7. DRIVING IN BEVERLY HILLS

This chapter describes existing driving conditions in Beverly Hills, how the community suggested improving traffic, and recommended street/signal infrastructure. Priority projects the City intends to pursue to improve driving in the next six years are detailed in the Complete Streets Action Plan.

WHERE WE ARE TODAY

Understanding existing street conditions in Beverly Hills helped to inform where vehicle improvements are recommended. In conjunction with the Complete Streets Plan, the City is in the process of updating its signal system and reevaluating operations to prepare for advancements in vehicle/signal technology. Through Metro Call for Projects grants, the City has synchronized signals on all major corridors starting in the 1990s. Much of the equipment is approaching the life cycle for replacement. A new software system will allow the City to store signal timing data in a robust database, which would provide greater capabilities for the City to optimize signal operations; reduce the likelihood of system crashes; and allow for implementation of future technology, such as connected and autonomous vehicles, that cannot operate on the City's current system.

The City developed a planning document which includes City staff/consultant roles, planning, implementation, and operations for the upgraded traffic signal system. The project is currently in the planning phase. The City retained KOA Corporation to conduct inventories at each signalized intersection, which includes the hardware/software in the cabinet, signals poles, and signal infrastructure on the poles. The Traffic Management Center located in the Public Works Department is also included as part of the inventory for upgrade. Following the inventory, KOA Corporation will provide the City a narrative on their findings, make

recommendations, and provide bidding documents for implementing a new traffic management system and layout of a new Traffic Management Center.

TRAFFIC AND PARKING

Figure 7-1 shows the average daily traffic (ADT) within the City. ADT is the total volume of vehicle traffic that passes along a highway or road in a typical 24-hour period. It is an important factor to consider when planning improvements to the roadway network and can be used to measure changes in travel patterns, such as increases in cut-through traffic.

The City of Beverly Hills offers public parking through on-street meters and multiple off-street structures. **Figure 7-2** shows the locations for on-street metered parking and **Figure 7-3** shows the location of 18 City-owned parking structures within the City of Beverly Hills. Knowing the location and utilization of on- and off-street parking in the city will help inform future efforts to prepare for autonomous vehicles, as it is possible on-street parking stalls may need to be converted to passenger drop-off/pick-up zones along some commercial corridors.

The City provides 35 Electric Vehicle (EV) charging stations with 59 Level 2 ports, as shown in **Table 7-1**, to encourage the use of low-emission vehicles. Annual on-road sales of EVs are expected to reach eight percent of total new car sales by 2020 and ramp up to 15 percent in 2025.[3] Efforts should be made for similar percentages of parking spaces to be provided with EV chargers.

Table 7-1: Electric Vehicle Charging Stations

ADDRESS	EV CHARGING STATIONS	# OF PORTS/LEVEL 2
345 N. Beverly Drive 4 7	4	7
216 S. Beverly Drive 2 2	2	2
9510 Brighton Way 2 4	2	4
440 N. Camden Drive 2 4	2	4
450 N. Rexford Drive 2 4	2	4
438 N. Beverly Dr. - 439 N. Canon Dr. 2 4	2	4
241 N. Canon Dr. - 242 N. Beverly Dr. 2 4	2	4
9333 W. Third Street 2 4	2	4
461 N. Bedford Drive 2 4	2	4
333 N. Crescent Drive 2 2	2	2
221 N. Crescent Drive 2 3	2	3
9361 Dayton Way 2 2	2	2
450 N. Crescent Drive 4 6	4	6
321 S. La Cienega Blvd. 2 4	2	4
City Council Parking Lot 1 1	1	1
Roxbury Park Community Center	2	4
TOTAL	**35**	**59**

Source: City of Beverly Hills

[3] https://arb.ca.gov/cc/greenbuildings/pdf/tcac2018.pdf, p 8.

