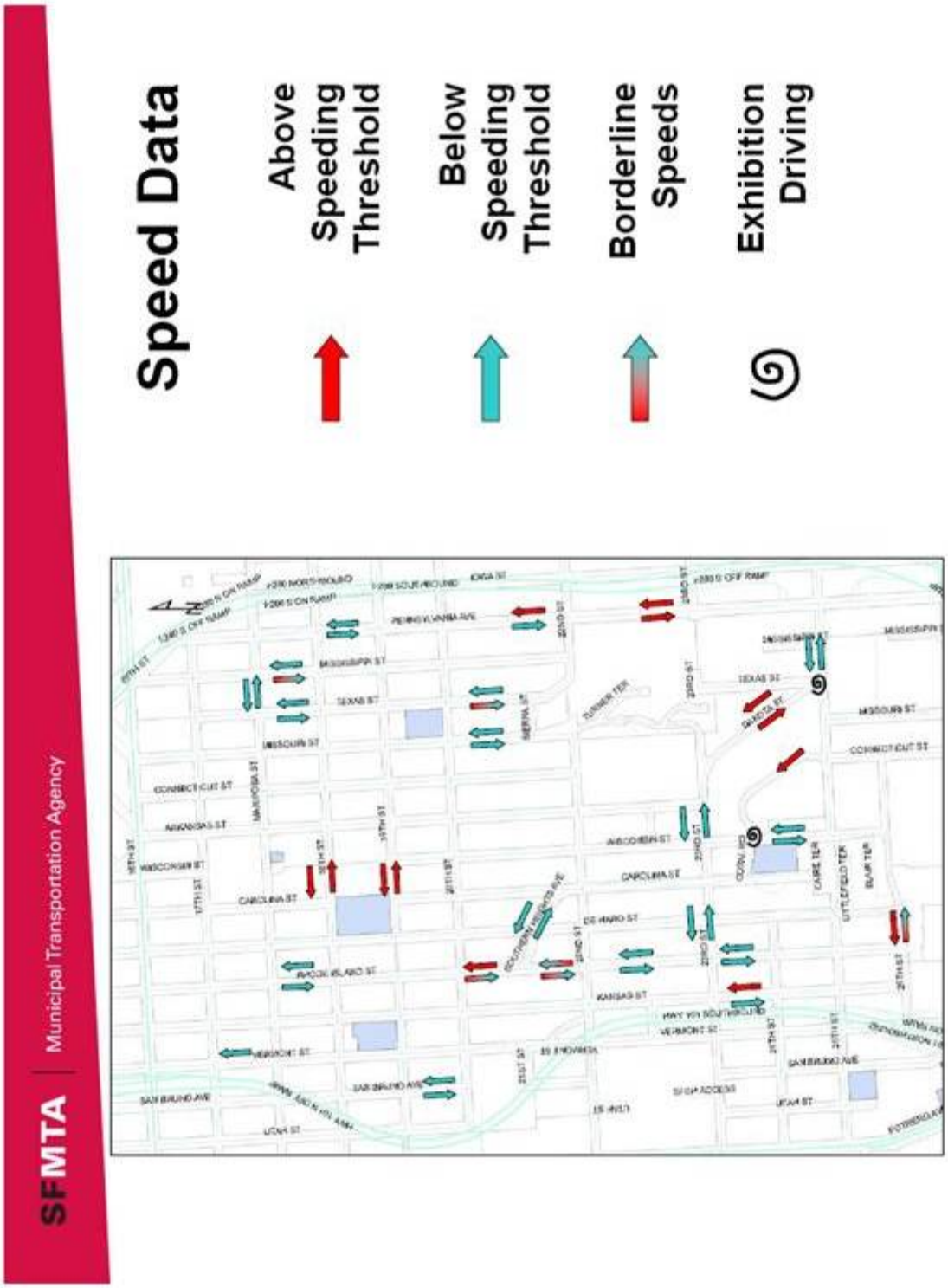
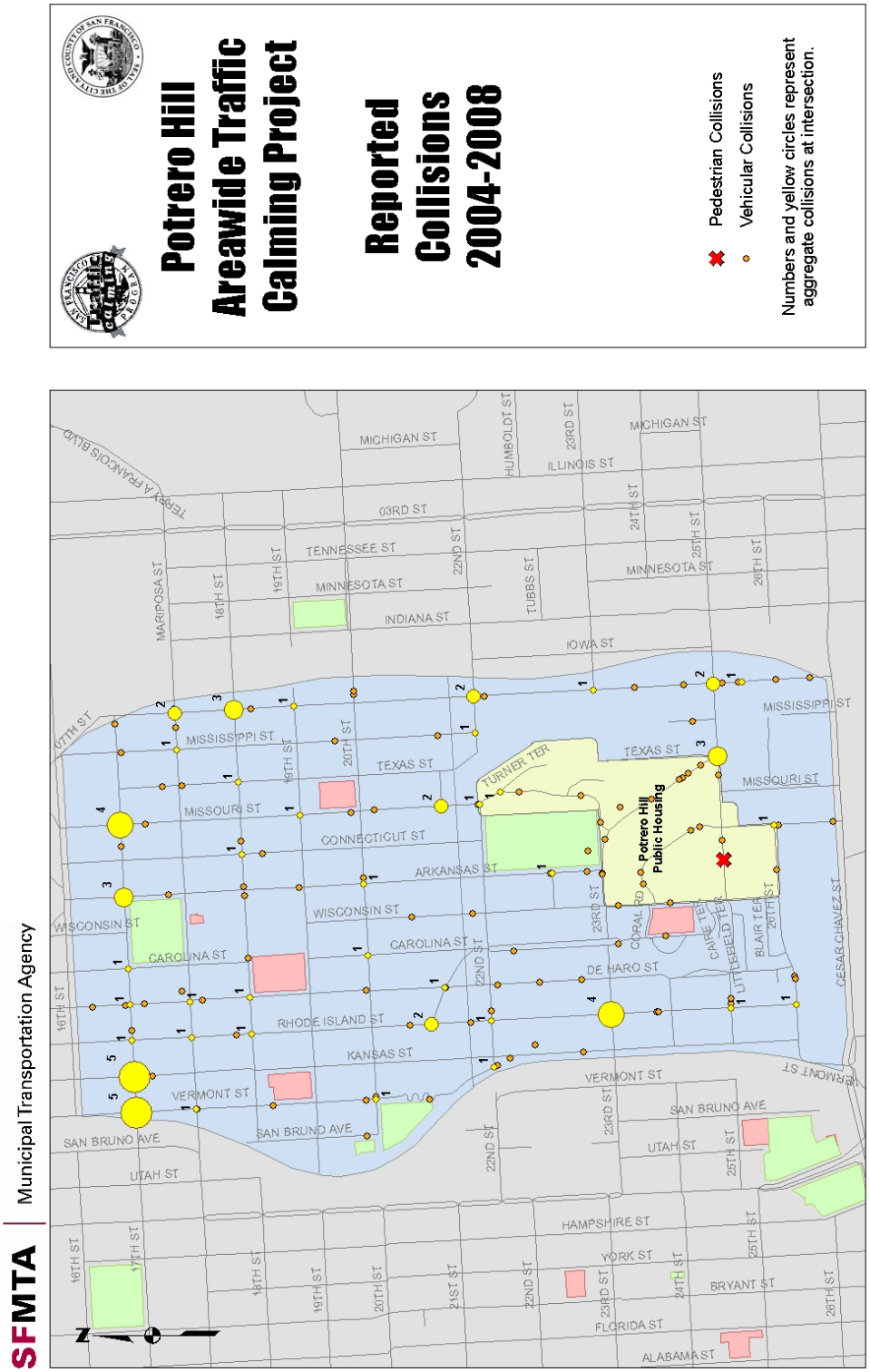
APPENDIX B. TRAFFIC SPEED AND VOLUME DATA



