

EXECUTIVE SUMMARY

SUPPORTIVE TRANSIT PARKING PROGRAM MASTER PLAN

Prepared For:

LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY
(METRO)

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Metro[®]

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EXECUTIVE SUMMARY

As the Los Angeles County Metropolitan Transportation Authority (“Metro”) expands its services and increases station locations, the importance of a properly managed parking system to serve those Metro riders who must drive to access transit has gained in importance. Plans to simply add parking spaces as the default response to all parking-related issues must instead consider the benefits and efficiencies of qualitative improvements to parking rather than simple quantitative increases in the number of spaces Metro must provide.

In recognition of the importance of maximizing the benefits of Metro’s significant parking assets that serve transit patrons, consisting of more than 25,000 parking spaces located in 59 surface parking lots and structures throughout the County, Metro created an internal parking management team of subject matter experts in the area of parking operations and technology in 2015.

The analysis of the supply and demand for parking at LA Metro facilities that is detailed in the enclosed document was designed to assist LA Metro and its parking team, for the purpose of informing and developing a formal Supportive Transit Parking Program (“STPP”) Master Plan for the Agency’s parking system. The key concerns and findings of the analysis include the following:

- The use of Metro’s parking facilities by non-transit riders presents a significant obstacle for those who need “first mile” access to transit by car, in some cases significantly;
- The push to build more parking spaces to improve access to transit at times results in an overbuilding of parking spaces. This issue is of concern when the use of these spaces is not for transit riders, when some transit users can take advantage of non-driving modes to access stations, more consistent with the region’s transportation and air quality goals;
- As part of improved parking management policy, the focus should be transit passengers who require parking to access transit. Discretionary parkers, those who are willing to access stations by means other than driving and parking, should be encouraged to do so. Such a policy strategy will make parking spaces available for those transit riders who need them, and offers the potential of increasing overall access to Metro transit stations;
- Building more parking spaces, effectively serving many drivers to the area whether they use parking or not, encourages driving and discourages the use of active transportation and transit connections, while not necessarily increasing access to the transit. It also redirects resources from transit service to the drive-alone mode share.
- Increasing the efficiency, benefits, and customer service levels of Metro’s parking system requires that greater attention be paid to the occupancy and condition of parking facilities in the form of more active parking management and enforcement.
- To address these issues, the STPP Master Plan has been created. The Plan provides a comprehensive assessment and evaluation of Metro’s current parking program.

Metro’s 25,000+ parking spaces and 59 transit stations are spread over 1,400 square miles and provide parking for over four million vehicles a year. However, understanding and addressing Metro’s parking issues is made more urgent considering that its parking inventory is expected to increase to 31,500 spaces by 2029, as future rail lines currently in construction or planning phases enter into operation.



Metro’s parking program provides an important first and last mile connection for Metro patrons who are unable to access a Metro station by means other than driving alone, such as walking, bicycle or public transit. Metro’s increasing parking inventory will require that the Agency take a more proactive approach to managing its parking resources. The STPP Master Plan provides Metro with a roadmap to support these efforts in the future by addressing the following goals:

- Creation of a vision for managing Metro’s parking resources
- Development of Parking Management Alternatives
- Establishment a comprehensive set of recommendations
- Cultivation of a program that prioritizes parking for transit riders
- Development of an implementable Master Plan; and
- Establishment of a 10-year Strategic Plan

This STPP Master Plan is intended to provide an implementation roadmap for parking management policies, planning, enforcement, operations, maintenance, and the technologies required to support this plan. The STPP Master Plan effort is being led by Walker Parking Consultants (“Walker”) with support from Arellano Associates, Iteris, Steven Kuykendall and AVS Consulting.

The remainder of this Executive Summary briefly highlights the data, analysis, recommendations, and Strategic Implementation Plan contained within the Master Plan, which consists of the following key components:

- Stakeholder outreach and surveys
- Comprehensive review of the existing parking system
- Parking facility assessment
- Policy, technology, and enforcement review and recommendations
- Parking planning toolkit including ridership versus parking demand model
- Parking Management Pilot Program (“Pilot Program”) and case studies
- Development of parking management alternatives
- Recommendations
- 10-year Strategic Implementation Plan
- Findings/Recommendations

PARKING SYSTEM OVERVIEW

The observations and analysis of the parking system was performed with an eye toward conditions and operations that would maximize the efficiency, accessibility, and ease of use of parking to serve the transit system. The Metro parking system consists of approximately 25,000+ total parking spaces within 70 lots, 16 garages and one on-street parking area together serving 59 Metro stations. At the time of data collection, the majority of spaces in the system (approximately 18,800 spaces) were free of charge, 4,200 required a daily or monthly fee and approximately 200 were reserved, mostly for short-term pick-up/drop-off, EV charging and carshare. Subsequent to the STPP team’s initial review and Facility Assessments, the Parking Management Pilot Program was implemented starting in May 2016 and is expected to be implemented at up to 16 locations by early 2018, reducing the number of



free spaces in the system to approximately 11,500, while increasing the number of paid parking spaces (including paid flex permit parking spaces) to approximately 12,500.

