SFMTA
Municipal
Transportation
Agency

Minna-Natoma Home Zone Final Evaluation Report

September 2015

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TABLE OF CONTENTS

SUMMARY AND KEY FINDINGS

In 2012, the San Francisco Municipal Transportation Agency (SFMTA) implemented the Minna-Natoma Home Zone pilot project in the blocks surrounding Marshall Elementary School, northeast of the 16th Street BART Station. A "home zone" is a walkable neighborhood which, through the holistic application of traffic calming measures, creates a community-focused zone that puts people first, whether they are walking, riding bicycles, or in a car. The Minna-Natoma Home Zone was the first of its kind in San Francisco and used a variety of devices from the SFMTA traffic calming toolbox to meet two principle goals:

1) When children are present and on alleys (streets less than 25 feet wide), reduce motor vehicle speeds to a target speed of 15 MPH
2) Create a more walkable and bikeable neighborhood, where street and sidewalk space is "reclaimed" to feel like shared community space.

This report constitutes the final project evaluation for the Minna-Natoma Home Zone pilot project. Following completion of construction in 2014, the SFMTA gathered a variety of data including vehicle speeds and volumes, bicycle and pedestrian volumes, and distributed 710 resident and parent surveys. The intention of this report is to assess the effectiveness of the home zone pilot project and develop guidance for future home zone efforts in San Francisco.

Promising results following completion of the home zone implementation are the slowing of motor vehicle speeds throughout the two block by two block area. The prevailing speeds on Minna and Natoma alleys, previously over 20 miles per hour, are now below the 15 mile-per-hour speed limit. Capp Street speeds reduced by 9 miles per hour (from 26 to 17 mph) and 15th Street also went down in speeds from 25 to 21 miles per hour.

Resident and parent survey results show more people feel that motor vehicles stop more frequently for pedestrians and pedestrian counts show more people are walking in the neighborhood. However, surveys also show continuing public health concerns in the area that diminish overall feelings of safety and are likely affecting the transportation modes that people choose.

Quantitative and anecdotal data gathered for this evaluation indicate that a distinct transportation environment with positive outcomes was achieved through engineered street changes in the Minna-Natoma Home Zone. Therefore, SFMTA recommends considering home zones in other locations in San Francisco where speed reduction and improved pedestrian environments are desired.

To begin planning and outreach, the Minna-Natoma Home Zone Pilot Project leveraged a Safe Routes to School (SRTS) grant for Marshall Elementary School. Early planning allowed SFMTA to package treatments and gain approval by ballot and by the SFMTA Board of Directors, thereby avoiding piecemeal balloting. The success of Minna-Natoma Home Zone should help preserve a systemic approach to traffic calming in a defined area of the City into the future.

Construction of the Minna-Natoma Home Zone pilot project was funded entirely by local Prop K, a half-cent sales tax administered by the San Francisco County Transportation Authority (SFCTA). Cost savings were achieved by including treatments with contracted SFDPW paving work. Additional funding was leveraged through SRTS for outreach and planning, and for construction of curb extensions at Capp Street and 15th Street.

PROJECT BACKGROUND

Purpose and Goals

The Minna-Natoma Home Zone project area is a small residential area bordered by arterial and collector streets including Minna, Natoma, 15th, Capp and Adair Streets, bordered by 14th, Mission and 16th Streets and South Van Ness Avenue. The area, shown in Figure 1, has a wealth of destinations that support walking, riding bikes and using transit: Marshall Elementary School, the 16th Street BART station, Mission Neighborhood Health Center, commercial activities on Mission, 16th and Valencia Streets.

The neighborhood was selected for the pilot home zone project based on a number of factors including traffic speeds, volumes, collision history, and proximity to pedestrian generators and attractors. Speeding and cut-through traffic were documented and, based on data gathered, the Minna-Natoma project area was deemed a good area to pilot San Francisco's first home zone.

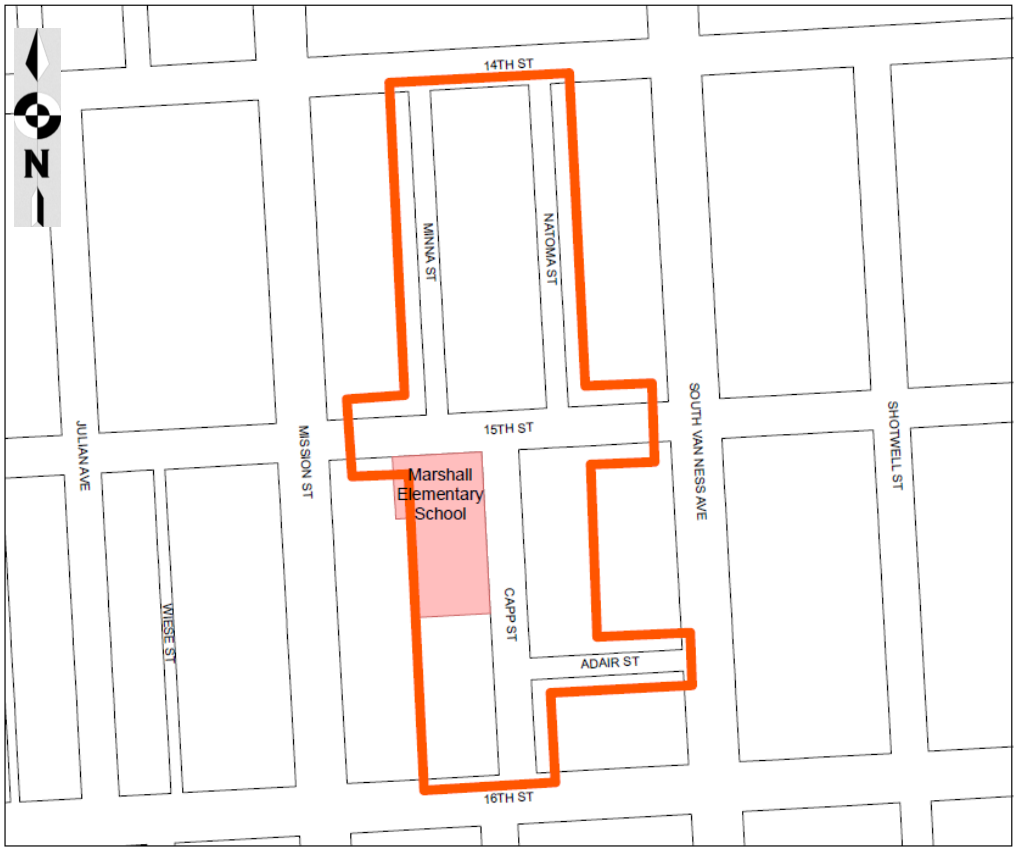
Through targeted traffic engineering changes, home zones communicate to drivers that they are entering a community space and are guests on local streets. This message is expressible through a range of physical features such as landscaping, traffic calming measures and textured surfaces. The most salient features signaling to drivers that the home zone is a community space is the presence of people walking and riding bicycles, and children playing. These environmental cues tell drivers that they have entered an area in which to drive cautiously.

The overarching goal of the Minna-Natoma Home Zone pilot project was, by re-engineering streets in the area, to reduce vehicle speeds and volumes and thereby make bicycling and walking feel safer. The Minna-Natoma Home Zone pilot set the following six project objectives:

1. Create a project area with common concerns and geography so problems are not shifted from one street to another;
2. Reduce 85th percentile vehicle speeds to a target speed of 15 MPH when children are present and on alleys (streets under 25 feet wide);
3. Reduce truck traffic on alleys and small streets and reduce cut-through traffic on all area streets;
4. Increase pedestrian activity in area;
5. Increase bicycle ridership in area, particularly on 15th and on Capp Streets;

Concurrently with the Minna-Natoma Home Zone project, curb extensions were installed as part of a Safe Routes to School project at Marshall Elementary School. Curb extensions, which shorten the crossing distance at intersections and provide greater visibility for pedestrians, were installed at 15th Street and Capp Street.