APPENDIX C. TRAFFIC COLLISION DATA



APPENDIX D. TRAFFIC CALMING TOOLBOX MEASURES

Speed Hump

Speed Hump

Speed Cushion

What it is: Speed humps are asphalt mounds constructed on residential streets. They can be placed individually or in a series depending on the length of the street. Speed humps are usually spaced at least 150 feet from an intersection and apart from each other. Speed humps are typically 12 feet long and 3.5 inches high. Their vertical deflection encourages motorists to reduce speed.

When they are used: The primary benefit of speed humps is speed control.

Advantages:

- Effectively reduces vehicle speeds
- Does not require parking removal
- Can reduce vehicular volumes
- Easily tested on temporary basis

Disadvantages:

- Slows emergency vehicles
- May increases noise near speed humps
- May divert traffic to parallel streets
- May not be esthetically pleasing

Special Considerations:

- Vehicle speeds between humps have been shown to decrease by up to 25%
- Volumes may decrease if parallel route, without measures, is available
- Possible increase in traffic noise from braking an accelerating
- Highest noise may increase from buses and trucks
- Speed humps may reduce emergency vehicle response times
- Speed humps require advance warning signs and object marker at hump
- Difficult to construct precisely, unless prefabricated

Cost: $6000-$7000 each

Sidewalk Bulb-out

Sidewalk Bulb-out

Landscaped Bulb-out

What it is: Sidewalk bulb-outs narrow the street by extending the curbs toward the center of the roadway or by building detached raised islands to allow for drainage.

When they are used: Sidewalk bulb-outs are used to narrow the roadway and to create shorter pedestrian crossings. They also improve sight distance and influence driver behavior by changing the appearance of the street.

Advantages:

- Better pedestrian visibility
- Shorter pedestrian crossing
- Can decrease vehicle speeds
- Opportunity for landscaping

Disadvantages:

- Can require removal of parking
- Can create drainage issues
- Difficult for trucks to turn right

Special Considerations:

- Curb extensions can be installed at intersections
- Curb extensions should not extend into bicycle lanes, where present
- Curb extensions at transit stops enhance service
- No noise or emergency service impacts
- May require landscape maintenance to preserve sight distances

Cost: $50,000-$150,000 each

Median Islands

Pedestrian Refuge Island


Chicane


Traffic Circle


Traffic Choker

What it is: Median islands are raised islands in the center of street that can be used to narrow lanes for speed control and/or be used for pedestrian refuges in the middle of the crosswalk. As a last resort, they can create a barrier to prohibit left-turns into or from a side street. Median islands come in different shapes and forms, each of which has its own name. They include medians, chokers, chicanes, circles and diverters.

When they are used: Median islands are used on wide streets to lower travel speeds and/or used to provide a mid-point refuge area for crossing pedestrians. As a last resort, they can be used to prohibit left-turning movements.

Advantages:

- Effectively reduces vehicle speeds
- Can reduce pedestrian crossing
- Opportunity for landscaping

- Low impact on emergency vehicles (chicane)
- Can reduce collision potential (choker)
- Can increase sight distance (choker)
- Better side street access than others (circle)

Disadvantages:

- May require parking removal
- May impede certain movements such as driveway access, trucks and emergency vehicles
- May require additional right-of-way (chicane)
- Increased maintenance (chicane)
- May create drainage issues (chicane, choker)
- May be a hazard for bicyclists (choker)
- May divert traffic volumes (diverters)

Special Considerations:

- Median islands, when used to block side street access, my divert traffic
- In this condition, they may impact emergency response times
- All forms of median islands may visually enhance the street through landscaping
- Any lane width reduction should result in at least 10 foot lanes.
- Bicyclists would rather avoid lane narrowing
- Driveway access needs to be considered
- Speeds generally reduced when street cross-section reduce significantly
- Emergency response agencies prefer medians and chokers over other median types
- Where right-of-way is limited, chicanes are not recommended
- When both approach volumes moderate, chicanes better than chokers.
- Parking may be significantly reduced with chokers and chicanes
- Chicanes and chokers may increase conflicts with bicycles
- Chicanes and circles have the least noise impact
- Chicanes and circles can be installed in a series, alone or in combination with each other
- Buses can maneuver around traffic circles at slow speeds
- All medians require more signs and pavement markings (especially circles)
- Traffic circles are less effective at T-intersections and offset intersections

Costs:

- Chicane: $25,000-$60,000 each
- Choker: $10,000 - $45,000 each
- Median/diverter: $10,000-$75,000 (depending on size)
- Traffic circle: $25,000-$100,000 each