Figure 7-1: City of Beverly Hills Average Daily Traffic

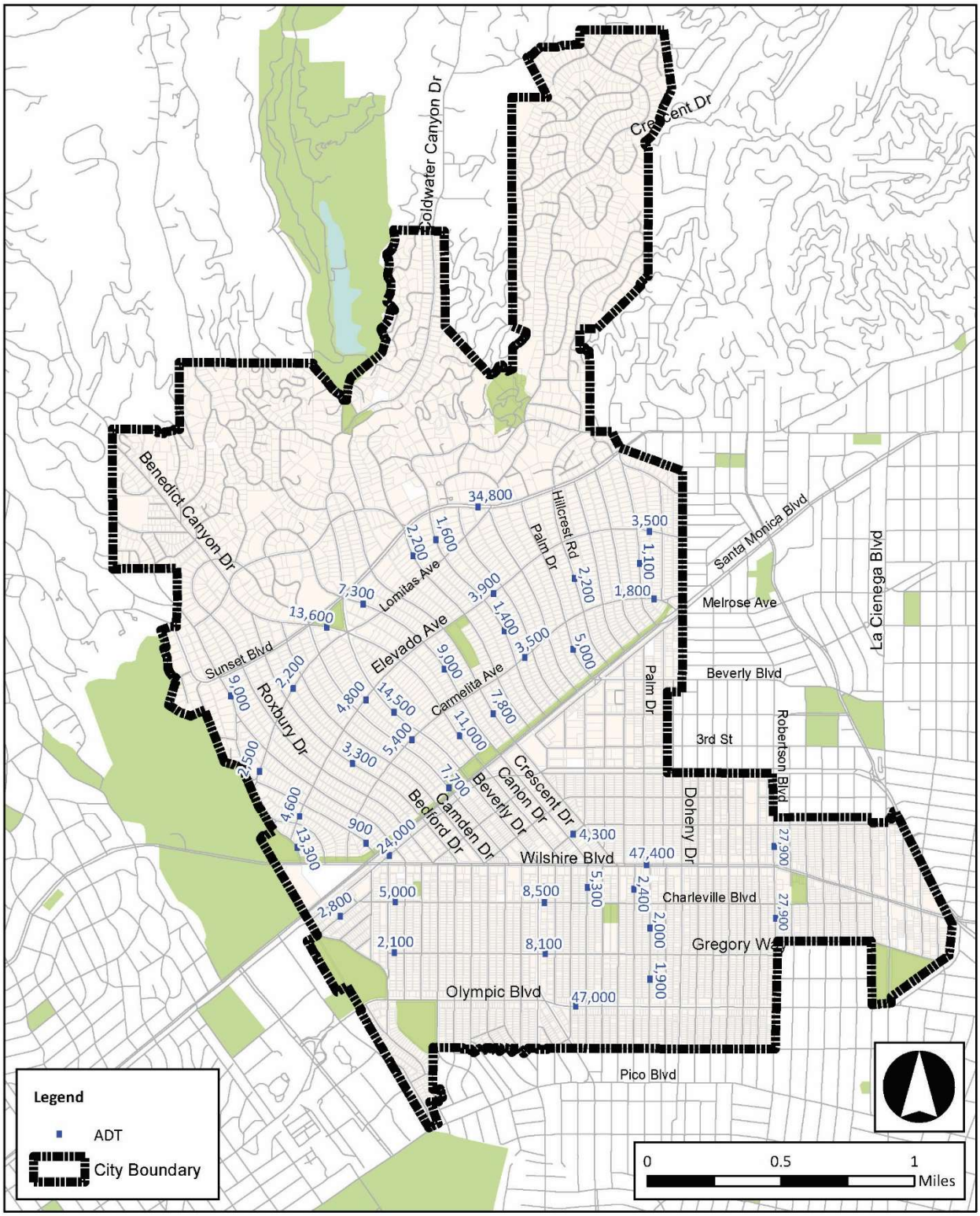
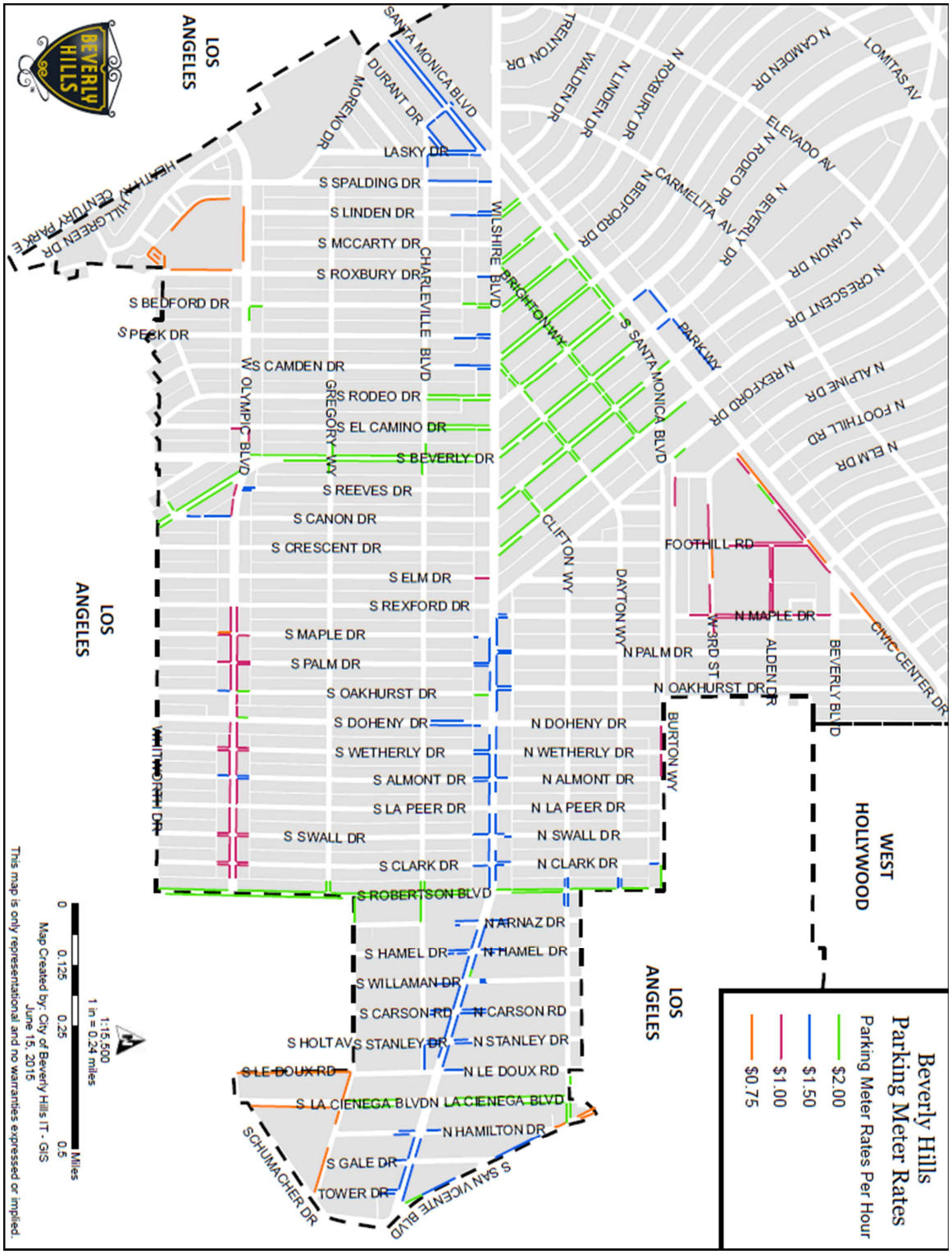