Figure 1: Minna-Natoma Home Zone Project Area



Public Process

The SFMTA held four community meetings and a public hearing to assess and prioritize neighborhood concerns. At these meetings, and via resident and parent surveys, stakeholders complained of speeding, cut-through traffic, and reckless driving, and shared concerns about pedestrian safety especially for school children at roadway crossings. The community also complained about truck traffic in alleys and red light running and requested improvements to school loading areas and bicycle facilities.

Based on input from the community, staff collected traffic volume and speed data to prioritize streets for traffic calming measures. Staff also worked with the community to select measures that would not divert traffic from one street to other streets. Staff worked on the technical side with various City departments, including the Fire Department, Police Department, and the Department of Public Works, as well as other SFMTA staff, to consider the needs of other stakeholders. Staff also reviewed potential impacts to members of the disabled community.

Below is a timeline of the community meetings, public hearing and Board of Directors' Resolution:

- Two community working group meetings in August and September 2010 to prioritize locations
- Two neighborhood-wide community workshops in July and November 2010 to vet the concept and designs
- Residents gave unanimous support for implementation in a February 2011 ballot
- SFMTA Engineering Public Hearing in February 2011 and SFMTA Board of Directors Resolution in May 2011

PROJECT DESIGN

Project design of the Minna-Natoma Home Zone prescribed devices from the City's traffic calming toolbox. Figure 2 is a map of all proposed projects. The following installations were completed in 2014 with Phase I of the project:

- Speed humps on Minna, Natoma and Capp Streets
- Edgelines on Minna, Capp, Adair and 15th Streets
- Raised crosswalks on Minna and Natoma Streets at 14th Street and on Adair at Capp Street
- Reduction from two to one lane on 15th Street between South Van Ness Avenue and Mission Street
- Curb extensions (or bulb outs) at Capp and 15th Streets

Originally conceived as a phased project, coordination and traffic considerations altered the initial slate of improvements. While Phase I installations were completed, scope was refined to reflect community desires and technical constraints.

The following section provides additional information about the design and benefits for each of these traffic calming improvements.

Speed Humps
Speed humps are asphalt mounds constructed on residential streets that provide vertical deflection, typically slowing vehicle traffic to 17-19 miles per hour. Three speed humps were installed, one each on Minna, Natoma and Capp Streets.

Edgelines

Edgelines are installed to make the road feel narrower to drivers which can have the effect of slowing prevailing traffic speeds. Edgelines reduced travel lane width to 10 feet on Minna, Adair and 15th Streets. Edgelines painted on Capp Street reduced this bidirectional roadway to 20 feet wide.

Raised Crosswalks

Raised crosswalks are concrete vertical deflectors installed at pedestrian crosswalks that cause vehicles to slow as they mount and cross. Raised crosswalks are often implemented on alleys and small streets as "gateways" to residential neighborhoods, in order to call drivers' attention to changes in the roadway. Raised crosswalks, together with painted markings and accessible platforms, were installed on Minna and Natoma Streets at 14th Street, and on Adair Street at Capp Street.

Figure 2: Proposed Phased Treatments for Minna-Natoma Home Zone Project Area

Lane Reduction
By reducing from two to one lane, the character of the driving environment is changed, and crossing distances for pedestrians are shortened. On 15th Street, between South Van Ness and Mission Street, lane reduction was installed in conjunction with edgelines to visually narrow the remaining lane of traffic. Lane reduction was justified by SFMTA analysis showing that vehicle volumes on 15th Street did not require the existing two lanes. After implementation, 85th percentile vehicle speeds on 15th Street were 4 MPH slower than prior to implementation.

Curb Extensions
Curb extensions shorten the crossing distance at intersections and provide greater visibility for pedestrians. Curb extensions (or bulb outs) were installed at Capp and 15th Streets.

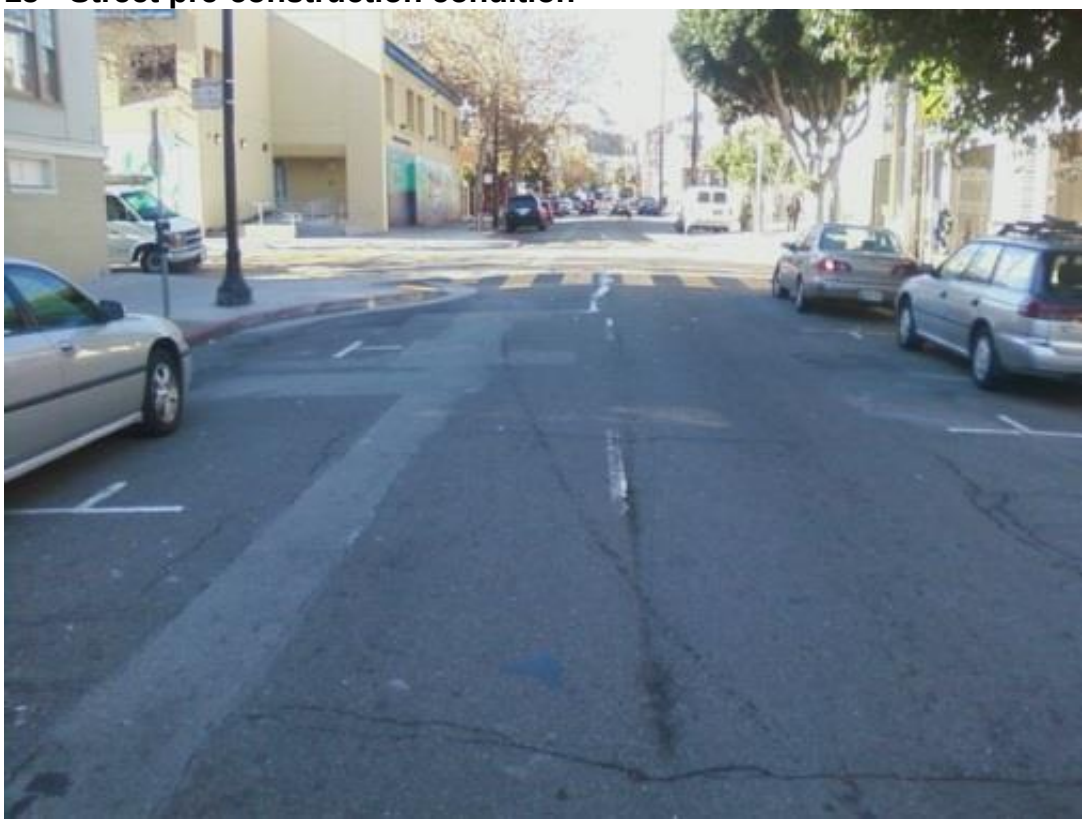
PHOTOS

This section includes pictures of the project streets, before and after implementation of the traffic calming improvements.