APPENDIX E. TRAFFIC CALMING PROJECT TIMELINE AND PROCESS

Traffic Calming Request

- ✓ Resident submits a traffic calming application
- ✓ MTA evaluates whether traffic calming can address the problem(s)
- ✓ MTA accepts application as a project and informs applicant how the project ranks relative to other projects.
- ✓ Depending on how the project places in the ranking system, MTA submits request to fund planning stage of project
- ✓ MTA receives planning funds and starts the project

Planning Stage of Project (6 – 12 months for an areawide project)

- ✓ Initial Community Meeting
- ✓ Mail out survey of problems
- ✓ Community working group selected
- ✓ MTA staff works with working group to develop alternatives and phasing
- ✓ Community Meeting to present draft plan
- ✓ Refine draft plan
- ✓ Approve plan at a community meeting, or if not, more community meetings, consensus building
- ✓ Public Hearing
- ✓ Approve plan through Legislative Process – ISCOTT, MTAB, Environmental Review

Start Construction Stage, Phase 1 of Project (6 – 12 months)

- ✓ MTA submits request to fund construction of Phase 1 elements from the approved plan
- ✓ MTA ballots households and holds a public hearing for the installation of each individual traffic calming device.
- ✓ MTA arranges for construction of approved devices
- ✓ MTA and the community monitor conditions for at least 3 months
- ✓ Mail out survey and feedback to determine implementation of Phase II elements

Start Subsequent Stages of Construction Phases

- ✓ MTA submits request to fund construction of Phase 2 (next phases)
- ✓ Same steps as Construction Stage, Phase 1

APPENDIX F. MEETING NOTICES/POSTCARDS

SAN FRANCISCO Traffic calming PROGRAM

March 2007
Newsletter #1

SFMTA
Municipal Transportation Agency

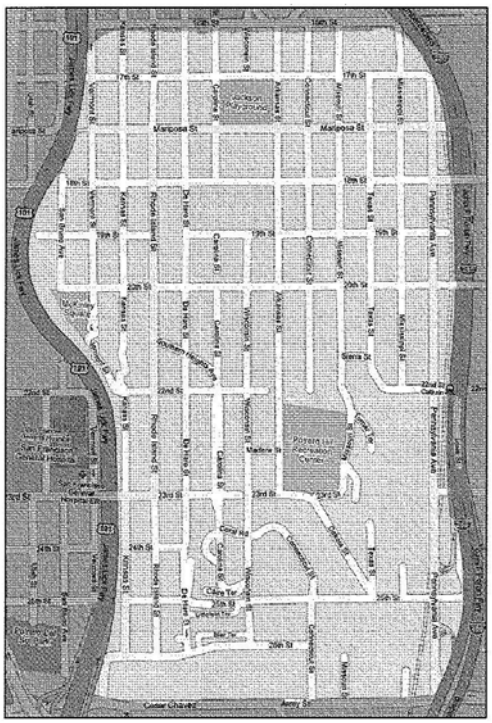
Potrero Hill Traffic Calming Project
Community Meeting to Kick Off Safety Project

Are you concerned about traffic safety and speed? The City's Municipal Transportation Agency (MTA) wants to help make your streets safer and more livable, and we need your help to make it happen. ***Please come to our kick-off "traffic calming" meeting Thursday March 22 at 7pm at the Potrero Hill Neighborhood House (953 De Haro Street).***

Manito Velasco, manager of MTA's Traffic Calming Program, notes: "The meeting on the 22nd is our chance to connect with people on a grassroots level to see what the prevailing traffic issues are in the neighborhood. We need to know what concerns people about their streets." Velasco added, "After all, what better way to become informed about a community than through the people who live there?"

WHAT IS "TRAFFIC CALMING"?

When we refer to "traffic calming," we're talking about improving neighborhood livability by reducing the impact of traffic on our neighborhoods: cut-through traffic, speeding, reckless driving, and excessive noise and traffic levels. Traffic calming is not about closing off streets or just adding speed humps. It comes more in the form of subtle changes to the street layout, educational efforts, and enforcement programs. All of which reinforce everyone's right to use their neighborhood streets safely and comfortably. Traffic calming attempts to make cars more compatible with bicyclists, pedestrians and other vehicles, and it works to make streets more pleasant places to live—without unduly restricting access.



