COUNCIL STAFF REPORT

CITY COUNCIL *of* SALT LAKE CITY

TO: City Council Members

FROM: Allison Rowland
Budget & Policy Analyst

DATE: October 5, 2021

Item Schedule:
Briefing: October 5, 2021
Set Date: n/a
Public Hearing: n/a

RE: INFORMATIONAL: LIVABLE STREETS PROGRAM RECOMMENDATIONS

ISSUE AT-A-GLANCE

In response to ongoing constituent interest, the Council allocated $100,000 in 2019 specifically to support an updated version of the City's previous neighborhood "traffic-calming" program, which was ended in 2005. The Council's Fiscal Year 2020 Legislative Intent also requested that the Administration develop recommendations for re-establishing the program, and identify any additional resources it would need. In response, on March 24, 2020, the Administration briefed the Council on a proposal to develop a "Livable Streets" program. The Transportation Division recently transmitted the results of this work, which were carried out by nationwide transportation consultants Fehr & Peers, as well as the local firm Somers-Jaramillo (now part of David Evans & Associates). This complex and ambitious set of program recommendations outlines how to structure and implement the Livable Streets program, which is designed to "objectively identify priority neighborhoods and avoid some of the pitfalls of the previous program." The Council is asked to review the program recommendations and provide direction to the Administration. The transmittal included a set of policy questions from the Transportation Division with a request for Council guidance; these are included along with Council staff policy questions in the final section of this report.

The report acknowledges that the potential scope and impact of the Livable Streets Program is "immense," and recommends dedicated management and resources to ensure its success. Program management would focus on community outreach and implementation. The estimated cost to set up and run the program as designed ranges from $700,000 to $1 million per year, including at least three new FTEs who would be needed to implement the program. The actual amount would vary, depending on the level of implementation that is chosen. Other factors critical to its success include the levels of community input and the development of design standards and prototypes. The Division also indicated that, depending on the number of constituent CIP projects that involve their staff, a higher amount of capital funding would help speed implementation of more Livable Streets projects.

In addition, the report notes that support from and coordination with various departments beyond Communities and Neighborhoods (CAN) would be needed, particularly with Engineering (which was moved to the Public Services Department in the FY22 budget), the Public Utilities Department, and the Fire Department. It highlights, too, the importance of "consistent messaging and support from City Council and the Mayor's office," both for constituent outreach and for effective coordination with other agencies, like the Utah Transit Authority (UTA). It states that this "may be needed if other agencies push back against the implementation of traffic calming at a City-wide scale, as the slowing of traffic and general tightening of roadways does not always align with partner agencies' goals."

Goal of the briefing: *Review and provide direction on the Livable Streets program proposal.*

ADDITIONAL AND BACKGROUND INFORMATION

A. Description of the Proposed Program

1. **Improvements over Previous Traffic-Calming Program.** The goal of the Livable Streets program is to implement neighborhood traffic-calming solutions on a Citywide scale, while overcoming several shortcomings of the previous program. Perhaps most critical, the previous program was set up to respond only to requests by neighborhood residents, without reference to any measurement of relative need. This led to improvements being concentrated in Eastside neighborhoods, where more residents presumably had the time and experience to organize successful requests. In contrast, the Livable Streets program would increase equitable access to the program by prioritizing traffic-calming improvements through a complex analysis to determine the areas of Salt Lake City that are most in need. The proposed program design incorporates a "data-driven, transparent, and equitable prioritization process" to target areas of Salt Lake City for traffic calming improvements. The program also would include a wider range of actions than the previous version, including improvements to the safety, livability and attractiveness of neighborhood streets.

   The other key difference from the previous version of the program is the recognition that neighborhood traffic-calming, taken in isolation, can result simply in diverting traffic to adjacent neighborhood streets, rather than toward major streets that are designed and appropriate for heavy flow. The proposed program instead takes a "zonal approach," which considers the neighborhood network in relation to the areas around it.

   Finally, the report also points out that previous traffic-calming measures were "not uniformly appreciated" in the neighborhoods where they were implemented. The new Livable Streets program would aim to mitigate this issue through a more extensive process of neighborhood outreach and engagement in decision making. The report includes extensive material for a "Public Engagement Toolkit" to facilitate this process.

2. **Prioritization Process and "Zone" Selection.** In preparation for the prioritization of Livable Streets projects among City locations, over 400 miles of candidate streets were identified. These streets were divided into 113 "zones," which serve as the unit of assessment for Livable Streets projects, and for implementation measures, ranging from community engagement, to design development, and finally, construction. The exact boundaries of the zones were based on the presence of natural barriers, major streets, and existing City Council District boundaries, which means they do not necessarily align completely with commonly used neighborhood designations.

The aim was instead to establish areas with roughly the same amount of street mileage in each, though some variation among these was inevitable.

The prioritization among these 113 zones is designed to result in data-driven decisions of where to invest City traffic-calming funds based. The data considered for this process included the number of injury crashes, prevailing traffic speeds, access to community assets, and socioeconomic data, including number of households without cars, and households living below the poverty line. Within each zone, the "score" for each type of data was combined with the others to determine an overall score for each zone. This determined a rank for each zone ranging from 1 and 113. A lower ranking indicates a higher priority for more immediate implementation.

The report notes that this data-driven prioritization process should be updated on a periodic, ongoing basis to reflect updated data as it becomes available. In response to a Council staff question, the Division stated that because the process of prioritization among zones on this list has already occurred, shifting any particular streets or group of residences from one zone to another would not be recommended. Presumably this type of change could be handled before the next round of prioritization, if needed.

A map of the priority zones for 2021-2022 can be found on the report's page 5. This and future evaluation and zone identification maps will be made available on the project website: www.slc.gov/transportation/plansstudies/livable-streets.

3. **Implementation.** Once candidate zones are determined using the prioritization process, specific improvements would be determined by the Livable Streets team in consultation with other representatives from the Transportation and Engineering Divisions, along with the affected Community Council(s) and their constituents. Existing City transportation plans and policies, including the *Salt Lake City Pedestrian and Bicycle Master Plan*, and the *Transportation Master Plan* (currently in development), will also be taken into account.

   In general, the Livable Streets team will follow the process below:

   a. Assess potential solutions that could be implemented to make candidate streets in a given zone more livable.

   b. Coordinate with residents in a given zone to review the potential solutions and gather feedback.

   c. Develop a cost-estimate, design and plans.

   d. Provide an update to the affected street, block or neighborhood and the respective Community Council(s) based on the final zone implementation plan.

   e. Share the implementation plan and timeframe.

   Because streets used as bus routes and designated emergency routes are considered candidates for the Livable Streets Program, these will require additional vetting and approval by both the UTA and the Salt Lake City Fire Department during the design and implementation process. This would include a process of testing prototype designs with these agencies to minimize complications to their critical operations.

   To stretch program dollars farther, the streets considered must not already be part of an upcoming City Transportation or Engineering Division project because Livable Streets considerations would be integrated into the plans and budgets for those. The streets also cannot

include those maintained by the Public Lands Division or other institutions, for example, the University of Utah.

4. **Program Metrics**. The proposed program recommends that the City collect and compare traffic speeds and volumes before and after each instance of implementation. In addition, it recommends that the City also engage in ongoing communication with individual communities (zones) to provide insight into how specific treatments are performing and offer opportunity for refinements.

5. **Staffing**. A successful Livable Streets Program would require at least three dedicated City staff people to manage the program. Duties for staff would include engagement efforts, data collection and analysis, design development, and implementation. Separate staff would be needed to work on quick-build measures and permanent implementation. Depending on annual funding allocations and the scale of potential implementation in a given year, the program may need a fourth dedicated staff person.