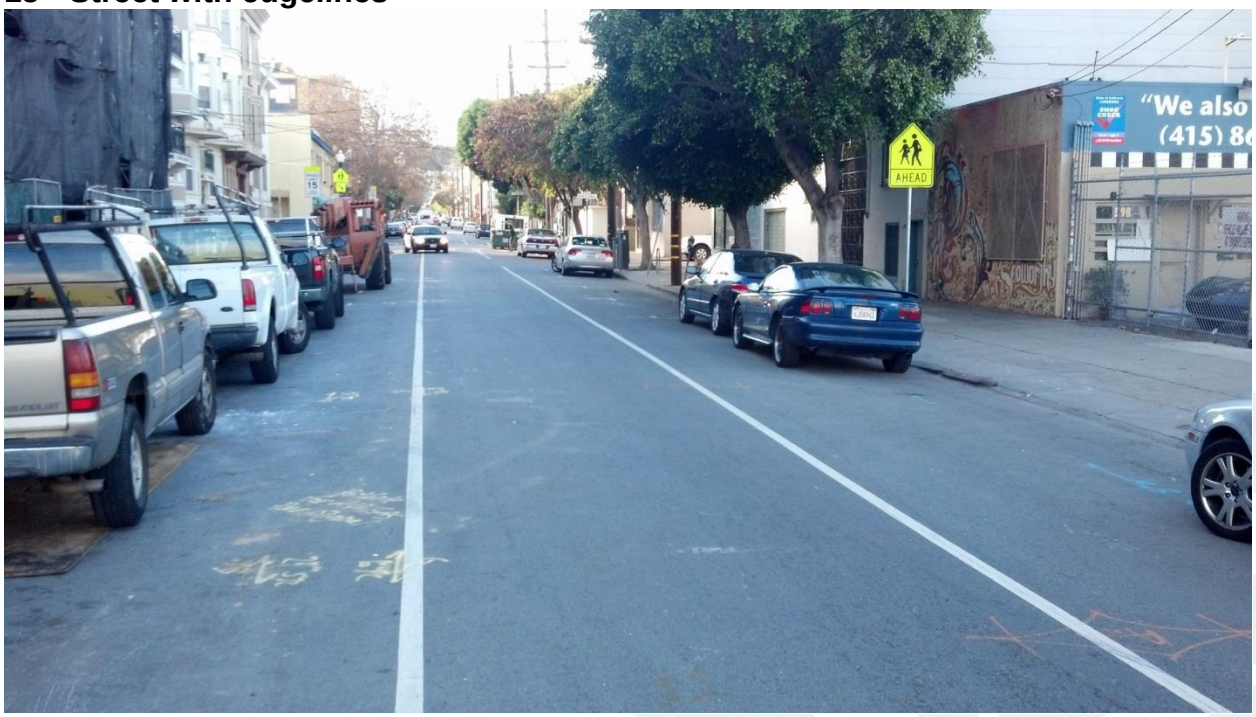
Capp Street pre-construction condition

Capp Street with speed hump and edgelines

15th Street pre-construction condition



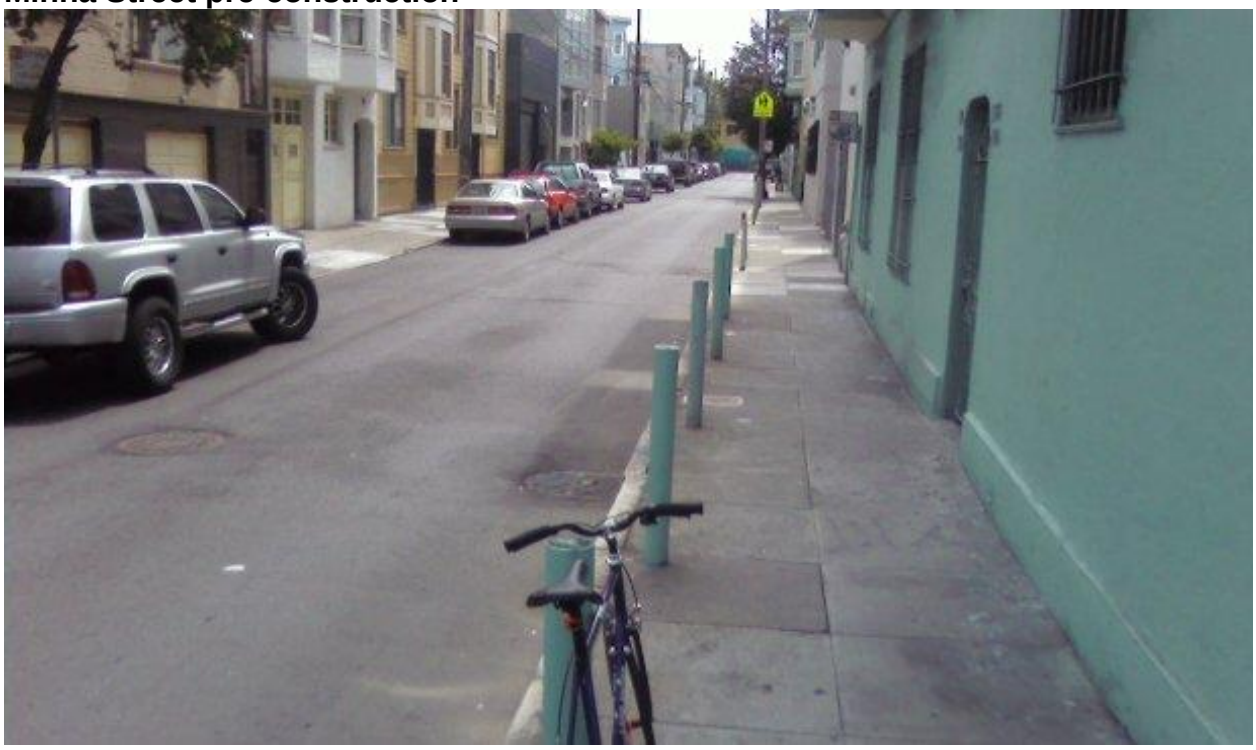
15th Street with edgelines



Adair Street pre-construction condition

Adair Street with raised crosswalk

Minna Street pre-construction



Minna Street with edgeline and speed hump

EVALUATION

The intention of data collection is to gauge real impacts, both quantitative and qualitative, from implementation of traffic engineering changes to roadways in the Minna-Natoma Home Zone project area. SFMTA staff collected data prior to project implementation and then following project completion.

Data collected for this report includes the following:

- 24-hour vehicle speeds and volumes at five locations (two bi-directional and three uni-directional streets) at 15th, Capp, Minna, Natoma and Adair Streets
- Peak-hour bicycle volume counts at 15th Street and South Van Ness
- Peak-hour pedestrian volume counts at 16th Street and Capp Street
- Resident surveys distributed to 460 area residents
- Surveys distributed to 250 parents of Marshall Elementary School students
- Five-year vehicle collision data from before project implementation

Key Findings

This final report documents data collected and presents findings from the data analysis. Key findings include:

- On average, motor vehicle speeds decreased to below 20 miles per hour throughout the home zone area
- Perception of pedestrian safety with regard to vehicle yielding/stopping has improved
- Pedestrian volumes in the project area increased by an average of 20%
- Bicycle volume on 15th Street between South Van Ness and Mission Street increased 6%
- Motor vehicle volumes *increased* significantly but increases are likely associated with residential developments concurrent with the home zone project
- Perception of safety was strongly influenced by social characteristics of the neighborhood, including homelessness and illicit activity

Vehicle Speeds

Vehicles speeds were recorded in all directions of travel at five locations in the home zone area as listed in Table 1. A decrease in motor vehicle speeds were found in both directions at all locations where data was collected, achieving one of the goals identified in public outreach meetings for the project: reducing speeds to an 85th percentile of less than 20 mph. These changes to vehicle speeds may be attributable to the fact that roadway edgelines make the roadways feel narrower, thus encouraging motorists to drive slower.

The following table shows changes in 85th percentile speeds by location during the 24-hour periods of evaluation before and after project installation, on July 2010 and July 2014:

Table 1: Vehicle speeds before and after project completion

Street	Street Type	Measures	Speed Limit	85th Percentile Speed - July 2010	85th Percentile Speed - July 2014	Change
15th Street	One-way street	Lane reduction, speed hump, edgelines	25 MPH	25 mph	21 mph	-4 mph
Adair Street	One-way alley	Raised crosswalk, edgelines, 15 mph sign	15 MPH	19 mph	18 mph	-1 mph
Capp Street	Two-way street	Speed hump, edgelines	25 MPH	26 mph	17 mph	-9 mph
Minna Street	One-way alley	Raised crosswalk, speed hump, 15 mph signs	15 MPH	22 mph	12 mph	-10 mph
Natoma Street northbound	Two-way alley	Speed hump, edgelines, 15 mph sign	15 MPH	21 mph	14 mph	-7 mph
Natoma Street southbound	Two-way alley	Raised crosswalk, speed hump, edgelines, 15 mph sign	15 MPH	20 mph	13 mph	-7 mph

Vehicle Volumes

As Table 2 shows, between July 2010 and July 2014, vehicle volume increased in the Minna-Natoma Home Zone project area. Given that reducing cut-through traffic is one of the project objectives, further analysis should ascertain the causes of increased vehicle volumes but increases were most likely the result of multiple high-density residential construction projects in the area. Additionally, increased volumes may also be generated with the installation, in October 2014, of a new traffic signal at 16th Street and Capp Street. Further studies therefore should also determine whether vehicles are turning right from westbound 16th Street onto Capp Street in order to avoid the signal wait time.