The Project Area: 101 to I-280 and north of Cesar Chavez to south of 16th Street

Si Usted quiere información sobre el Proyecto de Calmar Tráfico, favor llamar a Sam Fielding a 701-4482
如有任何關於交通靜化的問 題,請電: Celine Leung :701-4558

THE NEED FOR TRAFFIC CALMING

The Potrero Hill Traffic Calming Project is part of the overall Traffic Calming Program in San Francisco, and among the first area-wide studies we are initiating.

On a citywide scale, this program assesses how best to improve safety for pedestrians and bicyclists, and reduce speeding on main thoroughfares. In individual neighborhoods, the Program develops comprehensive traffic calming plans for the local streets.

Potrero Hill was among the first neighborhoods chosen for the first few years of dedicated sales tax funding. In 2003, City voters approved Proposition K, a ballot measure which extends the City's local half-cent sales tax program. This program, administered by the SF County Transportation Authority, funds various transportation-related improvements including traffic signals, Muni projects and pedestrian safety projects. Traffic calming is included in the program and has roughly $60 million over 30 years set aside for it.

How can we balance the needs of residents, transit riders, motorists, cyclists and pedestrians?

The Potrero Hill Project will use innovative tools and methods to address traffic problems. Among these problems, three issues in particular have fueled the need for traffic calming in neighborhoods.

- First, the problem of traffic spill-over from main streets into residential areas. Many drivers use side streets as a way to bypass heavy traffic and connect to major streets more easily.
- The second issue is unsafe motorist behavior such as speeding or violating pedestrian right-of-way.
- The third issue is the growing problem of "exhibition driving" where motorists drive with little regard for the safety of people around them. This behavior degrades the quality of life in the neighborhood and sometimes results in serious injury or death.

SOME TOOLS OF TRAFFIC CALMING MAY INCLUDE ANY OF THE FOLLOWING:

- *sidewalk extensions*
- *landscaped medians*
- *chicanes*
- *speed humps*
- *street narrowing*

Local conditions make some measures more appropriate than others. For example, speed humps are not allowed on steep grades as they pose a safety problem. There is the potential for motorists to go out of control even at slow speeds. For details and examples of these traffic calming elements, log onto our web site at *www.livablestreets.org*.

CHANGING DRIVER BEHAVIOR

"This is not an anti-car program, but we do want to change the behavior of those aggressive drivers who bring their freeway habits or perform exhibition driving in the neighborhood," explains Velasco. "These drivers bring speeding and other aggressive behaviors to neighborhoods where people live and children play. Naturally, this kind of situation makes people feel unsafe."

Although fairly new to the City, traffic calming has been used across the country and all over the world. In San Francisco, the best example of traffic calming is the Duboce Triangle—particularly Noe and Sanchez Streets north of Market Street which has the joint effects of making the local streets safer for pedestrians and others, and discouraging aggressive driving in the neighborhood.

TRAFFIC CALMING INVOLVES:

- **EDUCATION** *Residents receive the information and tools necessary to become active participants in addressing their neighborhood traffic concerns.*
- **ENGINEERING** *Engineering principles are used to develop traffic calming strategies that address community-identified traffic issues.*
- **ENFORCEMENT** *Targeted police enforcement supports the traffic calming plan developed by residents*

HOW THE PROJECT WILL PROCEED

The Potrero Hill Traffic Calming Project will begin with the kick-off meeting on March 22nd at 7PM at the Potrero Hill Neighborhood House (953 De Haro Street) where city staff will talk about the City's Traffic Calming Program and hear what residents have to say about traffic conditions in the project area.

Once we gather input from you and others in your community, we will split the effort into two distinct areas and begin work on a comprehensive traffic calming plan for the neighborhood. The planning will involve traffic professionals and residents, including a working group of Potrero Hill volunteers. The planning process should be completed in the next nine to twelve months.

Throughout the process, you will be receiving updates on what is happening with the project, and will be given opportunities to get involved.