Permit parking spaces are currently found at over 20 stations. Metro manages permit parking at all Metro parking facilities except those at the South Pasadena station. At most Metro-managed parking facilities, designated spaces are reserved for permit parkers until 11:00 AM on weekdays with the exceptions being Universal City, North Hollywood and Foothill Extension facilities where permit parking is reserved for permit holders until 10:00 AM.

With the Pilot Program and new enforcement team in place, the majority of reserved permit spaces will be eliminated and flex permit holders will be able to park in any area of the facility. Some high occupancy locations, such as North Hollywood, may retain a dedicated area for permit holders.

Flex permit parking rates range between \$25.00 and \$59.00 per month, with the option of purchasing flex permits on a daily basis also available at all facilities offering permit parking, with the fee varying by location.

Metro's Parking Management unit manages the planning, enforcement, and operations of the parking system. There are currently five full-time employees focusing on program administration, day-to-day operations, planning, capital projects and parking enforcement. Metro's Facility Maintenance department handles routine maintenance and janitorial activities such as signage replacement, restriping and keeping the parking facilities clean. Parking enforcement is currently being transitioned from the Los Angeles County Sheriff's Department ("LASD") to the Parking Management unit, while LASD and Metro Transit Security will continue to handle the security and vehicle code enforcement. Metro's Customer Service Department assists with some customer service functions. A contractor provides support for permit processing and administration, and a parking operator has been engaged to run the Pilot Program locations.

FACILITY ASSESSMENTS

As part of the Master Plan effort an assessment of Metro parking facilities was conducted from December 2015 through February 2016 for stations providing parking. Parking facilities at the new Gold Line Foothill extension and Expo II stations were assessed in June 2016.

The purpose of the Facility Assessment effort was to understand current system operation and performance, which serves as baseline information required to recommend future policy and operational changes, and to recommend and quantify the cost of improving the parking facilities. The following evaluations were included in the facility assessment effort.

- Vehicle occupancy counts weekday late morning, weekday evening and weekends
- Assessment of parking wayfinding leading to each station and parking signage
- Parking facility ingress/egress
- Parking user groups
- Potential carshare and vanpool parking opportunities
- Observations regarding facility upkeep and facility maintenance

- Evening lighting level measurements
- Observations regarding safety and security
- Parking reconfiguration opportunities at highly utilized stations
- Bicycle rack occupancy counts and bicycle locker rental utilization data
- Assessment of bicycle and pedestrian infrastructure surrounding each station

The Facility Assessment included parking facilities at 59 Metro stations with a total of 87 parking facilities (lots, garages and on-street). There are 70 surface lots totaling approximately 15,700 patron-accessible spaces, 16 garages totaling approximately 7,300 spaces and one on-street parking area with approximately 200 spaces. There were approximately 23,200 total patron-accessible spaces in the entire Metro system at the time the facility assessments were conducted. Of these spaces, approximately 18,800 were free, 4,200 required a daily or monthly fee and approximately 200 were reserved, mostly for short-term pick-up/drop-off, EV charging and carshare. Two future Crenshaw Line parking lots were also assessed, based on information currently available. These two lots comprise approximately 200 spaces.

Key findings of the facility assessment effort are as follows:

- Parking occupancy – Over 30% of stations have peak weekday parking occupancy of over 90%.
- Parking signage and wayfinding – The majority of locations have limited or no parking wayfinding.
- Lighting – Lighting levels are substandard in over 70% of parking facilities.
- Upkeep – Over 25% of stations have issues with litter and debris.
- Safety and security – Over 20% of stations were observed to have activities that increase security risk levels.
- Bicycle infrastructure and parking – Over 60% of stations do not have Class I or Class II bicycle facilities within one block of the station. Eight stations do not have any bicycle parking.
- Pedestrian infrastructure – Over 15% of stations would benefit from improvements to pedestrian infrastructure around the station, such as addition of crosswalks and adequate sidewalk widths.
- Parking reconfiguration – A few lots with long rows of standard dimension parking spaces may be restriped to increase capacity by less than 3%. Larger gains of 5% to 15% may be realized by reorienting some lots, but at a much higher cost.