B. Potential Livable Streets Treatments.

The report updates Salt Lake City's toolkit for traffic-calming with a variety of "treatments" approved by the Engineering Division that could be applied in zones selected for Livable Street improvements (list below, also see Report pages 15 to 25). These were included based on experience with similar treatments in Salt Lake City, including their ability to affect drivers' behavior. For each of these treatments, a description includes approximate cost, advantages and disadvantages, and whether or not each is a "quick build option."

"NON-PHYSICAL" DEVICES

- Speed Trailer
- Centerline/Edgeline Lane Striping
- Speed Feedback Sign
- Signage

- Education

VOLUME CONTROL DEVICE

- Forced Turn Island

SPEED CONTROL DEVICES

Vertical Devices

- Speed Lump/Cushion
- Speed Hump
- Speed Table
- Raised Crosswalk

Horizontal Devices

- Traffic Circle
- Roundabout
- Medians with Horizontal Deflection
- Slow Turn Wedges

Narrowing Devices

- Bulb-Out/Curb Extension
- Choker
- Pedestrian Refuge Island
- Street Trees

POLICY QUESTIONS

The following policy questions were asked by the Transportation Program:

1. Should capital funding for implementation of the Livable Streets program go through the CIP process, or have an independent budget line item?

2. Could funding for new Livable Streets staff come from *Funding Our Future*?

3. Should the program's implementation proceed through the prioritized list at a Citywide level, or should it proceed through the prioritized zones, Council district by Council district?

4. Is there a desire to provide staff and resources to respond to complaints with quick-build projects, in addition to implementing the prioritized zones?

Council staff suggests several additional policy questions for consideration:

1. The City has made racial and ethnic equity initiatives a priority during the past year through budgets, staffing, and program emphases. The Council may wish to ask the Administration for additional information on the processes of defining "zones" and on prioritizing among them, since these could have unintended effects on the potential for the Livable Streets program to address its equity goals. For example:

    a. What is the effect of prioritizing a roughly equal number of street miles when defining the boundaries of each zone, rather than a roughly equal number of residents? This could be significant in the densest areas of the City, as well as the lower-income areas, where household sizes tend to be larger.

    b. In prioritizing zones, are data like the number of crashes and average speeds given equal weight as data on the racial and ethnic profile of the zone?

    If the Council desires, staff could work with the Transportation Division to identify and assess any potential areas of concern.

2. In cases around the country, people of color have been ill-served by community engagement efforts for reasons ranging from cultural and language barriers to assumptions about work schedules and family obligations. Given the critical importance of community engagement for the Livable Street program, the Council may wish to ask how these factors would be taken into account. Also, how would the effectiveness of engagement efforts be assessed?

3. The Council may wish to inquire about the sources of funding that might be available to help pay for the proposed Livable Streets program expenses.

4. The Council may wish to ask whether any of the specific approaches mentioned in the Traffic Calming Toolkit would significantly increase maintenance costs for streets.

5. Some Utah cities have experimented with innovative funding tools for traffic calming and livable streets programs. One tool commonly discussed is the use of transportation utility fees. The Council may wish to ask about the status of litigation related to this tool, and whether the Administration has come across any other funding options for this kind of program.

Erin Mendenhall
Mayor

DEPARTMENT of **COMMUNITY** and **NEIGHBORHOODS**
Blake Thomas
Director

CITY COUNCIL TRANSMITTAL

Lisa Shaffer, Chief Administrative Officer

Date Received: 9/15/2021
Date sent to Council: 9/15/2021

TO: Salt Lake City Council
Amy Fowler, Chair

DATE:

FROM: Blake Thomas, Director, Department of Community & Neighborhoods

SUBJECT: Livable Streets Program – Results and Recommendations

STAFF CONTACT: Lara Handwerker, Transportation Planner, lara.handwerker@slcgov.com or (801) 535-7175

DOCUMENT TYPE: Briefing/Discussion

RECOMMENDATION: It is requested that the Council review the following summary of the Program outcomes and provide guidance, with a special emphasis on the policy questions laid out in the "Request for Comment" section below.

BUDGET IMPACT: None at this time. If Council approves Program, staffing and capital budget would be required.

BACKGROUND/DISCUSSION: Following sustained calls for a renewed Citywide traffic calming program, the City Council allocated funding in 2019 for a traffic calming program study. The Livable Streets Program is the culmination of that study. The Program aims to implement neighborhood traffic calming in Salt Lake City on a citywide scale. The program uses a data-driven, transparent, and equitable prioritization process to create a plan to implement traffic calming improvements in the areas of Salt Lake City that are most in need.

The Livable Streets Program has identified 403.5 miles of candidate streets on which traffic calming treatments could be implemented through the Livable Streets Program. These streets were separated into 113 distinct zones to provide structure for all phases of implementation: community engagement, design development, and construction. A zonal approach considers the neighborhood network with the intent to encourage any diversion of vehicular traffic towards

major streets rather than minor, neighborhood streets. This study prioritized the 113 zones to help the City decide where to initially spend potential traffic calming funds. The zones were prioritized based on factors such as injury crashes, prevailing traffic speeds, access to community assets, and socioeconomic data, including households without cars and households living below the poverty line. Candidate streets and scored zones are shown in Exhibit A.

The Livable Streets Program also includes an update to the City's traffic calming treatment toolkit from 2003. These treatments were selected based on experience with similar treatments in Salt Lake City, as well as their ability to affect traffic behavior as shown in existing installations.

Implementation of the program will include in-depth engagement efforts, data collection and analysis, design development, and implementation. It will require new staff members to manage these activities. Based on past experience and recent constituent requests, a key to success is sufficient staffing to meet the City's expectations for an engaged process and satisfactory outcomes. It is recommended that at least three FTEs be added to deliver zone-based implementations. It will also require significant capital funds.

Staffing and capital expenditures will need to scale proportionally. It is estimated that a total annual budget of $700,000 and $1,000,000 annually could fund the program, depending on the desired level of implementation. Potential treatments and costs can be found on pages 15 – 25 of the report in Exhibit A.

REQUEST FOR COMMENT:

The Livable Streets Program presents a tremendous opportunity to engage with a wide variety of Salt Lake City residents to improve livability everywhere. The program will require ongoing funding, staffing, management, and support from elected and appointed officials and residents.

The following are policy decisions for Council consideration:

1. Should capital funding for implementation of the Livable Streets Program go through the CIP process, or have an independent budget line item?
2. Could funding for new Livable Streets staff come from Funding Our Future?
3. Should the Program's implementation proceed through the prioritized list at a Citywide level, or should it proceed through the prioritized zones, Council district by Council district?
4. Is there a desire to provide staff and resources to respond to complaints with quick-build projects in addition to implementing the prioritized zones?

PUBLIC PROCESS:

Future engagement: The Livable Streets Program will benefit from early community outreach through application of a consistent set of strategies. Outreach will inform Program staff of local

issues and inform residents of upcoming changes to their neighborhoods. The Livable Streets Program Public Engagement Toolkit, included in Exhibit A, is a thoughtful strategy for repeatable community engagement that should produce optimal outcomes for residents and City staff alike.

Notification for high-scoring zones should occur following announcement of the program and directly in advance of the presentation to their respective Community Council meeting. The notice should utilize the flier template included in Appendix A, explain the goals of the program, why the respective zone and included streets qualified, and invite residents to participate in the Community Council meeting. Fliers should be provided to all residents within one block in all directions of the identified high-score zone. Presentations to all Community Councils are only recommended during program launch. Following notification of the program and initial high-scoring zones, smaller community-based engagement is recommended.

Once residents have been notified of a high-scoring zone, potential solutions should be discussed in a zone meeting. These meetings are designed as open forums for discussion because there are often multiple solutions that could be implemented to meet the needs of the community and the Livable Streets program goals.