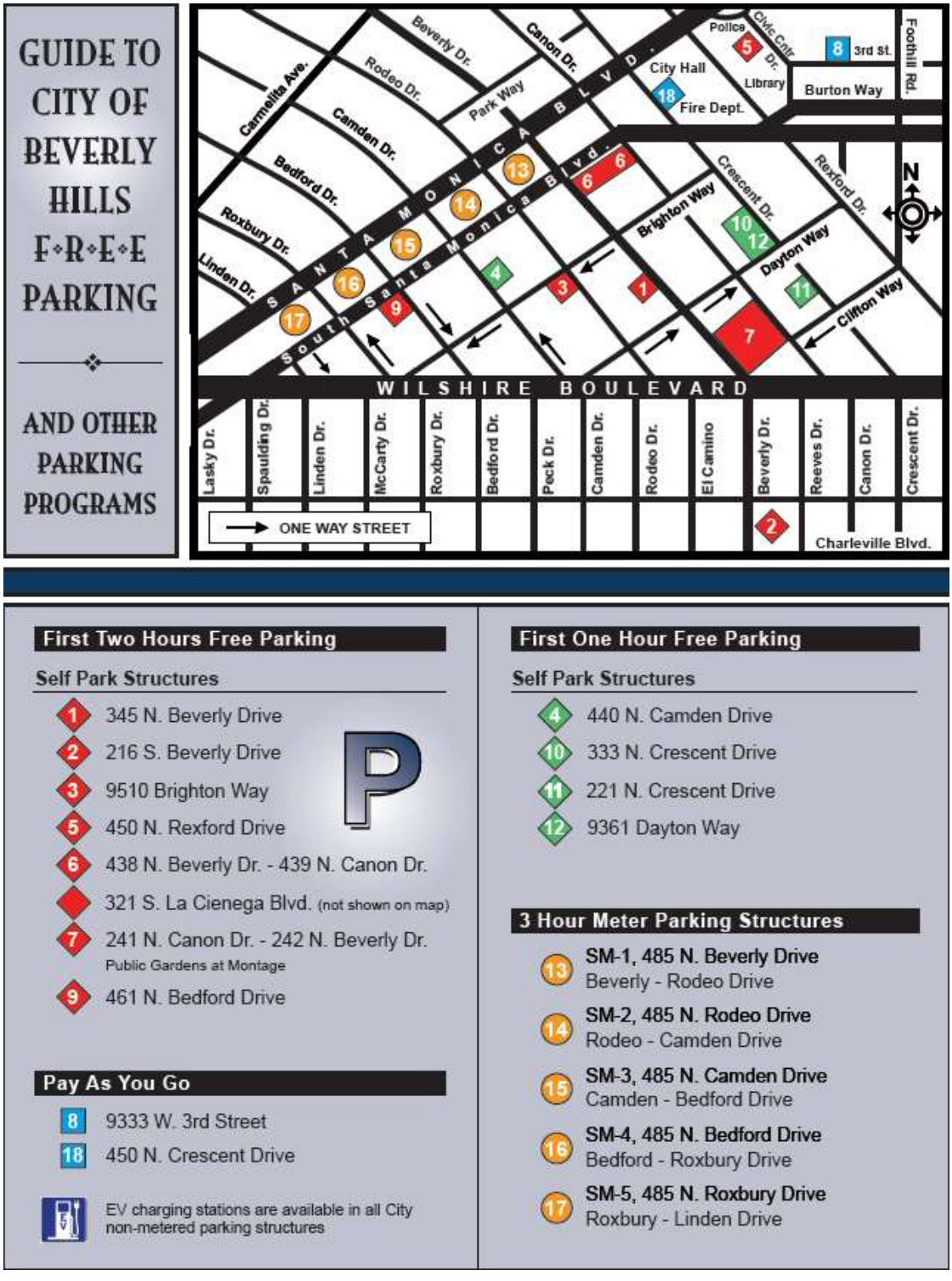