The Facility Assessment section of this report and related appendices provide additional detailed data on the Facility Assessment process and results.

STAKEHOLDER OUTREACH

The STPP Master Plan outreach program consisted of outreach to transit riders and agencies, including local jurisdictions and municipal transit operators, throughout Los Angeles County as well as Metro stakeholders. Transit rider outreach was geared toward understanding riders' needs and priorities with respect to Metro parking facilities and other travel modes for accessing transit stations. Agency outreach was intended to identify and address agency stakeholder concerns related to Metro parking facilities. Input received is included in the STPP Master Plan.

Transit rider outreach consisted of two rounds of surveys open to all transit riders, with an emphasis on those who drive and park.

Key findings from the first round of transit rider outreach included:

- Of those who park and ride at a Metro parking facility, 69% have household incomes of \$50,000 or more, which is higher than the average countywide household income of transit users.
- Approximately 60% of those who park at a Metro parking facility are able to find a space within three minutes or less.
- Over 50% of those who park at Metro parking facilities are very satisfied or extremely satisfied with their existing parking experience
- Of those who ride Metro but park at a parking facility not operated by Metro, 47% do so because they cannot find parking inside a Metro facility while 32% indicated there is no parking available at a Metro facility.

Key findings from the second round of transit rider outreach included:

- Approximately 31% of Metro parkers would pay for parking. Of that group, 61% would pay up to \$2.00, 16% would pay \$3.00 and 11% would pay \$5.00.
- Approximately 37% of parkers (at Metro and non-Metro facilities) live within two miles of their preferred station.
- For Metro parkers, the top alternative modes considered to access their preferred station are drop-off (indicated by 38% of respondents), bus (37%) and walk (22%).
- For those that park and ride at a Metro parking facility, the top reasons they choose to park and ride and use transit is to save money (indicated by 50% of respondents), convenience (49%) and because it's good for the environment (47%).
- The top three requested improvements to better access a Metro station was more bus service (59%), more drop-off areas (20%) and more bike racks (12%).

Agency stakeholder outreach consisted of an initial survey phase followed by a workshop held in three different locations and one-on-one meetings. A total of 42 responses from 36 cities and agencies were received from this survey.

Key findings from this survey include:



- When asked if there are issues with parking near their city's Metro station, nearly 50% responded that there is, approximately 33% said there are no issues, and the rest did not know. Over 50% of those who said there were issues cited insufficient station parking and 33% cited misuse of station parking.
- City respondents indicated a range of fees are charged at their public parking facilities, from free to \$3.00 per hour. Most of the cities indicated that parking fees collected do not cover upkeep of the parking facilities.
- Nearly 80% of respondents expressed interest in learning more about addressing parking issues at or near Metro stations.

Workshops for agency stakeholders were held in three locations throughout the county to maximize attendance. In total, staff or consultants representing 19 agencies attended. The workshops provided an overview of the STPP Master Plan, presented work to-date status and solicited agency input on potential program management alternatives.

Meetings were also convened with 18 Metro internal departments to obtain their input for the STPP Master Plan.

The Stakeholder Outreach section of this report and related appendices provide additional detailed data on the outreach process and results.

POLICY, TECHNOLOGY, ENFORCEMENT

In busy urban and suburban areas, under-regulated and under-enforced parking spaces will increasingly be used by drivers who are not accessing the land use for which the parking is intended, but surrounding land uses or other desires for vehicle storage. This is true for parking facilities serving shopping centers, parks, offices . . . and transit. The result is reduced parking access for those seeking to access the intended land use.

Policy provides direction and guidelines for those who seek to use the parking facility, ensuring that the facility first serve those for whom the parking is intended. Policy without enforcement is unworkable. The "honor system" or "self-regulation" is unsustainable. Effective enforcement that also provides quality service to riders is crucial. New technology enhances the ability of managers of parking to prioritize the use of parking facilities for the intended parker, in Metro's case, its ridership.

For this reason, policy, technology and enforcement work in tandem as components of the same apparatus to ensure access to Metro's transit facilities.

POLICY

Establishment of an updated parking ordinance has been key to developing a focused and comprehensive approach to making transit available for Metro's ridership. As part of its efforts to improve Metro's parking program, Walker has reviewed Metro's revised parking ordinance and finds



it consistent with industry standards. Walker recommends that a reference to Metro’s administrative code be posted visibly in parking area for patrons wishing to read and understand the parking ordinance.