Table 2: Vehicle volumes before and after project completion

Street Name	Street Type	Measures	ADT – July 2010	ADT – July 2014	Delta	% Change
15th Street	One-way street	Lane reduction, speed hump, edgelines	4799	5694	895	19%
Adair Street	One-way alley	Raised crosswalk, edgelines, 15 mph sign	316	315	-1	0%
Capp Street	Two-way street	Speed hump, edgelines	1140	1474	334	29%
Minna Street	One-way alley	Raised crosswalk, speed hump, 15 mph signs	317	400	83	26%
Natoma Street northbound	Two-way alley	Speed hump, edgelines, 15 mph sign	143	221	78	55%
Natoma Street southbound	Two-way alley	Raised crosswalk, speed hump, edgelines, 15 mph sign	180	279	99	55%

Progressive Evaluation

The ability to gather data following each distinct implementation (speed humps, edgelines, raised crosswalks) was complicated by DPW paving schedules. However, speed and volume studies were conducted after edgelines installation and again after installation of speed humps. Results from these studies are in Table 3 below.

Results from these evaluations show that speed humps slowed 85th percentile speeds by an average of 6.4 mph on Minna and Natoma Streets while the addition of edgelines contributed to 3.0 mph of reduced vehicle speeds on Minna Street, and another 1.0 mph of slowing on Natoma Street. Post speed hump installation speeds were not available for 15th or Capp Streets, but the combined treatments reduced speeds by 3.6 mph on 15th Street and 9.1 mph on Capp Street.

Table 3: Vehicle speeds before and after project speed hump and edgelines (mph)

Street Name	85th Percentile Speed Before Construction *June 2010*	85th Percentile Speed After Speed Humps *Oct 2010*	Delta	85th Percentile Speed After Humps + Edgelines *June 2014*	Delta	Difference between Humps *ONLY* and Humps + Edgelines
15th Street	24.6	no data	N/A	21	-3.6	N/A
Adair Street	18.6	18	-0.6	18	-0.6	0
Capp Street	26.1	no data	N/A	17	-9.1	N/A
Minna Street	22.1	15	-7.1	12	-10.1	-3.0
Natoma Street NB	20.7	15	-5.7	14	-6.7	-1.0
Natoma Street SB	20.4	14	-6.4	13	-7.4	-1.0

Bicycle Volumes

Counts of people on bicycles were conducted before and after completion of the Minna-Natoma Home Zone construction. Counts were performed during the same PM peak hour in clear weather at 15th Street between South Van Ness and Mission Street, from 5:00-6:00 pm, on June 15, 2011, and again on May 21, 2014. In 2011, the count yielded 100 total bikes entering the corridor plus 7 eastbound (wrong way) bicyclists. In 2014, the bicycle count resulted in 106 bicyclists in the corridor not including 7 eastbound (wrong way) bicyclists, with 4 wrong way cyclists riding on the sidewalk. This volume change, an increase of 6%, not counting wrong-way cyclists, is much less than the 19% increase in vehicle volumes at 15th Street and South Van Ness. Like motor vehicles, more analysis of bicycle volumes is needed to discern reasons for increases and to compare with bicycle volume levels.

Pedestrian Volumes

Pedestrian volume counts during PM peak hour were performed at the intersection of 16th Street and Capp Street, once on September 14, 2011, and again on May 20, 2014. Between the first and second count, overall increases in project area pedestrian volume increased an average of 20%. It should be noted that the eastern crossing was unmarked at the time of the first pedestrian count. See Table 4 for the complete pedestrian count findings.

Table 4: Pedestrian Count

Pedestrian Count 16th Street and Capp Street - 5:00-6:00 PM				
	Sept 2011	**May 2014**	**Delta**	**% Change**
Westbound	181	187	6	3%
Eastbound	10	21	11	52%
Northbound	447	522	75	14%
Southbound	426	470	44	9%

Collisions & Safety Analysis

In the five years 2004-2009, there were 35 reported collisions in the Minna-Natoma Home Zone area, 30 involving an injury, 3 involved a pedestrian and 3 involved a bicyclist. Records of collisions in the project area after implementation of the project were not available at the time of this report. A collision analysis looking at changes over three years should be conducted when data becomes available

The SFMTA receives collision data through a statewide database as well as hard copies of collision reports from the San Francisco Police Department, but there is typically a delay of one to two years before staff has the information to analyze collision patterns. Because collisions are infrequent events, several years of data are usually required to provide an accurate comparison to conditions before and after a project is implemented.

In considering design options for the Minna-Natoma Home Zone, the SFMTA staff performed observations of potential conflict points such as intersection approaches, crosswalks, and areas with high levels of pedestrian activity. The SFTMA will continue to monitor collisions trends.

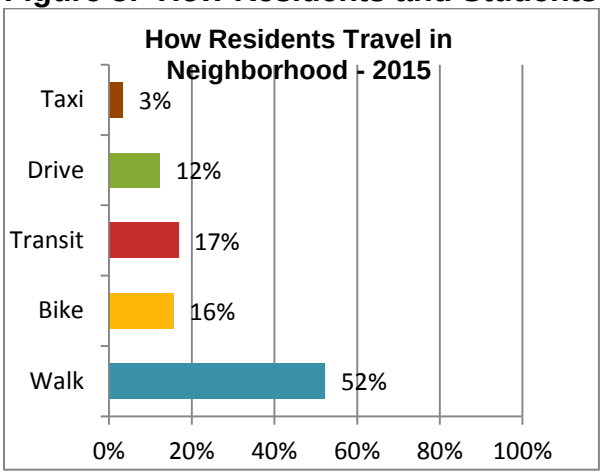
Parent and Resident Surveys

Data and anecdotal information gathered from surveys are valuable for assessing satisfaction with projects such as the Minna-Natoma Home Zone pilot project and helps to inform potential future, similar efforts. Because this is the first design of its type in San Francisco, the survey was an opportunity to review details of home zone design that could influence the design of future home zones. In March 2015, the SFMTA distributed follow-up surveys to 250 parents at Marshall Elementary School and 460 residents of the Minna-Natoma Home Zone area. A copy of the survey can be seen in Appendix B. Surveys solicited input on how the roadway engineering changes were perceived to have affected pedestrian safety and travel mode choice in the neighborhood. SFMTA staff received completed surveys from 122 people, an overall response rate of 17% based on the 710 surveys distributed.[1]

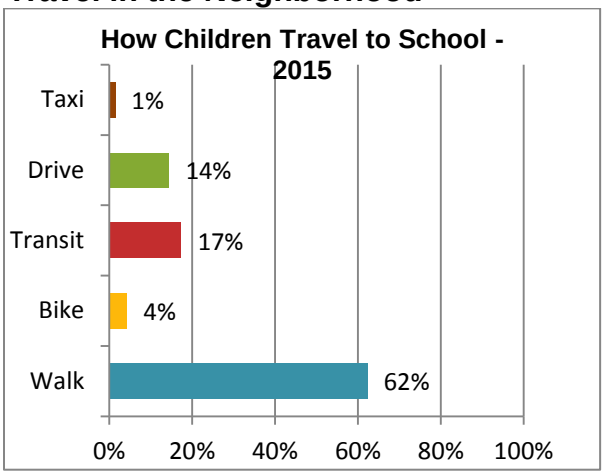
[1] Parent and resident surveys distributed prior to the beginning of home zone construction sought to assess priority areas of concern and solicit recommendations from school and residential communities and were not directly aligned with follow-up surveys so direct comparison is not possible.