Figure 7-2: On-Street Metered Parking



Source: City of Beverly Hills

Figure 7-3: City of Beverly Hills Parking Structures



VEHICLE-INVOLVED COLLISIONS

A 2011-2016 citywide collision analysis using data from the Statewide Integrated Traffic Records System (SWITRS), the Transportation Injury Mapping System (TIMS), and the City's police incident reports, identified initial observations about the collision landscape in Beverly Hills. The types of collisions occurring in the city are listed below.

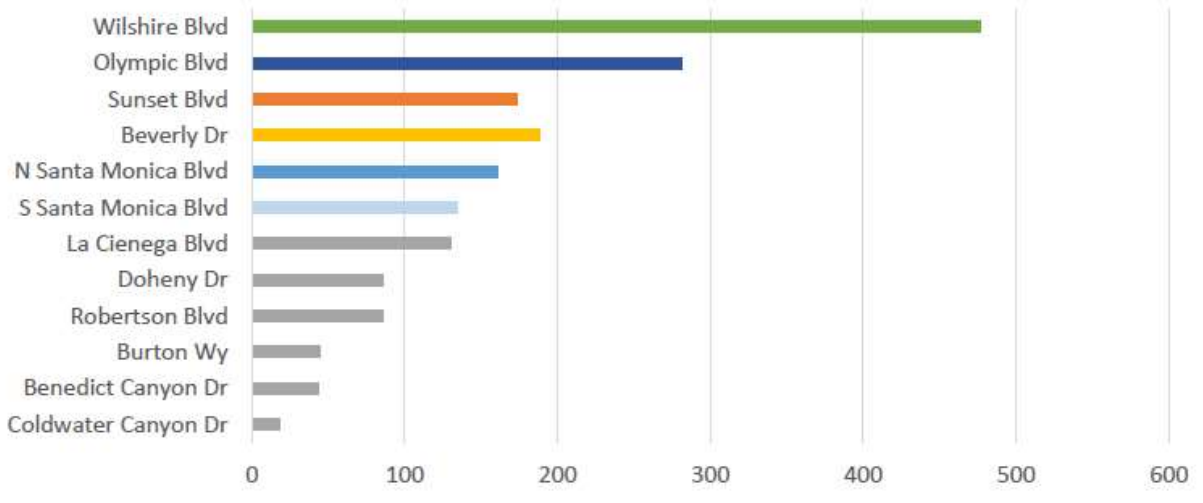
- Broadside: 34 percent
- Rear-end: 23 percent
- Sideswipe: 18 percent
- Vehicle/pedestrian: 9 percent
- Hit object: 8 percent
- Head-on: 8 percent

Figure 7-4 presents injury collision data by corridor in Beverly Hills. Slightly more than 70 percent of injury collisions over the six year period occurred on primary corridors (arterials and collectors). Wilshire Boulevard is one of the longest and busiest primary corridors within the city, and also has the highest number of collisions (19 percent of total injury collisions). Slightly more than one-third of injury collisions took place along the top three major corridors, Wilshire, Olympic, and Sunset Boulevards. Traffic congestion contributes to incidence of collisions, and these are also some of the most congested corridors in Beverly Hills. Due to the absence of collision management software, the City relies on manual tabulation of collision data.

An average of 64 percent of injury collisions were very minor with a severity of "complaint of pain", the lowest category, and about 34 percent with the next level of severity, "minor injury". These averages are about the same for primary corridors and local streets in the city.

The City is in the process of procuring new collision management software to better track, analyze, and report on collisions in Beverly Hills. This software will help to prioritize improvements and inform upgrades.