Walker has also reviewed Metro’s currently adopted fee resolution and provided light editing and consistency fixes for Metro to consider the next time the fee resolution is updated and adopted. Walker also recommends that Metro add flexibility to the parking rate discussion at specific stations in the future so that the fee resolution does not need to be updated and adopted each time a change in the parking rate at a single station is desired.

TECHNOLOGY

Based on the unique parking user needs transit in general, and the LA Metro system specifically, Walker reviewed various technologies available to operate and enforce the parking system in the Pilot Program, including types of access control (gated versus ungated parking), cashiering and automated payment technologies, validations, flex permit parking, vehicle identification, license plate recognition, and parking guidance systems.

Based on the results of the Pilot Program implementations to date, it is Walker’s opinion that the technology solutions Metro is currently using are effective and should be utilized at other facilities as they enter Parking Management Program. Thus far, the ridership verification has been critical in and effective at improving parking availability at high parking occupancy stations. The Pilot Program, which will be discussed further in this Executive Summary, has already partially developed and justified the technology recommendations included in the Master Plan, as Metro works towards an end goal of using TAP cards for parking payment to maximize the effectiveness of the efficiency of the parking program to serve Metro’s ridership.

The ticketless and gateless system for managing ingress and egress has proven effective and efficient, allowing implementation of the Pilot Program at several locations without installation of expensive equipment or the loss of parking spaces. Discussion of technology recommendations is included in the recommendation section of this executive summary and report.

ENFORCEMENT

A parking enforcement analysis of Metro-operated parking facilities was conducted during the information gathering phase of the STPP. The analysis indicated that the parking citation issuance at Metro parking facilities is significantly lower than other comparable transit agencies. Metro issued approximately 5,000 citations (0.0013% of total cars parked) which is 90% fewer citations per space per year compared to two other sizable transit agencies. Within the 5,000 issued citations, only half of Metro’s parking citations were Parking Ordinance related. The concern was that this level of enforcement would allow non-transit users ample opportunity to park and hinder or prevent parking access to transit for Metro’s ridership.

Based on a recent coordinated parking enforcement review, four Los Angeles Sheriff Department (LASD) officers and three Metro support staff issued 35 parking citations in a six-hour time period.



This effort only covered three Metro parking facilities along the Expo Line. The labor cost of LASD officers by itself was over \$3,000, significantly higher than the citation revenue. If Metro utilizes non-sworn officers with the proposed new innovative solutions for the same enforcement effort, the total labor cost for issuing 35 citations at three locations would have been \$40.00. Through a new parking enforcement program, the estimated labor cost will result in approximately \$1.00 per citation.

PARKING PLANNING AND DESIGN

Parking planning and design consists of a long-range parking planning toolkit to properly size parking facilities for transit for current needs but also to take into account the impact of quickly changing auto-related technologies and trends, and in some cases the desire for (joint) development on valuable sites located on or adjacent to transit stations.

LONG-RANGE PARKING PLANNING TOOLKIT

As part of the STPP a long-range parking planning toolkit was developed to guide the planning of parking facilities along future rail corridors. The toolkit is intended to help planners assess both the type and amount of parking planned at future facilities. The long-range parking planning toolkit asks planners to identify and consider data in 11 categories, and is intended to engender a forward-thinking process for how Metro plans and manages parking in the future.

RIDERSHIP VERSUS PARKING DEMAND MODEL

For long-range planning, projecting the needed transit parking capacity is critical. Walker developed a quantitative ridership versus parking demand model for transit as part of the Supportive Transit Parking Program to provide a tool to project parking demand at both existing, new and future facilities for a range of pricing from free to \$5.00 per day.

The model is comprised of four components.

- Base data – parking occupancy, weekday boardings, TAP activity
- Station typology assignment – six station typologies were established based on location within the system and in some cases the type of station.
- Demand ratios - three different demand ratios were developed to assess parking demand at transit stations, each using a different methodology based
 - Parked cars as a percent of total weekday boardings using a specific station ratio.
 - Parked cars as a percent of total weekday boardings using a typology ratio. The typology ratio is based on a weighted average (by parked cars) of high occupancy and high capacity locations.
 - Parked riders as a percentage of first tap riders from opening to 10:00 AM. In case this value exceeded 100% (due to poachers – those who park at a transit station but do not ride transit), we adjusted it to 100%. Parked riders are based on the assumption of 1.1 riders per car.



- Multiple demand ratios were developed to provide a range of values that result in a reasonable estimate.
- Elasticity curve – the degree to which changes in price cause changes in parking demand

An incremental logit model was utilized to develop parking demand elasticities that demonstrate reduce parking demand as the cost of parking is increased. The baseline is the previously free parking at all Metro stations with parking. Each additional dollar results a larger reduction in parking demand.