The first survey question asked residents and parents how they travel around the neighborhood or how they get to school (Figure 3). The resulting travel modes demonstrated within resident's and parent's surveys were parallel. A majority of respondents – parents and residents – cited walking (57%) as their first choice and bus (17%) and motor vehicle (13%) were the next most popular modes cited by respondents. A higher percentage of residents choose to travel by bicycle, 16% versus 4% for parents.

Figure 3: How Residents and Students Travel in the Neighborhood



*based on 90 resident responses to question #1

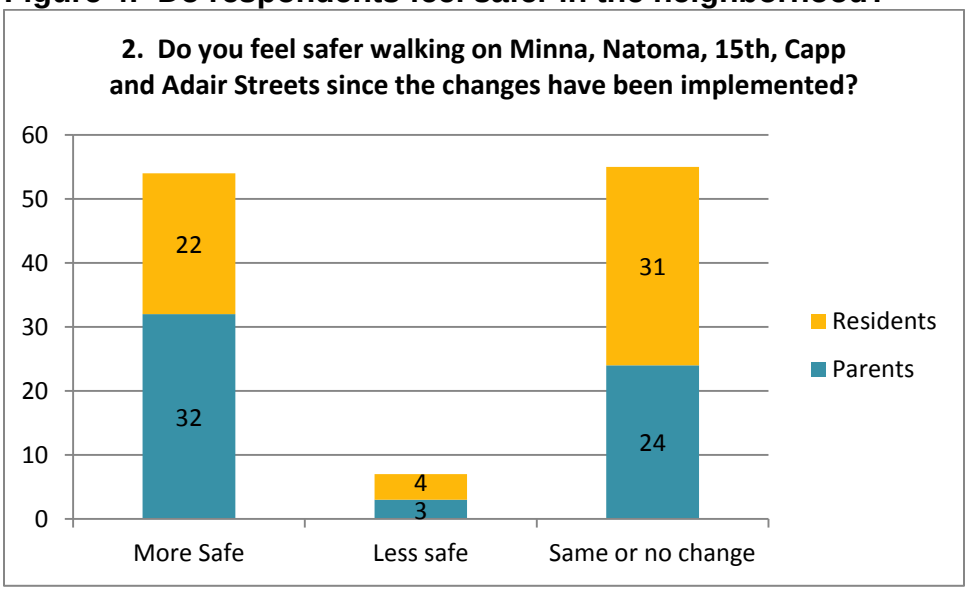


*based on 69 parent responses to question #1

The Marshall Elementary Travel Mode Tally from 2010 allows limited comparison with parent survey responses from 2015. The 2010 tally counted 52% of students walking to school, which was one of the highest walking rates in San Francisco public schools. For the 2015 survey, 62% of parents cited walking as the way their children arrived at school, representing a 10% increase over 2010. It should be noted that tallies are more comprehensive and capture all attending students whereas parent surveys were returned by only 24% of parents.

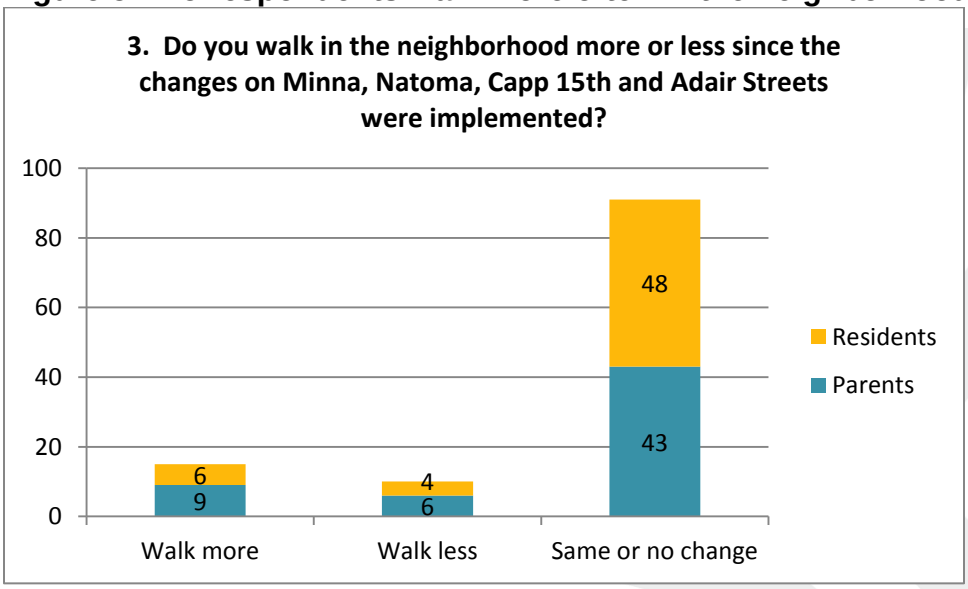
In question 2, respondents were asked to identify any changes to their perception of safety while walking in the neighborhood. Responses were evenly split between people who felt safer after the home zone was completed and those who felt no change (Figure 4). After home zone implementation, approximately half of respondents felt that walking in the area felt safer. Comments submitted with surveys elucidate the ambivalence of pedestrians based not on traffic safety but dramatically on social issues (See "Comments" and Appendix B). Homelessness, drug use, prostitution and filth are prevalent in the Minna-Natoma Home Zone area and these issues may influence people's choice to walk and/or allow children to walk in the area.

Figure 4: Do respondents feel safer in the neighborhood?



Question 3 asked people if they walk more or less frequently since completion of the Minna-Natoma Home Zone. The great majority, 91 respondents (78%) indicated their walking habits had not changed since project completion (Figure 5). A modest 15 of respondents (13%) walk more frequently and 10 (10%) walk less often. These anecdotal statistics are inconclusive in demonstrating increased walking rates following construction of the home zone project, however high walking rates from question 1 indicate that improved walking infrastructure is justified. Given a predominance of comments submitted voluntarily at the end of each survey (Appendix B) noting serious health and safety concerns, it is safe to assume that walking choices are affected by social issues.

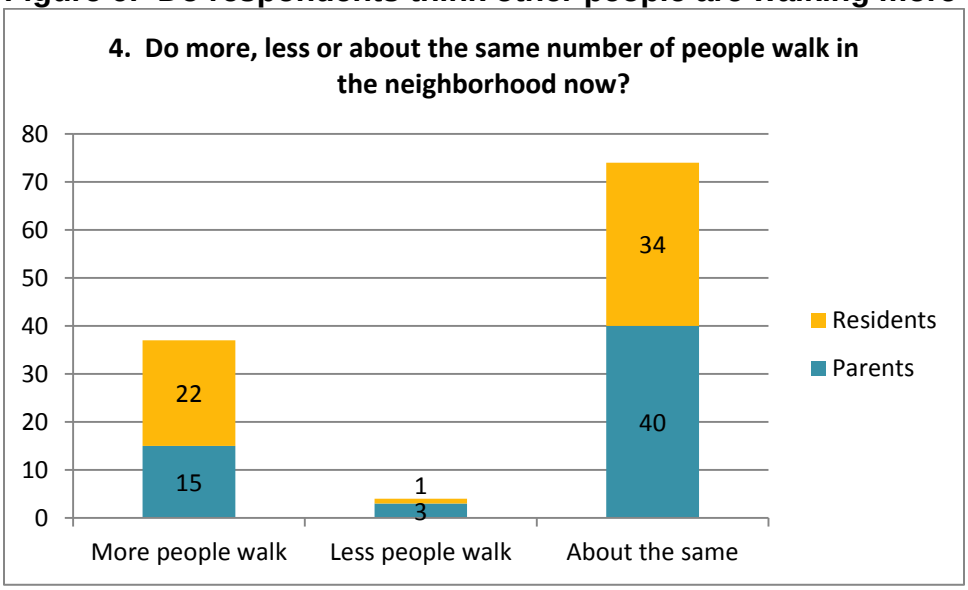
Figure 5: Do respondents walk more often in the neighborhood?