Figure 7-4: Total Injury Collisions by Corridor (2011-2016)



WHAT WE HEARD

In addition to the existing conditions analysis, community feedback helped to inform the recommendations in the Complete Streets Plan. During the public outreach process, 59 percent of survey respondents stated that they wanted to see improved traffic flow in Beverly Hills and 65 percent believe the plan should reduce congestion. Meeting participants identified support for left-turn restrictions to improve traffic flow and suggested better vehicle access to the Metro Purple Line stations, both in terms of parking and drop-off/pick-up. Overall, residents indicated they would like to prioritize moving traffic on arterial streets, especially commuter traffic; reducing cut-through traffic on neighborhood streets, such as through traffic calming; and reducing conflicts between drivers and other modes. More information about the public outreach process is included in **Chapter 2** and detailed public outreach summaries can be found in **Appendix E**.

WHERE WE ARE GOING

OPPORTUNITIES AND CHALLENGES

Data collection is an important tool for evaluating street conditions and project impacts. Challenges with traditional ADT collection come with the variability of traffic patterns, which may be impacted by construction, events, emergency response incidents, weather, etc., on day(s) of collection. Transportation agencies are starting to establish ongoing traffic count data collection programs using permanent count stations. Technology has progressed over the past 25 years to allow use of video detection cameras (i.e., smart sensors at traffic signals) to not only operate traffic signals, but also count vehicles, bicycles, and pedestrians. In this way, agencies know who is using their respective street segments, and they have the inputs necessary to operate the streets to assure safety for all users.

Access to “big data” and technology is a huge opportunity as it can change the way data is generated, collected, maintained, and utilized to improve traffic flow and street operations. For example, automatic traffic data collection of numbers and movements of vehicles, bicycles, and pedestrians can be documented for every hour of every day, and delivered from the street to the cloud to staff desktops. Incorporating new options for data

collection and analysis can help prioritize projects that minimize driver delay and improve the efficiency of streets. When updating its count methodology, the City should implement best practice technology to count multi-modal road users.

The expansion of autonomous vehicle technology (discussed in detail in **Appendix C**) has the potential to make streets more efficient and safer as the human component in driving is minimized. It is predicted that autonomous vehicles will reduce collisions and could provide a point-to-point supplement to transit. One significant challenge with future autonomous vehicles is properly managing the curb space to allow loading/unloading to occur, which the city already experiences today with Transportation Network Companies (TNCs), like Uber and Lyft. Another challenge is minimizing the time autonomous vehicles drive with few or no occupants, an issue also seen with TNCs. However, with appropriate regulation by public policies, autonomous vehicles have the potential to significantly minimize conflicts at the curb, reduce parking demand, and reduce vehicle miles traveled (VMT). Installing the infrastructure needs to accommodate autonomous vehicles is a first step to making them a success in Beverly Hills.

Electric vehicle use (discussed in detail in **Appendix C**) has also expanded significantly, which can improve air quality and the environment as these vehicles have no direct emissions. A greater density of electric vehicle charging infrastructure would make electric vehicles a more viable option for a wider range of vehicle trips. The construction of the Metro Purple Line Extension presents an opportunity for cleaner commuting in the city, as well; however, appropriate traffic mitigations and traffic calming should be implemented during construction to minimize negative impacts to residents.