Past engagement: The Livable Streets project team hosted a public survey from June 13-July 26, 2021. There were 464 total responses from SLC residents. In addition to reducing vehicle speed on neighborhood streets, residents also expressed interest in the program adding or enhancing green space, trees, and bike facilities. 55% of respondents indicated they would prefer seeing fewer neighborhoods receive improvements but have higher-cost/more durable installations in each, while 42% indicated a preference for more neighborhoods receiving improvements but having lower-cost/less durable installations in each.

Traffic calming issues are a very common resident concern. They were the top complaint received in the Transportation Division office in 2020, followed by issues related to traffic signage, and then parking.

EXHIBITS:

A) Livable Streets Final Report, including Public Engagement Toolkit

Image Credit: Lance Tyrell

LIVABLE STREETS PROGRAM

SALT LAKE CITY

Prepared for

August 3, 2021

CONTENTS

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EXECUTIVE SUMMARY

Image Credit: Lance Tyrell

The Livable Streets Program aims to implement neighborhood traffic calming in Salt Lake City at a citywide scale. The program uses a data-driven, transparent, and equitable prioritization process to create a plan to implement traffic calming improvements in the areas of Salt Lake City that are most in need. This document covers the program's background, goals, prioritization process, applicable treatments, and program management recommendations.

PROGRAM ORIGINS

Salt Lake City managed a neighborhood traffic calming program that ceased operations more than 15 years ago. In that time, other transportation priorities for the City have come and gone, with multimodal safety, sustainable mobility, and equitable investment in transportation infrastructure being recurring themes through recent administrations. Following sustained calls for a renewed Citywide traffic calming program, City Council allocated funding in 2019 for a traffic calming program study. This report is the culmination of that study.

PROGRAM GOALS

Salt Lake City seeks to improve comfort and livability in all of its neighborhoods. The Livable Streets Program uses a variety of data to determine where measures should be implemented to calm traffic and improve the overall safety, livability, and attractiveness of residential streets in Salt Lake City.

PROGRAM DEVELOPMENT AND OUTCOMES

The Livable Streets Program has identified 403.5 miles of candidate streets on which traffic calming treatments could be implemented through the Livable Streets Program. These streets were separated into 113 distinct zones to provide structure for all phases of implementation: community engagement, design development, and construction. This study prioritized the 113 zones in order to help the City decide where to spend potential traffic calming funds. The zones were prioritized based on factors such as injury crashes, prevailing traffic speeds, access to community assets, and socioeconomic data, including households without cars and households living below the poverty line. This data and prioritization will be periodically refreshed to ensure the areas of Salt Lake City in the greatest need of traffic calming are being invested in sooner rather than later.

The Livable Streets Program also includes an update to the City's Engineering Division-approved set of traffic calming treatments. These treatments were selected based on experience with similar treatments in Salt Lake City, as well as their ability to affect traffic behavior as shown in existing applications. These treatments were compiled in a traffic calming toolkit presented later in this report.

RECOMMENDATIONS

The Livable Streets Program presents a tremendous opportunity to engage with a wide variety of Salt Lake City residents to improve livability everywhere. The program will require ongoing funding, staffing, management, and support from elected and appointed officials.

PROGRAM MANAGEMENT

A successful Livable Streets Program would require at least three dedicated City staff people to manage the program. Duties for staff would include engagement efforts, data collection and analysis, design development, and implementation. Separate staff would be needed to work on quick-build measures and permanent implementation. Depending on annual funding allocations and the scale of potential implementation in a given year, the

program will need a fourth dedicated staff person.

The program relies on a data-driven approach to target areas of Salt Lake City for traffic calming improvements rather than responding to community requests. Therefore, consistent messaging about program goals and adhering to the established prioritization will be critical to success. Allowing for adjustment as the program matures will be essential, but maintaining a consistent approach to how each zone is engaged with and treated will serve the program well.

Beyond engaging with community members in specific areas of the city, early input from and collaboration with partner agencies will allow for successful implementation over the life of the program. Developing prototype designs to be tested by the Utah Transit Authority, Salt Lake City Fire Department, and other municipal agencies to minimize adverse effects to critical operations by partners will further the success and reach of the Livable Streets Program.

COMMUNITY ENGAGEMENT

A core principle of the Livable Streets Program is that comprehensive community engagement applied on a consistent basis will lead to optimal outcomes for the City and residents alike. As with other elements of the program, maintaining flexibility while applying the program's dedicated community engagement handbook on an ongoing basis will allow the program to reach a broad cross-section of communities. The Livable Streets Public Engagement Toolkit is included as an attachment to this report.

ONGOING IMPLEMENTATION AND EVALUATION

The Livable Streets Program's data-driven prioritization process should be updated on a periodic, ongoing basis. New crash data will be available annually, allowing for regular and ongoing evaluation of the performance of previous treatments, and demographic data will be updated every five years through the American Community Survey.

Salt Lake City should collect and compare traffic speeds and volumes before and after each instance of implementation. The City should also engage in ongoing communication with individual communities to provide insight into how specific treatments are performing and offer opportunity for refinements.

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BACKGROUND

Salt Lake City's Transportation Division managed a traffic calming program until approximately 2005. The program succeeded in implementing traffic calming measures; however, the program was set up to respond to requests from community members rather than relying on more objective metrics. This led to a higher concentration of traffic calming being implemented on the east side of the city. The implementation of measures on a street-by-street basis also led to criticism that traffic was merely being pushed onto adjacent streets rather than being successfully slowed.

Crucially, this investment was not uniformly appreciated in communities where it was taking place. The challenge of managing the geographic expansion of the program, combined with regular complaints from residents, led the program to become untenable. The effort required to stay abreast of ongoing requests, manage community engagement procedures, and collect and analyze the traffic data required led to a discontinuation of the program.

RECENT INTEREST

Recently, City Council has received repeated requests for a refreshed traffic calming program in Salt Lake City. The broader transportation goals of multimodal safety and mobility for all have moved beyond major arterials and into neighborhoods around the city. This led to the allocation of funding for the Salt Lake City Transportation Division to explore how a citywide traffic calming program, prioritizing equitable investment across the city, could work.

PROGRAM GOALS

Salt Lake City seeks to improve comfort and livability in all of its neighborhoods. The Livable Streets Program relies on a variety of data to determine where measures should be implemented to calm traffic and improve the overall safety, livability, and attractiveness of neighborhood streets in Salt Lake City.

EQUITABLE INVESTMENT

The Livable Streets Program was designed to promote equitable distribution of transportation investment on neighborhood streets in Salt Lake City. This pursuit of equity by investing in parts of Salt Lake City as guided by objective sources is intended to focus investment in parts of Salt Lake City where it is most needed. Equitable investment of transportation spending through the Livable Streets Program relies heavily on a transparent, data-driven process.

DATA DRIVEN PROCESS

At a citywide scale, a neighborhood traffic calming program such as the Livable Streets Program requires a consistent set of metrics for evaluating the need for traffic calming in each neighborhood. By relying on a data-driven process, described in more detail later in this report, the Livable Streets Program is able to directly invest and affect change in parts of Salt Lake City that are most in need.

CONSISTENCY

While aspects of Livable Streets' processes are likely to change as the program matures through rounds or years of implementation, the Program seeks to maintain a consistent approach to prioritizing and implementing projects. In addition to a consistent implementation approach, the Livable Streets Program seeks to employ consistent messaging and communication, centralized within the Salt Lake City Transportation Division to manage community expectations and program outcomes.

PROGRAM DEVELOPMENT

The Livable Streets Program's goal is to improve the comfort and livability of neighborhood streets. Salt Lake City first needed to define which neighborhood streets would be considered candidates for the program. Candidate streets were then broken into 113 implementation zones, or defined geographies in which implementation will occur. Those zones were prioritized based on a variety of data to identify areas of Salt Lake City most in need of immediate investment. A toolkit of traffic calming treatments tailored to Salt Lake City's streets was assembled, as well as a Livable Streets Program-specific community outreach and engagement plan.