Question 4 asked if people walk more, less or about the same in the neighborhood than before the project. Of respondents, 74 (64%) thought the number of people walking in the

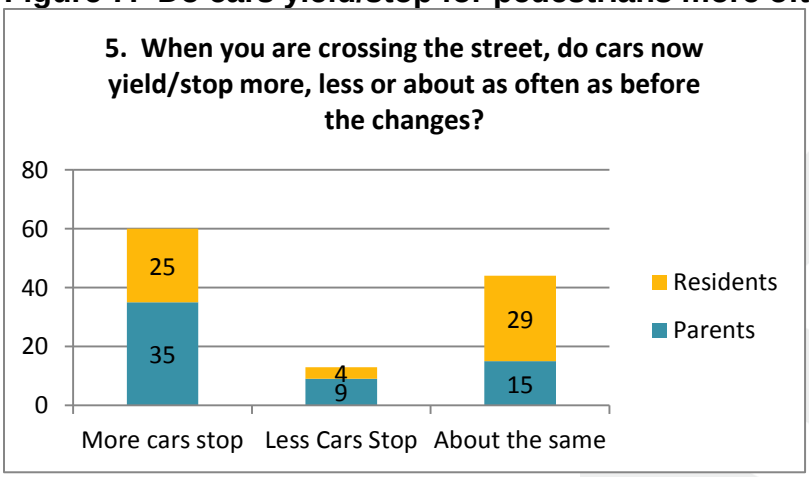
neighborhood was “about the same” and 37 (32%) thought more people were walking (Figure 6). Respondents repeatedly listed drug/alcohol use and prostitution as serious concerns. Issues of safety and public health quite likely affect rates of walking in the neighborhood.

Figure 6: Do respondents think other people are walking more often?



For question 5, 60 survey respondents (52%) felt that more cars were yielding and stopping for pedestrians than prior to home zone completion (Figure 7). Speed humps, raised crosswalks and edgelines all encourage motorists to slow down, and concurrently-installed bulb outs provide improved visibility for pedestrians. So, the sense that cars are stopping and yielding more often may be a result of traffic changes. Meanwhile, 44 of responses (32%) continued to feel that vehicle stopping behavior had not changed.

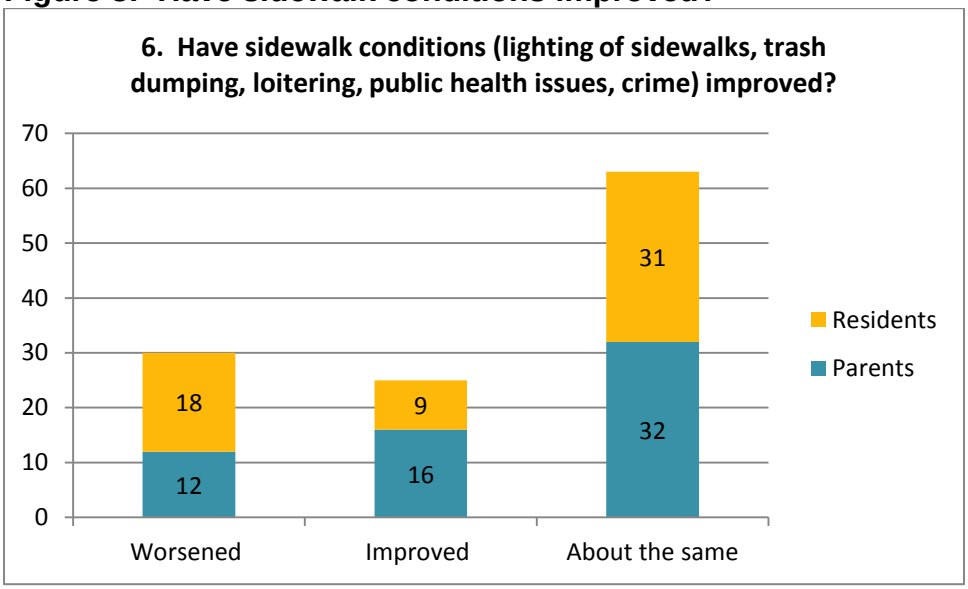
Figure 7: Do cars yield/stop for pedestrians more often?



Question 6 asked if sidewalk conditions (including lighting, trash, loitering, public health issues and crime) had improved. Answers to question 6 further corroborate feelings expressed in comments cited earlier in this report (Figure 8). Of respondents, 63 (52%)

felt that conditions were about the same, 30 (27%) felt they had worsened and 25 (20%) felt conditions had improved.

Figure 8: Have sidewalk conditions improved?



Survey Comments

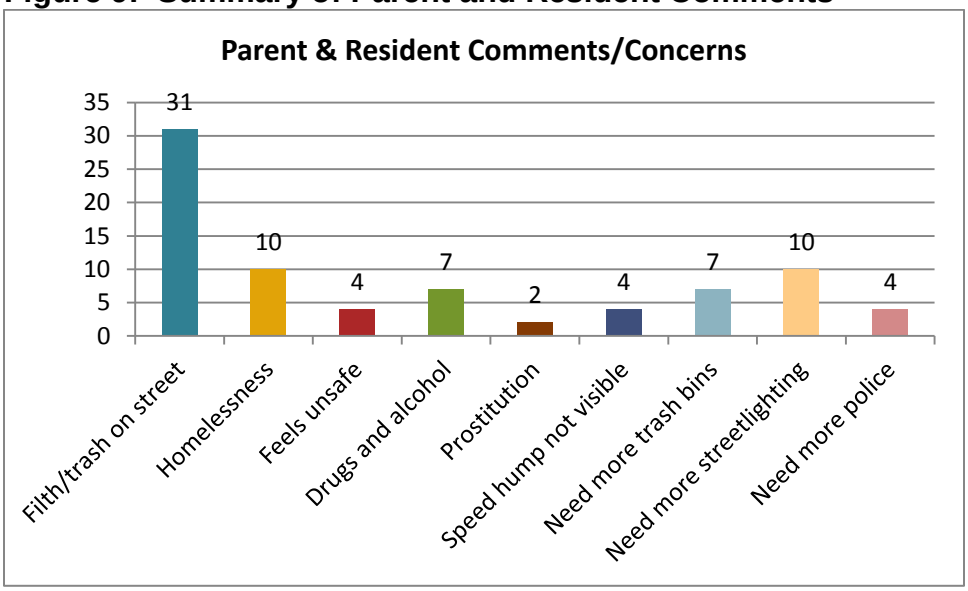
Comments were provided by 64 survey respondents. Comments addressed 79 specific areas of concern and fell into two general categories: 1) public health and safety concerns and, 2) requests for additional neighborhood services and infrastructure. Public health and safety concerns comprise 68% of comments received and additional requests for services and infrastructure comprised 32% of comments (Figure 9).

The issue of greatest concern was garbage and filth on the streets, especially resulting from a high population of homeless people and drug use on neighborhood streets. Comments stated that criminal activity such as prostitution, and drug and alcohol use, generate filth and make the neighborhood feel unsafe, particularly for parents from Marshall Elementary School who choose not to allow their children to walk.

The most common requests were for additional streetlighting and more trash bins. Requests for additional police patrols must be viewed in light of criminal issues cited earlier. Several comments mentioned that drivers do not see the speed hump on Capp Street. Others requested that sidewalks be steam cleaned regularly.

The following chart summarizes all comments gathered in the 2015 post-installation survey:

Figure 9: Summary of Parent and Resident Comments



Some positive comments were received including several praising installation of a traffic signal at 16th Street and Capp Street. Another comment approved of SFMTA's work: "*You people are doing great*".

All survey comments can be reviewed in Appendix B.

CONCLUSION AND RECOMMENDATIONS

The Minna-Natoma Home Zone pilot project met several important goals identified in the planning process. Principally, vehicle speeds, measured after completion of the home zone decreased. Peak hour pedestrian counts also show volume increases post-installation.