The MTA has maintained an archive of all written concerns, observations and studies received from the neighborhood.

The most frequently expressed issues are:

- The overall quality of neighborhood life is adversely affected by high traffic volumes, trucks, speeding motorists, and reckless driving.
- Motorists exceed posted speed limits throughout the neighborhood and pose safety issues to local children, especially on streets adjacent to area schools.
- Motorists do not obey STOP signs and other traffic regulations.
- Motorists "cut through" the neighborhood from one arterial to another.
- Some streets are difficult for pedestrians to cross and/or bicyclists to use.

Chicanes like this on Beacon Street can reduce speeds and can be constructed with concrete or by alternating parking from one side of the street to the other.

SAVE THE DATE & GIVE US YOUR INPUT

Meeting Come help us help your neighborhood by coming to a meeting on Thursday March 22nd at 7pm at the Potrero Hill Neighborhood House (953 De Haro Street).

Web Site Check out our web site at www.livablestreets.org. The web site will give you up to date news on the project and allow you to give us your feedback.

Working Group One of the most important facets of this project is a working group that will include project engineers, planners and local residents. Members of the Working Group will be liaisons to the neighborhood and meet several times over the course of the project to discuss plans that will give Potrero Hill safer streets. If you can't make it to the kick-off meeting, you can still be a part of the working group, so please contact us if interested!

Newsletter Be sure to contact us if you would like to receive additional updates. You can contact us by phone or email, or circle "Yes" on the survey form on the back page and return it to us. The newsletter is free, but we need to hear from you to keep you informed, so send us your name and address if you to keep receiving project information.

Contact Us The MTA is available to discuss other ways you would like to be involved. Contact us through the Livable Streets Hotline at (415) 554-2398 or email us at: livable.streets@sfgov.org

This project was made possible in part by the San Francisco County Transportation Authority through a grant of Proposition K Local Transportation Sales Tax funds.

Name _____ Address _____

Email Address _____ Phone _____

What concerns you most about traffic in your area? Help us take the first step towards developing a traffic calming plan for Potrero Hill by letting us know. You can mail, fax (701-4343), bring to the meeting or drop off this survey to:

Municipal Transportation Agency
Planning Division – Livable Streets
One South Van Ness Avenue, 7th Floor
San Francisco, CA 94103

1. What traffic issues (speeding, pedestrian safety, high traffic volumes, etc.) and locations need the most improvement?

_____
_____
_____
_____
_____

2. Are you interested in receiving future mailings regarding traffic calming in your neighborhood?
Please Circle Yes No

3. Are you interested in being part of a traffic calming committee for your neighborhood?
Please Circle Yes No

City and County of San Francisco
Municipal Transportation Agency
Planning Division – Livable Streets
One South Van Ness Avenue, 7th Floor
San Francisco, CA 94103

POTRERO HILL
TRAFFIC CALMING PROJECT
COMMUNITY MEETING

SF MUNICIPAL TRANSPORTATION AGENCY
LIVABLE STREETS PROGRAM

WEDNESDAY, DECEMBER 10, 2008
7:00PM
POTRERO HILL NEIGHBORHOOD HOUSE
953 DE HARO
AT SOUTHERN HEIGHTS AVE

Your input is crucial as we work to finalize the project

Join Us!

Please join your neighbors and San Francisco Municipal Transportation Agency staff to discuss draft plans for traffic calming measures proposed in your neighborhood. Our objective is to get your input on the draft plan that was created from community input and traffic studies.

Included in the draft plan are:

- Sidewalk bulb outs
- Pedestrian islands
- Median islands
- Chicanes
- Speed humps

Learn more about this plan by visiting www.sfmta.com/calming and clicking on Current Projects.

San Francisco Municipal Transportation Agency
Department of Traffic Engineering
1 South Van Ness Avenue, 7th Floor
San Francisco, CA 94103

This project is made possible by the San Francisco County Transportation Authority through a grant of Proposition K Local Transportation Sales Tax Funds.

For more information concerning meeting access and accommodations, or if you wish to comment on the plan but are unable to attend our meetings, please contact us at (415) 554-2398 or e-mail us at Livable.Streets@sfgov.org