CANDIDATE STREETS

The Livable Streets Program identified 403.5 miles of candidate streets throughout Salt Lake City that met the following criteria:

- Have a posted speed limit of 30 mph or less
- Are owned and maintained by Salt Lake City
- Have three or fewer travel lanes
- Are not part of a university campus or contained within a public park
- Are not slated for improvements through any other funded program
- Are adjacent to areas with a residential land use component

Streets used by Utah Transit Authority (UTA) bus routes and designated emergency routes that met the criteria above are considered candidates for the Livable Streets Program. These streets will require additional vetting and approval by both UTA and the Salt Lake City Fire Department during the design and implementation process.

Candidate Streets for the Livable Streets Program are shown in **Figure 1**.

Figure 1: Candidate Streets

ZONE STRUCTURE

In total, 113 zones were created to prioritize implementation of traffic calming on streets therein, and to manage community expectations of when and where traffic calming could be implemented.

Zones, which will be the areas in which outreach and implementation happens, were established based on natural barriers, major streets, and City Council district boundaries. Zones were sized to be roughly similar, though some variation was inevitable. The zone structures were also designed to encourage any diversion of vehicular traffic towards major streets rather than minor, neighborhood streets.

The resulting 113 zones are shown in **Figure 2**.

Figure 2: Zone Map

PRIORITIZATION PROCESS

The zone prioritization process was used to identify areas of Salt Lake City in need of more immediate traffic calming implementation. This pursuit of equity relied on a variety of data sets:

CRASH DATA

Recorded traffic crashes on candidate streets during the five-year period of 2016-2020 that resulted in fatalities and/or injuries for pedestrians, bicyclists, and motorists involved.

SPEED DATA

Average speeds recorded by connected, GPS-enabled vehicles (made available through Wejo, a data vendor) and how they compared to the posted speed limit from October 2019.

DEMOGRAPHIC DATA

The number of households within each zone, and the percent of those households recorded as living below the federal poverty line, identifying as Hispanic and/or non-white, and not having access to a car according to the most recent American Community Survey (2016).

COMMUNITY ASSETS

The density of community assets within a specific zone, including schools, health facilities, community centers, and parks.

Maps of these data sets are included in Attachment A.

These data sets were applied to all zones and summarized within each zone boundary. The number of households in a zone was used to compare the rate or density of each metric within a zone, which was summed to determine a final score for each zone. The sum of those scores determined a final rank for each zone between 1 and 113; a lower number/ranking indicates a higher priority for more immediate implementation.

The prioritized zones are shown in **Figure 3.**

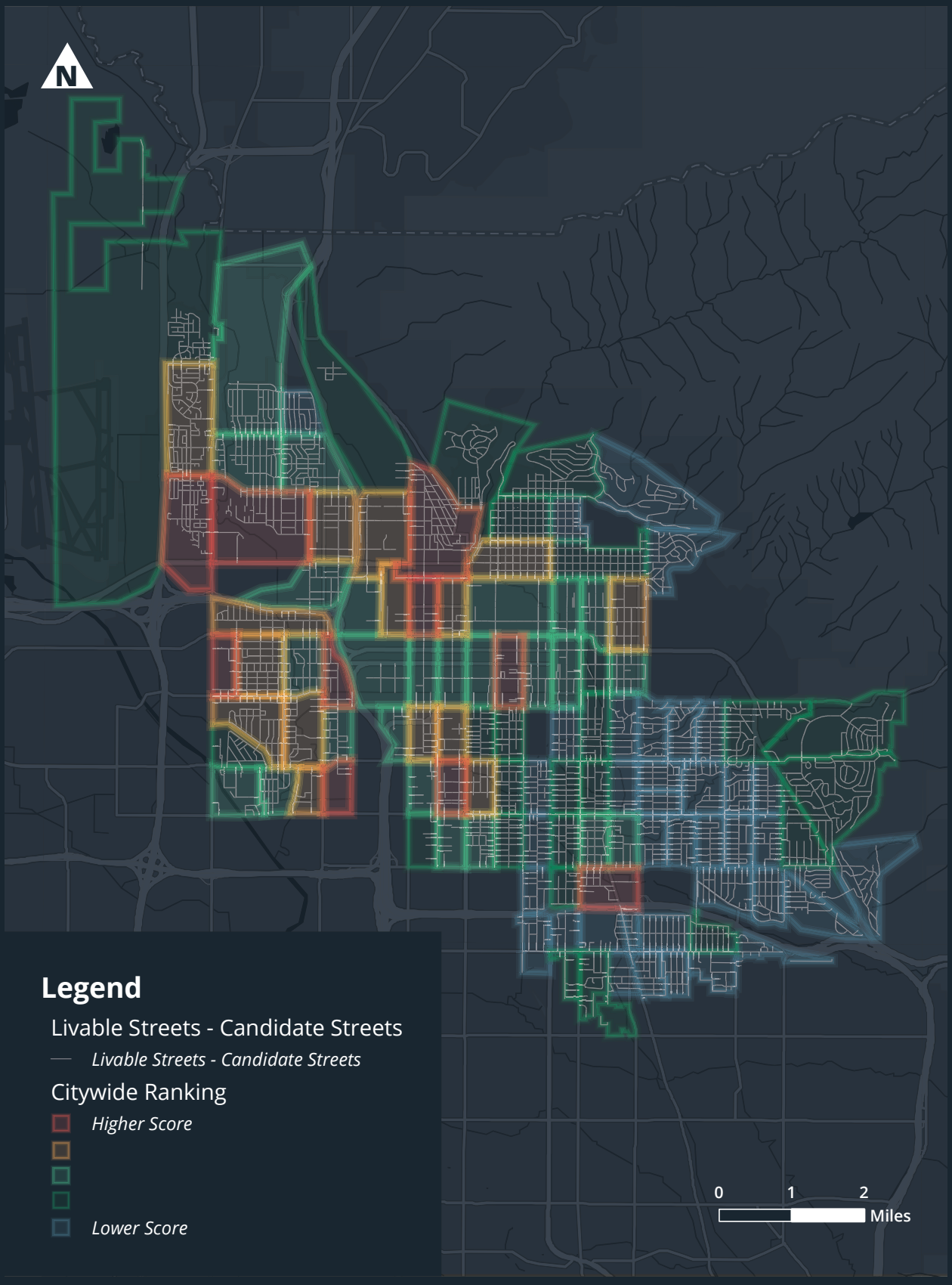


Figure 3: Prioritized Zone Map

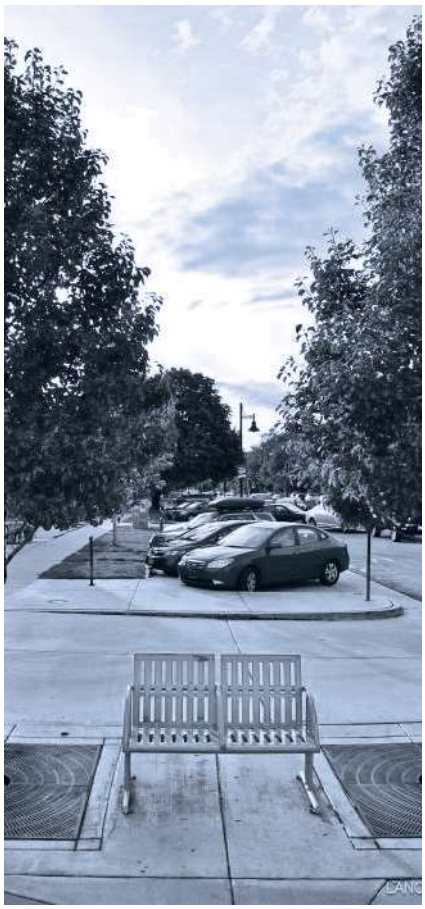
TRAFFIC CALMING TOOLKIT

The following treatments are what will be implemented through the Livable Streets program if or when it commences. These treatments have been vetted by various departments of the Salt Lake City government, and almost all exist in some form on Salt Lake City streets today.