RECOMMENDED INFRASTRUCTURE AND PROGRAMS

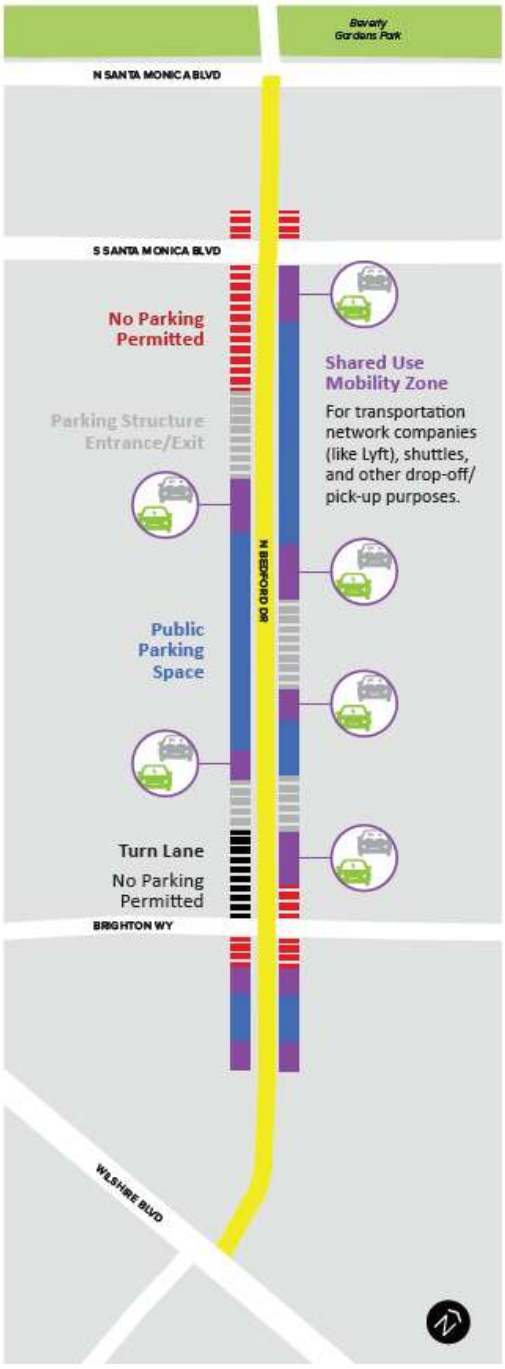
The recommendations in this plan to enhance vehicle infrastructure are aimed at (1) making the roadways more efficient for drivers through improvements to major corridors and (2) making neighborhoods more livable through neighborhood traffic management and safer streets. Potential improvements for vehicles are not currently mapped as they are not concentrated onto specific corridors, can be applied citywide, and/or require neighborhood-level targeted community outreach.

The City's current work to upgrade the signal system will help make streets more efficient, as it will allow for the optimization of signal operations, and provide options for better data collection and the implementation of future technologies, including autonomous vehicles. To further prepare for autonomous vehicles and address existing issues with TNCs, cities are starting to explore digitizing the curb and installing shared use mobility zones to manage the curb based on demand. A pilot program, such as the example shown at on the next page, would help the City determine what types of curb regulations and zones might be needed. The following are examples of curb space management strategies implemented in other cities to help better organize uses and address demand:

- Flexible curb zones to change curb restrictions based on demand or time of day

- Geo-fencing of drop-off and pick-up for TNCs like Uber and Lyft
- Off-peak loading to reduce deliveries during peak travel periods

When available parking is not visible, such as when it is in off-street lots, it can also make streets less efficient because motorists drive around searching for on-street parking. Using dynamic signs that show real-time availability of parking in lots can make the stalls more visible to the motorists and reduce traffic congestion. Appropriately pricing on-street parking or using variable pricing based on demand can help reduce congestion by using parking fees to encourage other travel modes during congested hours. Car share programs in residential or commercial areas have been shown to reduce car ownership and encourage car-free and car-light lifestyles, which could also lead to improved congestion.



The City could consider supporting a regional congestion pricing program, which is a traffic management strategy where drivers are charged during peak hours or in locations with high demand in an effort to reduce congestion. Transportation professionals widely agree that congestion pricing is one of the only effective means of reducing traffic because it uses supply and demand principles to appropriately price roads.

Adopting a more robust Transportation Demand Management (TDM) ordinance could also encourage commuting by walking, biking, taking transit, and carpooling/vanpooling to reduce congestion. As a first step, the City should review the existing ordinance to analyze the impact of current TDM and trip reduction measures, and then revise the TDM measures and incentives for public and private sectors as appropriate to be in line with the goals of the Complete Streets Plan. This could help the City encourage employers to provide transit/active transportation benefits. Evaluation of TDM measures through performance metrics, a mode shift audit (which could also inform the City Council's priority setting exercise and the Traffic and Parking Commission), or data obtained through the annual City employee commute mode survey managed by the Air Quality Management District could help determine their success. The City could also review and revise its commute benefits to be in line with the goals of the Complete Streets Plan, such as by providing incentives to City employees to use transit/active modes (also discussed in **Chapter 6**).