In the school zone and on all alleys, measured 85th percentile speeds dropped to below the speed limit. On Minna Street, with a speed hump and edgelines, motor vehicle speeds were reduced to 10 MPH below speeds measured four years earlier, prior to the project. Empirical evidence from multiple road safety studies confirm that vehicular speed is the most important risk factor in the severity of traffic collisions. The most significant improvements to pedestrian safety are achieved by reducing vehicle speeds. Another achievement, the perception expressed by parents and residents that more vehicles are yielding to pedestrians suggests that the home zone treatments have been successful in communicating to drivers that these local streets are a community space and cars enter as guests into the home zone.

Overall, the perception that conditions for pedestrian safety improved corresponds with a measured reduction in vehicle speeds. Based on these results and as funding allows, the SFMTA recommends considering home zones in other locations in San Francisco where speed reduction and improved pedestrian environments are desired.

Certain goals of the project could not be fully evaluated with existing data. For instance, the change in vehicle collisions cannot be measured without access to 3-year collision data. Further collision studies in future years will draw conclusions about these outcomes.

Efficiency was achieved in the Minna-Natoma planning process by completing outreach and gaining approvals early in the project process. The cohesive package of traffic calming treatments was developed in collaboration with the residential and school communities and received unanimous approval in February 2011. Subsequently, the SFMTA Board of Directors approved the Home Zone in May 2011.

Coordination with the Marshall Elementary School community was funded with a (SRTS) non-infrastructure grant. SFMTA conducted a SRTS walk audit with the school community in January 2011, which identified concerns and recommended treatments to enhance pedestrian safety in the Minna-Natoma neighborhood. Through the walk audit, SFMTA was able to leverage school project funding to begin outreach and planning. SFMTA recommendations from the walk audit were used to request SRTS infrastructure funding and ultimately construct corner bulb outs at Capp and 15th Streets. These bulb outs complemented and effectively worked towards goals outlined for the Minna-Natoma Home Zone project.

Recommendations

Through staff observation, data collection and direct feedback from stakeholders, the following recommendations should be considered in future home zone installations:

- **Engineered street features can help define the neighborhood as a distinct transportation environment**
  Traffic engineering can significantly reduce vehicle speeds in a defined area. Through implementing visible changes to the street, local perceptions of pedestrian safety can grow and rates of people walking and bicycling may increase.

- **Local communities' perception of pedestrian safety may take time to shift**
  Despite measurable decreases in traffic speeds and increased feeling of residents and parents that motorists are yielding and stopping for pedestrians, evidence that residents felt the neighborhood was safer for pedestrians was weak in the survey results. Even with a successfully implemented home zone the transition of public perception that walking is safe mode of transportation may be slower to realize.

- **Coordinate interagency efforts to address all stakeholder concerns**
  Although the data indicates that engineered traffic features are successfully slowing traffic and encouraging drivers to yield and stop more often for pedestrians, there are social issues in the neighborhood affecting the willingness of people to walk in the neighborhood. In further home zone efforts, SFMTA should coordinate with DPH, DPW and SFPD, particularly in neighborhoods where homelessness, prostitution or drug use are realities. Infrastructure including streetlighting, garbage bins, needle repositories and services such as sidewalk cleaning could also enhance projects like the Minna-Natoma Home Zone.

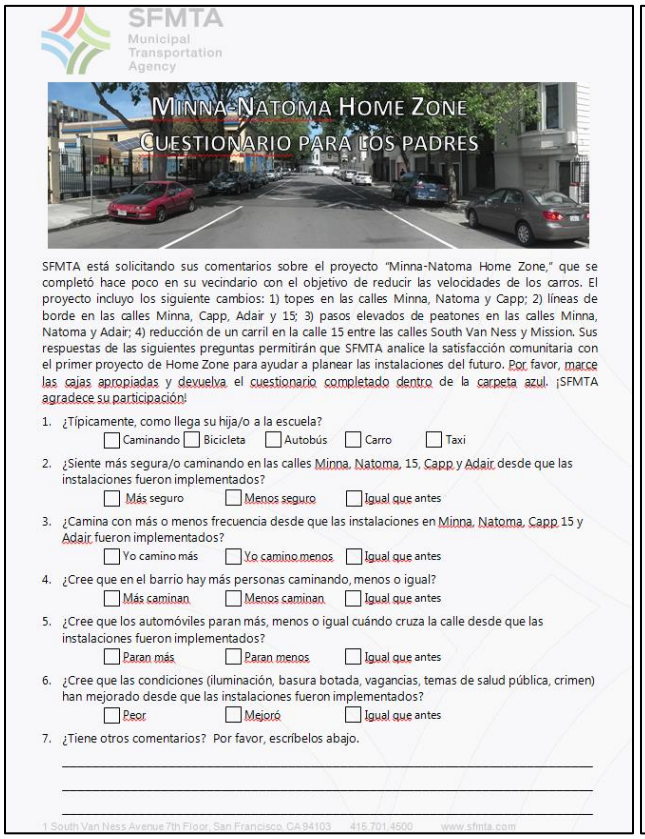
- **Expect a changing neighborhood character**
  Increasingly dense residential development and a dearth of low-to-middle income housing options contribute to shifting transportation patterns in the Minna-Natoma project area. As populations shift, so do the perceptions of social issues and transportation choices.

- **Consider DPW paving schedules in area selection**
  SFMTA sought to install the project speed humps with DPW paving projects and this was challenging because DPW paving schedules were not adaptable to the timing of hump implementation. SFMTA should consider whether coordination between multiple projects achieves adequate efficiency with project implementation.

- **Package treatments to address pedestrian safety in a defined area and ballot early**
  By targeting a defined area of the City with a cohesive traffic calming treatment, balloting the package of treatments became possible. The early success of balloting ensured that treatments were not challenged closer to the beginning of construction. The success of early outreach preserves a systemic approach to traffic calming for defined areas of the City and represents a significant advantage over piecemeal balloting that has occurred previously in areawide traffic calming planning.

- **Coordinate with Safe Routes to School or other projects**
  By leveraging school and other project funding, early planning and complementary design may be achieved. In some cases, school area construction can complement and help achieve goals identified for a defined area of the City.

APPENDIX A – Parent and Resident Surveys



SFMTA
Municipal Transportation Agency

Minna-Natoma Home Zone
Cuestionario para los padres

SFMTA está solicitando sus comentarios sobre el proyecto "Minna-Natoma Home Zone," que se completó hace poco en su vecindario con el objetivo de reducir las velocidades de los carros. El proyecto incluyo los siguiente cambios: 1) topes en las calles Minna, Natoma y Capp; 2) líneas de borde en las calles Minna, Capp, Adair y 15; 3) pasos elevados de peatones en las calles Minna, Natoma y Adair; 4) reducción de un carril en la calle 15 entre las calles South Van Ness y Mission. Sus respuestas de las siguientes preguntas permitirán que SFMTA analice la satisfacción comunitaria con el primer proyecto de Home Zone para ayudar a planear las instalaciones del futuro. Por favor, marce las cajas apropiadas y devuelva el cuestionario completado dentro de la carpeta azul. ¡SFMTA agradece su participación!

1. ¿Típicamente, como llega su hija/o a la escuela?
   ☐ Caminando ☐ Bicicleta ☐ Autobús ☐ Carro ☐ Taxi
2. ¿Siente más segura/o caminando en las calles Minna, Natoma, 15, Capp y Adair desde que las instalaciones fueron implementados?
   ☐ Más seguro ☐ Menos seguro ☐ Igual que antes
3. ¿Camina con más o menos frecuencia desde que las instalaciones en Minna, Natoma, Capp 15 y Adair fueron implementados?
   ☐ Yo camino más ☐ Yo camino menos ☐ Igual que antes
4. ¿Cree que en el barrio hay más personas caminando, menos o igual?
   ☐ Más caminan ☐ Menos caminan ☐ Igual que antes
5. ¿Cree que los automóviles paran más, menos o igual cuándo cruza la calle desde que las instalaciones fueron implementados?
   ☐ Paran más ☐ Paran menos ☐ Igual que antes
6. ¿Cree que las condiciones (iluminación, basura botada, vagancias, temas de salud pública, crimen) han mejorado desde que las instalaciones fueron implementados?
   ☐ Peor ☐ Mejoró ☐ Igual que antes
7. ¿Tiene otros comentarios? Por favor, escríbelos abajo.