Potential Treatments

Summary

This Toolbox contains 19 different devices that address concerns such as speeding vehicles, high traffic volumes, cut-through traffic, or safety concerns. The devices vary in their ability to treat various traffic-related concerns. ●



A. NON-PHYSICAL DEVICES

Speed Trailer
Speed Feedback Sign
Centerline/Edgeline Lane Striping
Signage
Education

B. SPEED CONTROL DEVICES

B1. VERTICAL DEVICES

Speed Lump/Cushion
Speed Hump
Speed Table
Raised Crosswalk

B2. HORIZONTAL DEVICES

Traffic Circle
Roundabout
Medians with Horizontal Deflection
Slow Turn Wedges

B3. NARROWING DEVICES

Curb Extension/Bulb-Out
Choker
Pedestrian Refuge Island
Street Trees

C. VOLUME CONTROL DEVICES

Forced Turn Island

A. NON PHYSICAL DEVICES

QUICK BUILD OPTION | SLC APPROPRIATE

TREATMENT

SPEED TRAILER

APPROXIMATE COST $10,000 - 15,000

ADVANTAGES
- Relatively low cost
- Quick implementation/immediate feedback
- Does not require officer to be present
- Can be moved to different locations
- Data can be recorded

DISADVANTAGES
- Effectiveness may be temporary

Portable speed trailers visually display drivers' real-time speeds compared to the speed limit. This device serves as an educational tool, as it allows both the driver and other people using the street to observe the actual speeds at which vehicles are traveling. This encourages the driver to adjust their speed in accordance with the speed limit. Speed trailers are not substitutes for permanent actions. If the technology allows it, the agency can use innovative strategies that give positive reinforcement for adhering to the speed limit. Scotland's automated speed signs show drivers who travel the speed limit a smiley face and message such as "thanks for driving safely."

QUICK BUILD OPTION | SLC APPROPRIATE

TREATMENT

CENTERLINE/EDGELINE LANE STRIPING

APPROXIMATE COST $2-3 / linear foot

ADVANTAGES
- Inexpensive
- Can be used to create bicycle lanes or delineate on-street parking
- Does not slow emergency vehicles

DISADVANTAGES
- Has not been shown to significantly reduce travel speeds
- Requires regular maintenance

Lane striping can be used to create formal bicycle lanes, parking lanes, or edge lines. As a traffic management measure, they are used to narrow the travel lanes for vehicles.

Non-physical devices include any measure that does not require physical changes to the roadway. They are intended to increase drivers' awareness of surroundings and influence driver behavior without physical devices. Because these devices are not self-enforcing, they have limited effectiveness as stand-alone devices and should supplement physical devices.

QUICK BUILD OPTION | SLC APPROPRIATE

TREATMENT

SPEED FEEDBACK SIGN

APPROXIMATE COST $7,000 - 15,000

ADVANTAGES
- Real-time speed feedback
- Does not physically slow emergency vehicles or buses
- Permanent installation
- Speed and count data can be recorded
- Often solar powered

DISADVANTAGES
- Effectiveness may be temporary
- May require power source or stop working if solar power is insufficient
- Only effective for one direction of travel
- Subject to vandalism

Speed feedback signs measure each approaching vehicle's speed. Real-time speeds are relayed to drivers and flash when speeds exceed the limit. Speed feedback signs are typically mounted on or near speed limit signs and are most common in school zones.

QUICK BUILD OPTION | SLC APPROPRIATE

TREATMENT

SIGNAGE

APPROXIMATE COST $100 - 750 / sign

ADVANTAGES
- Truck restrictions can reduce through truck traffic
- Turn restrictions can reduce cut-through traffic at specific time of day
- Does not slow emergency vehicles or buses
- Can increase safety at an intersection by prohibiting certain turning movements
- Low cost

DISADVANTAGES
- Turn restrictions require enforcement during time of restriction to be effective
- May divert a traffic problem to another street

Signage that can be used as a traffic management measure include truck restriction signs and signs, and general turn restrictions. Turn-movement restrictions involve the use of signs to prevent undesired turning movements without the use of physical devices. The restrictions may generally apply to turning movements in or out of a residential street to a larger street. The turn-movement restrictions may be permanent or only during peak commute hours.

A. NON PHYSICAL DEVICES (CONT'D)

QUICK BUILD OPTION | SLC APPROPRIATE

TREATMENT

EDUCATION

APPROXIMATE COST Varies

ADVANTAGES
- Relatively inexpensive
- Can be implemented incrementally over time

DISADVANTAGES
- Staff time required to maintain these resources

A variety of education strategies can be used to educate people on the safety risks associated with speeding. Changing driver behavior and attitudes will require increased public safety education. The following strategies can be employed by agencies as funding and Staff resources allow: Brochure - describe the Traffic Calming Program and process. Traffic Safety newsletter (jurisdiction-wide and/or neighborhood specific) – provide information on volumes, speeds, speeding fines (particularly in school zones), and average speeds; describe traffic concerns and recommendations; provide reminders of traffic laws and traffic safety tips for all modes. Website – have a designated page on the agency's website to provide information on the Traffic Calming Program and the same information recommended for the newsletter. Speed yard signs – implement a public safety education campaign targeting safe speeds. Make yard signs available to the public for free. They should be brightly colored and include phrases like, "Look out for each other," "Keep kids safe," and "SLOW DOWN. Drive like you live here."

B. SPEED CONTROL DEVICES:

B1. VERTICAL DEVICES

Vertical deflection devices use variations in pavement height and alternative paving materials to physically reduce travel speeds. These devices are designed for travel speeds over the device of approximately 15 to 20 MPH depending on the device.

QUICK BUILD OPTION | SLC APPROPRIATE

TREATMENT

SPEED LUMP/CUSHION

APPROXIMATE COST $3,000 - 5,000

ADVANTAGES
- Effective in reducing speeds
- Maintains rapid emergency response times
- Relatively easy for bicyclists to cross

DISADVANTAGES
- Maintenance and snow removal can be challenging
- Vehicles with wide wheel base can pass through the lump using the wheel cut-outs
- Increased noise from vehicles accelerating

Speed lumps are rounded, raised areas placed across the road with two wheel cut-outs designed to allow large vehicles, such as emergency vehicles and buses, to pass with minimal slowing. The design limits passenger cars and mid-size SUVs from fully passing through the cut-outs and requires travel over the lump. They are slightly less than four inches high, typically parabolic in shape, and have a design speed of 15 to 20 MPH. A series of speed lumps are often needed to retain slower speeds over a longer distance.

QUICK BUILD OPTION | SLC APPROPRIATE

TREATMENT

SPEED HUMP

APPROXIMATE COST $3,000 - 5,000

ADVANTAGES
- Effective in reducing speeds

DISADVANTAGES
- Slows down emergency vehicles and buses
- Maintenance and snow removal can be challenging
- Increased noise
- More difficult for bicyclists to cross

Speed humps are rounded raised areas placed across the road, but unlike speed lumps, they do not have cut-outs for large vehicles and bicycles. They are typically 3-3.5 inches high, typically parabolic in shape, and have a design speed of 15 to 20 MPH. A series of speed humps are often needed to retain slower speeds over a longer distance.