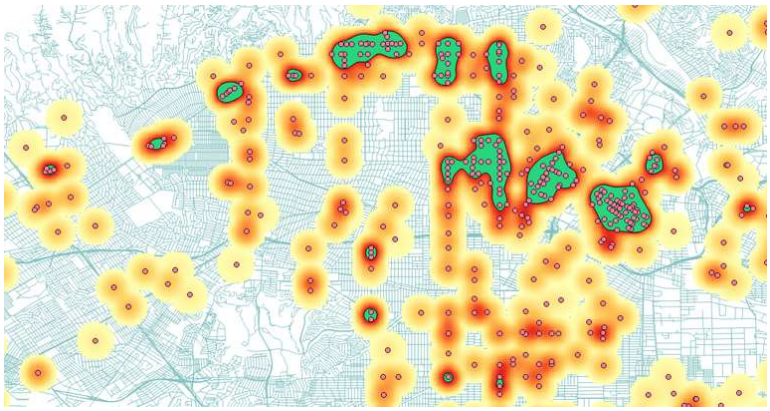
When roadways do not operate efficiently or when there is heavy construction in an area, congestion can spill into residential neighborhoods as drivers look for less congested routes. In conjunction with operational improvements, the City should explore the use of traffic calming devices in neighborhoods to help slow vehicle speeds, reduce cut-through traffic, and make communities more livable. Examples include:

- Speed humps/lumps or tables

- Chokers or chicanes
- Raised intersections
- Neighborhood traffic circles
- Travel lane narrowing or roadway reconfiguration
- Roadway closures (full or partial)
- Diagonal diverters, forced turn barriers, or median barriers
- Turn restrictions
- Speed legends
- Speed feedback signs

These engineering measures can help slow speeds and justify speed limit reductions in line with State policy. The City currently cannot reduce speed limits unless a speed survey shows that most drivers are already traveling at that speed. Programs like the City's "Slow Streets" initiative to reduce traffic volumes and speeds on neighborhood streets, as well as make more space for people biking and walking, are also good tools.

The City can also help make neighborhoods more livable by improving safety throughout Beverly Hills. For example, the Beverly Hills Police Department (BHPD) is in the process of purchasing a new software program to better manage and track collisions across all modes: bicycle, pedestrian, vehicle, and new mobility devices. After that program is acquired, the Transportation Division should partner with BHPD to review collision reports, track collisions, and improve collision hot spots through engineering designs, especially those involving injury collisions and resulting in collision trends. This analysis could be used to help BHPD target enforcement efforts, along with community member suggestions on enforcement priorities, and begin exploration of methods to evaluate responses to enforcement priorities. The Transportation Division should biannually report on the status of collision reduction efforts in Beverly Hills to expand on monthly reports BHPD provides, and continue to deploy improvements at the most critical locations.



The City could improve air quality and livability by working to expand electric vehicle charging infrastructure at the same rate of increased use of electric vehicles and/or adopt supportive polices, like afterhours access to private lots and a reduction in minimum parking requirements in exchange for public electric vehicle station installation. Another example, Intelligent Transportation Systems (ITS), are a broad group of technologies that provide information and automation for the transportation industry to deliver benefits of improved safety, mobility, and environmental outcomes for travelers. Agencies across the United States have deployed or are testing ITS technologies such as changeable message signs, advisory speed limits, and adaptive traffic signal timing. In addition, automated enforcement measures can help reduce red light violations and control speeding without diverting law enforcement resources from other areas. The City should explore how increased use of these devices could improve conditions in Beverly Hills.