   _____
   _____
   _____

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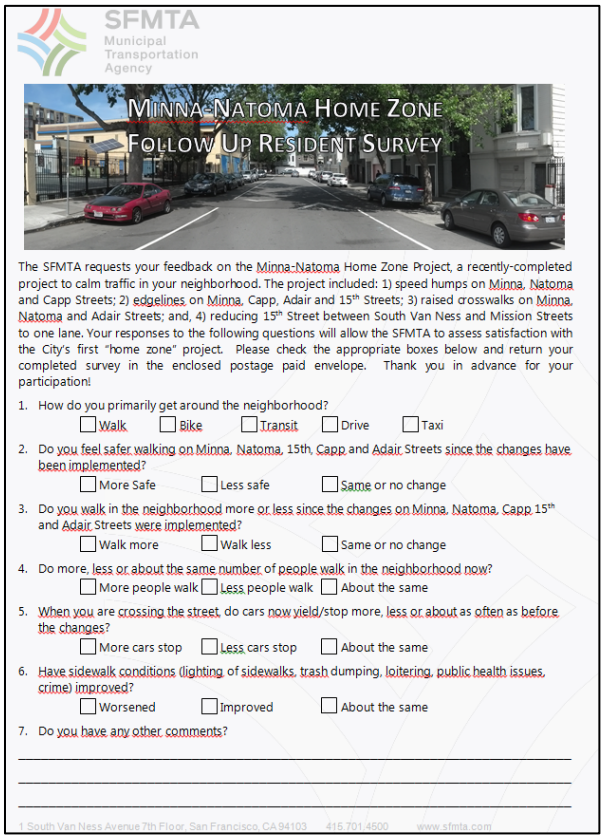

SFMTA
Municipal Transportation Agency

Minna-Natoma Home Zone
Follow Up Resident Survey

The SFMTA requests your feedback on the Minna-Natoma Home Zone Project, a recently-completed project to calm traffic in your neighborhood. The project included: 1) speed humps on Minna, Natoma and Capp Streets; 2) edgelines on Minna, Capp, Adair and 15th Streets; 3) raised crosswalks on Minna, Natoma and Adair Streets; and, 4) reducing 15th Street between South Van Ness and Mission Streets to one lane. Your responses to the following questions will allow the SFMTA to assess satisfaction with the City's first "home zone" project. Please check the appropriate boxes below and return your completed survey in the enclosed postage paid envelope. Thank you in advance for your participation!

1. How do you primarily get around the neighborhood?
   ☐ Walk ☐ Bike ☐ Transit ☐ Drive ☐ Taxi
2. Do you feel safer walking on Minna, Natoma, 15th, Capp and Adair Streets since the changes have been implemented?
   ☐ More Safe ☐ Less safe ☐ Same or no change
3. Do you walk in the neighborhood more or less since the changes on Minna, Natoma, Capp 15th and Adair Streets were implemented?
   ☐ Walk more ☐ Walk less ☐ Same or no change
4. Do more, less or about the same number of people walk in the neighborhood now?
   ☐ More people walk ☐ Less people walk ☐ About the same
5. When you are crossing the street, do cars now yield/stop more, less or about as often as before the changes?
   ☐ More cars stop ☐ Less cars stop ☐ About the same
6. Have sidewalk conditions (lighting of sidewalks, trash dumping, loitering, public health issues, crime) improved?
   ☐ Worsened ☐ Improved ☐ About the same
7. Do you have any other comments?

   _____
   _____
   _____

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APPENDIX B –Survey Comments

PARENT COMMENTS (total comments 19)

- Human feces on the sidewalk.
- Dirty streets, garbage, feces, drugs, syringes, prostitution
- Please clean streets every day. Lots of excrement and garbage.
- Traffic signal at 16th and Capp Streets increased pedestrian safety and reduced speed down both streets.
- Streets are very dirty.
- Signal at 16th and Capp Streets was best improvement.
- Safety issues for children with the number of drunks/drug addicts in the neighborhood.
- Streets are unsafe because of vagrants hanging out.
- The police should patrol constantly in the area for student safety.
- Trash has not diminished at all. Drivers don't see the speed hump and jump it.
- Need more police enforcement of traffic signs and signals.
- Need more street lighting and cleaning.
- People sleeping on the street over the weekend should be relocated.
- Need more street cleaning.
- Streets smell like urine and are always dirty.
- Too much trash, public health issues around the school.
- People hanging around the BART station are a bad influence to children.
- Signal at 16th and Capp Street is the best addition.
- Speed humps are not easily seen by drivers.

RESIDENT COMMENTS (total comments: 46)

- As a disabled woman, I am afraid to cross the street.
- Many homeless people in the area but less human feces. That's nice.
- Need more trash cans to help with garbage, drugs, etc.
- Human feces, used condoms and random junk.
- School crossing guard at 15th and Capp Street is often distracted and tries to sweep the street with his stop sign.
- Garbage cans were removed. Our street is filthy.
- There is more respect for pedestrians but street lighting is needed.
- More street lighting needed.
- Too many people sleeping on the streets, leaving feces and garbage.
- You people are doing a great job!
- There is more trash, drugs, prostitution between 14th - 16th Street.
- More street lighting needed, especially on Capp.
- Trash and homeless have gotten worse on Minna Street.
- Scary at night but police have been more visible
- New condos added traffic so additional traffic calming measures on Natoma and Minna Streets are needed.
- Area needs additional measures to be safer.

- Homeless problem is the big issue in the neighborhood.
- Homeless on Capp Street use area as a toilet.
- Cars do not stop at the crosswalks on 15th/Capp; End of Natoma was not raised; removal of trash bins at 15th and Natoma Streets was mistaken.
- Police do not come here at nights.
- Cars stop more but streets still too dirty.
- More streetlighting needed.
- A crosswalk from Capp to Adair would be awesome.
- Homeless situation is worse.
- Minna, Natoma and Capp Streets feel more safe.
- Cars still drive too fast on 15th Street.
- Sidewalks should be steam sprayed every week.
- More street lighting needed.
- More lighting and feces-control.
- More lighting and police patrols especially on Natoma to lessen gang-related violence.
- Traffic calming construction has caused confusion, and pedestrian/cyclist conflicts with loss of vehicular flow. Crime is up in area.
- Increased homelessness in neighborhood; drug facility clients are defecating near school.
- Trim the trees at 15th Street and South Van Ness; move lights on 15th and Natoma Streets; please send notices to people who do not have working exterior lights.
- DPW should steam clean twice a month; need repository for syringes.
- Stop sign at 15th and Capp Street needed; trash cans need to be reinstalled.
- Drivers accelerate after speed hump, which is not visible enough.
- Bad smells at 16th and Capp Street.
- More people walking because of residential projects in area; recent increase of tent camps near school; Homeless camp near school; human waste and drug use.
- Tons of garbage on streets and sidewalks. Can we get more garbage cans?
- Too much trash dumped at 15th/Natoma.
- People selling items on the street causes more traffic.
- Unsightly telephone booth needs to be removed.
- More homeless people on street. We need more housing for lower and middle class.
- Homeless hang out on Adair and do drugs. We need more affordable housing.
- Make Natoma Street between 14th and 15th Streets one way in opposite direction of Minna!

APPENDIX C – Specific Requests for Agency Follow Up

Specific requests from residents and parents that were submitted with parent and resident surveys merit review by SFMTA or referral to the appropriate SF agency. The following specific requests will be addressed:

- Review the speed limit for Capp Street and 15th Street
- Refer enforcement requests to SFPD
- Request that DPW install additional trash receptacles in area
- Review changing Natoma Street between 14th and 15th Streets to a one-way street going opposite direction of Minna
- Request DPH install syringe repositories in the area
- Examine 15th and Capp Streets for installation of a STOP sign
- Review visibility of speed hump on Capp Street for motorists
- Request that DPW power clean sidewalks twice a month