B. SPEED CONTROL DEVICES:
B1. VERTICAL DEVICES (CONT'D)

QUICK BUILD OPTION **SLC APPROPRIATE**

TREATMENT

SPEED TABLE

APPROXIMATE COST $20,00 - 30,000

ADVANTAGES
- Effective in reducing speeds, though not to the extent of speed lumps
- Maintenance easier than speed lumps
- Slightly higher design speed compared to speed lumps makes them compatible with collector streets and on grades

DISADVANTAGES
- Increased noise

Speed tables are flat-topped speed humps approximately 22 feet long, which is typically long enough for the entire wheelbase of a passenger car to rest on top. Their long flat fields, plus ramps that are more gently sloped than speed lumps, give speed tables higher design speeds than lumps and thus may be more appropriate for streets with higher ambient speeds. Concrete is the preferred material. Stamped concrete can give the appearance of brick or other textured materials, which would improve the appearance of speed tables, draw attention to them, and may enhance safety and speed reduction.

QUICK BUILD OPTION **SLC APPROPRIATE**

TREATMENT

RAISED CROSSWALK

APPROXIMATE COST $20,000 - 30,000

ADVANTAGES
- Effective in reducing speeds, though not to the extent of speed lumps
- Maintenance easier than speed lumps
- Improve safety for both vehicles and pedestrians

DISADVANTAGES
- Increased noise
- Impact to drainage needs to be considered

Raised crosswalks are speed tables striped with crosswalk markings and signage to channelize pedestrian crossings, providing pedestrians with a level street crossing. Also, by raising the level of the crossing, pedestrians are more visible to approaching motorists. Stamped concrete can give the appearance of brick or other textured materials, which would improve the appearance of speed tables, draw attention to them, and may enhance safety and speed reduction.

B. SPEED CONTROL DEVICES:
B2. HORIZONTAL DEVICES

Horizontal deflection devices use raised islands to eliminate straight-line paths along roadways and through intersections.

QUICK BUILD OPTION | SLC APPROPRIATE

TREATMENT

TRAFFIC CIRCLE

APPROXIMATE COST $15,000 - 50,000

ADVANTAGES
- Very effective in moderating speeds and improving safety
- Can have positive aesthetic value

DISADVANTAGES
- If not designed properly, difficult for emergency vehicles or large trucks to travel around
- Must be designed so that the circulating traffic does not encroach on crosswalks
- Potential loss of on-street parking

Traffic circles are raised islands, placed in intersections, around which traffic circulates. Stop signs or yield signs can be used as traffic controls at the approaches of the traffic circle. Circles prevent drivers from speeding through intersections by impeding the straight-through movement and forcing drivers to slow down to yield. Depending upon the size of the intersection and circle, trucks may be permitted to turn left in front of the circle, and the agency can use mountable curbs if turn radii are a concern for emergency vehicles and/or trucks.

QUICK BUILD OPTION | SLC APPROPRIATE

TREATMENT

ROUNDABOUT

APPROXIMATE COST $150,000+

ADVANTAGES
- Enhanced safety compared to a traffic signal or stop sign
- Minimizes queuing at approaches to the intersection
- Less expensive to operate than traffic signals
- Can have positive aesthetic value
- Shorter pedestrian crossing distance

DISADVANTAGES
- May require major reconstruction of an existing intersection
- Loss of on-street parking
- Continuous flow of traffic limits opportunity for pedestrians to cross (compared to signal)
- May present additional obstacles to visually impared pedestrians

Like traffic circles, roundabouts require traffic to circulate counterclockwise around a center island. But unlike circles, roundabouts are used on higher volume streets to allocate right-of-way among competing movements. They are found primarily on collector streets, often substituting for traffic signals. They are larger than neighborhood traffic circles, have raised splitter islands to channel approaching traffic to the right, and do not have stop signs. Due to large amount of required right-of-way and construction costs, roundabouts may be most appropriate for new developments or redevelopment areas.

B. SPEED CONTROL DEVICES:
B2. HORIZONTAL DEVICES (CONT'D)

QUICK BUILD OPTION | SLC APPROPRIATE

TREATMENT

MEDIANS WITH HORIZONTAL DEFLECTION

APPROXIMATE COST $10,000 - 15,000

ADVANTAGES
- Effective in moderating speeds and improving safety
- Where pedestrian crossing activity is expected, can provide two-stage crossing opportunities
- Can have positive aesthetic value

DISADVANTAGES
- Can increase potential for fixed object collisions
- Potential loss of on-street parking

Medians are raised islands placed in the middle of the roadway around which traffic circulates. Medians do not always have horizontal deflection. To meet this definition, a median must extend into the travel lane to eliminate the straight-line path and force drivers to slow down to navigate around the measure.

QUICK BUILD OPTION | SLC APPROPRIATE

TREATMENT

SLOW TURN WEDGES

APPROXIMATE COST $1,000 - 3,000

ADVANTAGES
- Effective in reducing speeds and conflicts with pedestrians/bicyclists
- Discourages drivers from cutting corners and encourages following the proper path when making left turns
- Low cost

DISADVANTAGES
- Potentially limited to one-way streets
- Less durable than raised concrete islands

Slow turn wedges use markings and flexible plastic posts to buffer pedestrians from traffic and shrink the area where they could get hit by a car.

B. SPEED CONTROL DEVICES:

B3. NARROWING DEVICES

Narrowing devices use raised islands, curb extensions, and other treatments to narrow the travel lane for motorists. They are not as effective as vertical or horizontal devices, but can still provide traffic calming.

QUICK BUILD OPTION | SLC APPROPRIATE

TREATMENT

BULB-OUT/CURB EXTENSION

APPROXIMATE COST $20,000 - 100,000

ADVANTAGES
- Reduces pedestrian crossing distance and exposure to vehicles
- Through and left-turn movements are easily negotiable by large vehicles
- Creates protected on-street parking bays
- Reduces speeds (especially right-turning vehicles)

DISADVANTAGES
- Effectiveness is limited by the absence of deflection
- May slow right-turning emergency vehicles
- Potential loss of on-street parking

Bulb-outs and curb extensions extend the sidewalk or pedestrian space to narrow the roadway. Their effectiveness in calming traffic is limited by the absence of vertical or horizontal deflection, but they can still be beneficial. Bulbouts can make intersections more pedestrian friendly by shortening the crossing distance and decreasing the curb radii, thus reducing turning vehicle speeds. Both of these effects increase pedestrian comfort and safety at the intersection.

QUICK BUILD OPTION | SLC APPROPRIATE

TREATMENT

CHOKER

APPROXIMATE COST $20,000 - 60,000

ADVANTAGES
- Easily negotiable by emergency vehicles and buses
- Can have positive aesthetic value
- Reduces speeds

DISADVANTAGES
- Effect on vehicle speeds is limited by the absence of vertical or horizontal deflection
- May require bicyclists to briefly merge with vehicular traffic
- Loss of on-street parking
- Build-up of debris in gutter

Chokers are curb extensions at midblock that narrow a street. Chokers leave the street cross section with two lanes that are narrower than the normal cross section. Their effectiveness in calming traffic is limited by the absence of vertical or horizontal deflection, but they can still be beneficial.

B. SPEED CONTROL DEVICES:
B3. NARROWING DEVICES (CONT'D)

QUICK BUILD OPTION | SLC APPROPRIATE

TREATMENT

PEDESTRIAN REFUGE ISLAND

APPROXIMATE COST $10,000 - 20,000

ADVANTAGES
- Can increase pedestrian safety
- Can have positive aesthetic value
- Reduces speeds

DISADVANTAGES
- Effect on vehicle speeds is limited by the absence of vertical or horizontal deflection
- Potential loss of on-street parking

Medians are raised islands placed in the middle of the roadway around which traffic circulates. Medians without horizontal deflection do not extend into the travel lane, maintaining a straight-line path for drivers. While they are not as effective as medians with horizontal deflection, they can still be beneficial. They can act as pedestrian refuges, increasing pedestrian safety, and provide aesthetic benefits.

QUICK BUILD OPTION | SLC APPROPRIATE

TREATMENT

STREET TREES

APPROXIMATE COST Varies

ADVANTAGES
- Low cost
- Positive aesthetic value and placemaking
- Reduces speeds, though studies limited
- Environmental benefits like reduced flooding and carbon emissions
- Shade enhances pedestrian experience

DISADVANTAGES
- Requires maintenance

Trees placed along streets can potentially help reduce motor vehicle speeds and collisions, though studies show mixed results. Streets lined with trees or with landscaped center medians can affect driver perception of lane width, called an "edge effect". Street trees require irrigation in arid climates

C. VOLUME CONTROL DEVICES

Diversion devices use raised islands and curb extensions to preclude particular vehicle movements, such as left turn or through movements, usually at an intersection.

QUICK BUILD OPTION | SLC APPROPRIATE

TREATMENT

FORCED-TURN ISLAND

APPROXIMATE COST $10,000 - 20,000

ADVANTAGES
- Can improve safety at an intersection by prohibiting critical turning movements
- Reduces traffic volumes

DISADVANTAGES
- If designed improperly, drivers can maneuver around the island to
- make an illegal movement
- May divert a traffic problem to a different street

Forced-turn islands are raised islands that prohibit certain movements on approaches to an intersection.

PROGRAM MANAGEMENT

The potential scope and impact of the Livable Streets Program is immense and will require dedicated management and resources to ensure its continued success. The management of the Program can generally be described as requiring focus on community outreach and implementation.

OUTREACH

The Livable Streets Program will benefit from early community outreach through application of a consistent set of strategies. Outreach will inform Program staff of local issues and inform residents of upcoming changes to their neighborhoods. The Livable Streets Program Public Engagement Toolkit, included in this report as an attachment, is a thoughtful strategy for repeatable community engagement that should produce optimal outcomes for residents and City staff alike.

IMPLEMENTATION

Eventual implementation will depend heavily on funding amount, staffing, community input, and the development of design standards and prototypes. However, annual funding for the program should fall somewhere between $700,000 and $1,000,000 annually, covering program staffing, community engagement and implementation needs. For comparison, recent Capital Improvement Plan (CIP) funding for transportation projects has allocated approximately $15,000,000 annually; the Livable Streets Program would represent approximately five to seven percent of that budget.

To understand how individual treatments from the traffic calming toolkit could be applied to SLC neighborhoods, three of the highest priority zones were used as test cases for example implementation. Treatments included in the following figures are examples only; full engineering design and analysis, community input, and City approval will be required before any traffic calming improvements are installed as part of the Livable Streets Program. These examples are shown in **Figures 4 through 6**.

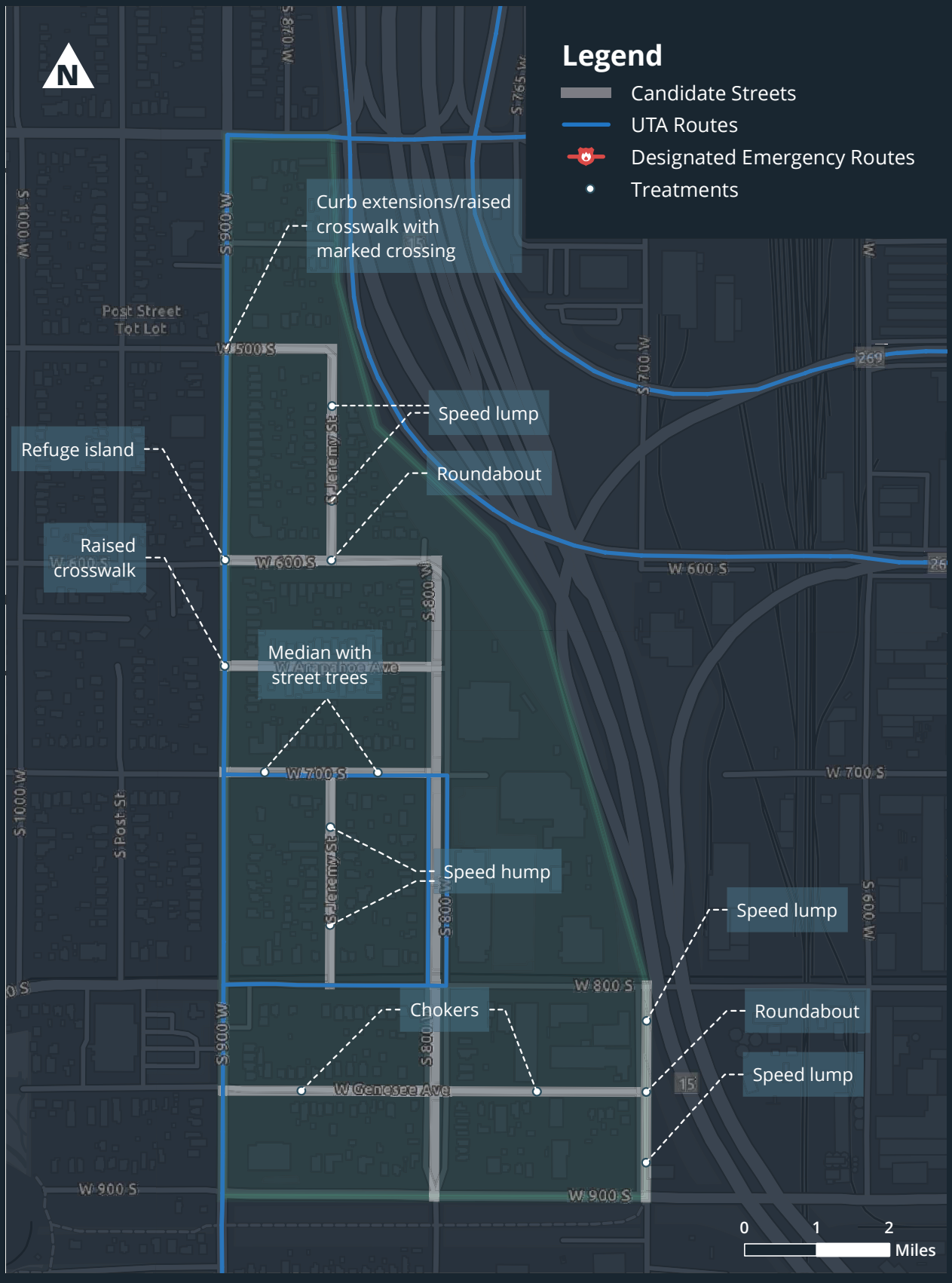


Figure 4: Example Treatment Application #1

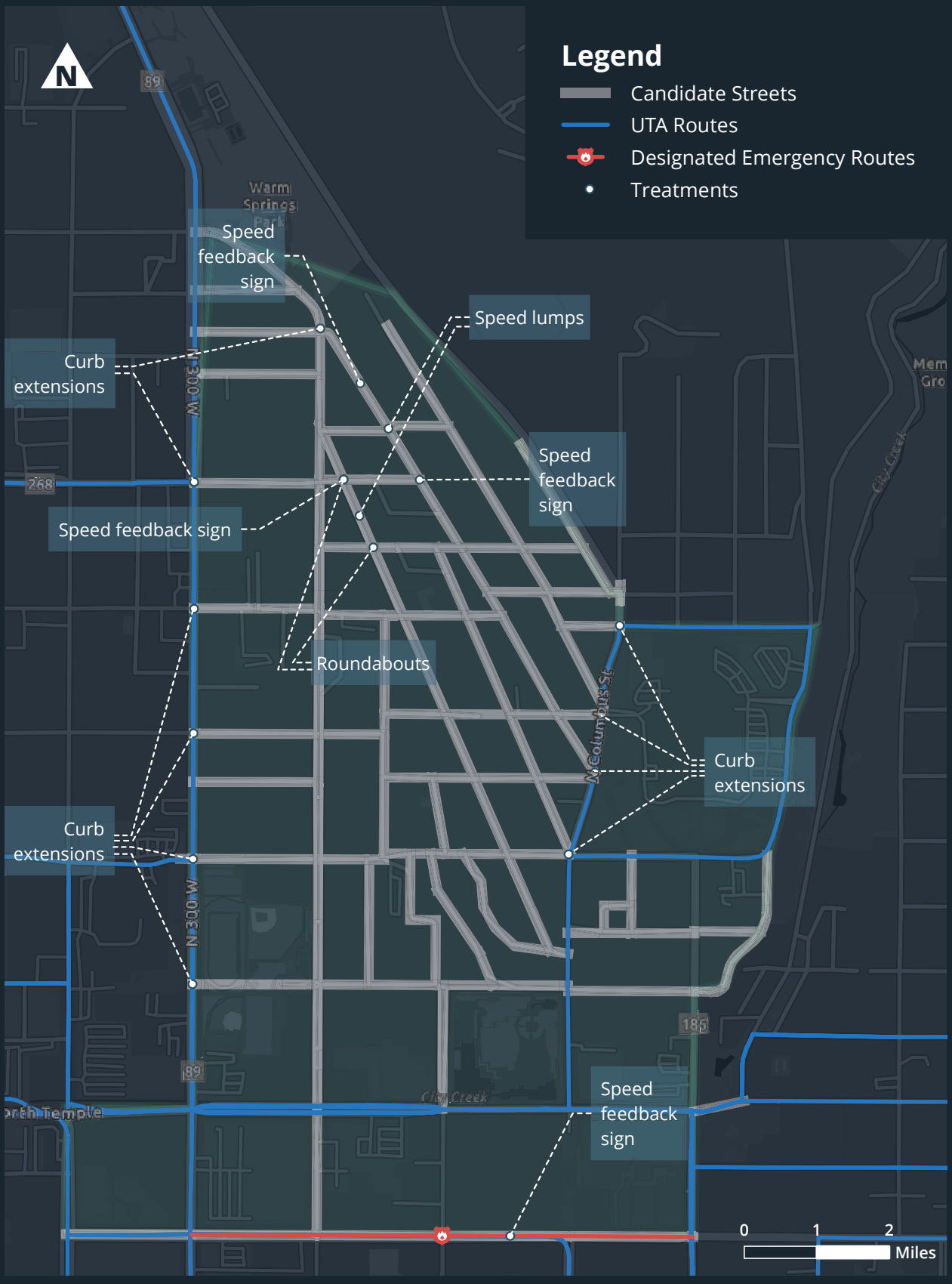


Figure 5: Example Treatment Application #2

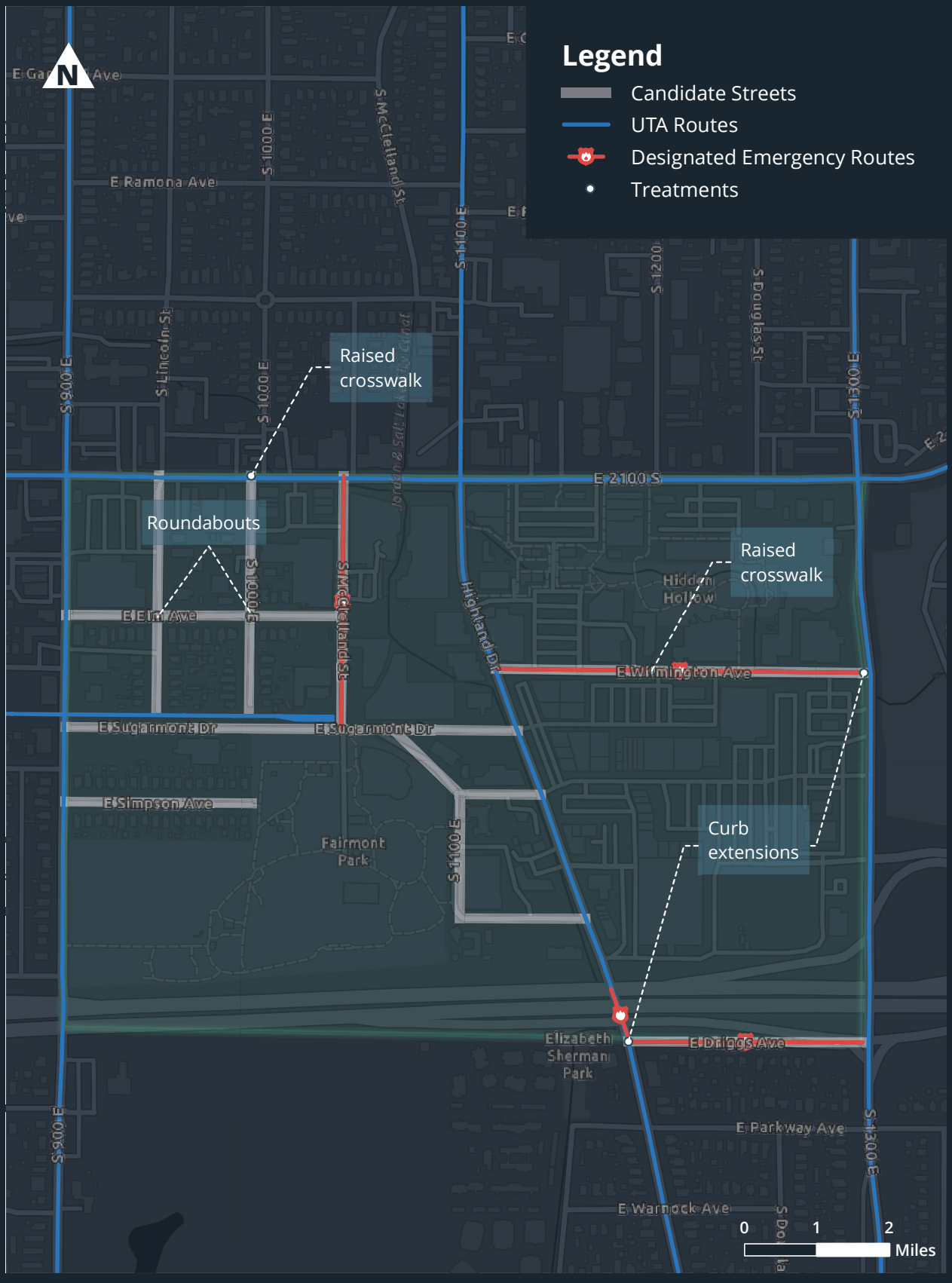


Figure 6: Example Treatment Application #3

RECOMMENDATIONS

The Livable Streets Program will require at least three full-time staff members to manage ongoing outreach and implementation efforts. Staffing at the program outset to develop design prototypes and eventual typical designs may require input from staff outside of the Livable Streets Program.

Support from various departments beyond the Communities and Neighborhoods group will be needed, as coordination with Engineering and Public Utilities will be crucial to the development, implementation, and maintenance of effective traffic calming treatments. Additionally, consistent messaging and support from City Council and the Mayor's office will be essential to the Program's longevity.

As mentioned elsewhere in this report, early and effective coordination with other agencies, most notably the UTA and Salt Lake City Fire Department, will be crucial to the success of the Program. Strong, reliable support from within the Transportation Division and elected officials may be needed if other agencies push back against the implementation of traffic calming at a City-wide scale, as the slowing of traffic and general tightening of roadways does not always align with partner agencies' goals.

Regularly evaluate program performance at the zone- or treatment-level to ensure that target outcomes are achieved, and that traffic calming treatments are not delivering unintended outcomes. This will require ongoing engagement and communication with neighborhoods where traffic calming has been implemented, and through the collection of pre- and post-implementation traffic data including traffic volumes and speeds.

Finally, for the Livable Streets Program to achieve its goals, sustained support will be required over many years. The success of the Program will depend heavily on how Salt Lake City residents respond to all facets of the Program; clear, consistent messaging describing the scope and scale of the Livable Streets Program from its outset will be paramount.