The Ridership versus Parking Demand Model is intended for use in projecting parking demand and parking facility sizing at future stations. Pricing, ridership and parking demand data from the Pilot Program locations will be used to update and refine the model going forward.

PARKING DESIGN TOOLKIT

The purpose of the parking design toolkit is to establish reasonable and appropriate parking design standards that will serve and meet Metro transit patrons' parking needs. These design standards and Toolkit will ensure that new parking facilities built to serve Metro's transportation system provide an appropriate level of safety and service that meets industry standards and best practices. The parking design standards and Toolkit are meant specifically for Metro parking facilities and are intended to be a guide and not a complete set of design and construction specifications.

PARKING MANAGEMENT PILOT PROGRAM

The Parking Management Pilot Program ("Pilot Program") was created to test technology, policy, operations, and planning options explored during the Master Plan process to determine whether the components of the plan are sufficient to fulfill Metro's policy goals. Key items tested in the early Pilot Program implementations were pricing and permit strategies, transit rider verification technology, gateless operation and payment options.

Implementation of the Pilot Program began in May 2016 at the following 16 stations:

- EXPO 2 (17th Street, Expo/Bundy and Expo/Sepulveda) –May 22, 2016
- La Cienega-Jefferson – Implemented March 1, 2017
- North Hollywood & Universal – Implemented April 24, 2017
- APU Citrus, Irwindale, and Monrovia – Implemented June 26, 2017
- El Monte & Atlantic – Implemented August 28, 2017
- Norwalk, Lakewood, Aviation, and Crenshaw – Will be implemented Early 2018

The objective of the Pilot Program is to implement a parking solution to retain and improve parking resources for Metro transit patrons. The Program is testing approaches to a fee structure, fee collection, facilities management, parking management equipment and enforcement needs. Based on the initial results at locations already implemented, Walker recommends the implementation of the program system-wide at up to 39 stations.



The Pilot Program utilizes a “toll road” concept Automated Parking Management System. The system combines a License Plate Recognition (“LPR”) system, TAP card ridership identifier engine, and payment processing solutions. The program operates as a fully automated program, eliminating the need for onsite parking facility cashiers. On-site parking attendants will be available to provide customer service only and will not process payment transactions.

Not every station with parking will transition to paid parking in the near-term. Decision flow charts and checklists have been created in support of the aforementioned parking management alternatives in order to assess parking on a station by station basis.

Detailed case studies are included in this report, which discuss the initial findings and lessons learned from Pilot Program implementation. The key findings from the Pilot Program to-date are as follows:

- Transit rider verification system is a crucial and necessary step in transitioning locations to the parking program. While the Facility Assessment gave the STPP team an understanding of locations where parking availability was being impacted by the presence of non-Metro riders utilizing Metro’s free parking facilities, the scale of this non-transit rider parking at some locations, notably North Hollywood and Universal, exceeded initial projections. Transit rider verification is essential to protecting Metro’s parking supply for its intended users.
- Groups of stations and transit lines need to be analyzed together. One-off implementation at a station without consideration of adjacent locations could lead to unforeseen circumstances.
- The Parking Management Program should be utilized to improve availability of parking at a high demand location, while also increasing utilization at formerly underutilized locations. The spaces Metro leases for the Expo/Crenshaw station represent a fixed cost whether they are used or not. By reducing parking at the Culver City station and implementing the pilot at La Cienega-Jefferson, utilization of this resource has greatly increased.
- The gateless system works, as it eliminates egress and ingress problems for patrons entering/exiting a facility at a location like the Atlantic station on the Gold Line where Parking Access and Revenue Control equipment would have either necessitated the loss of many parking spaces in the structure or resulted in queue spillback onto a major arterial during peak ingress. In addition, the gateless system also supports Parking Management’s parking enforcement program through the integration of the system parking and operations program into one platform.

RECOMMENDATIONS

FACILITY ASSESSMENT RECOMMENDATIONS

Based on the findings of the facility assessment effort, the STPP team developed a set of general recommendations as well as station-specific recommendations. The set of general recommendations are as follows:



- Focus on customer experience – Metro riders who drive and park must be able to easily find station parking, find a space within a parking facility, be comfortable walking between the car and station platform/portal and vice versa and should be able to exit in a convenient manner.
- Implement consistency system-wide – Signage, facility conditions and operation must be consistent system-wide.
- Enhance first/last mile options – Park and ride is just one form of station access and based on Metro surveys, it is estimated to make up 10% to 15% of station access. Other modes such as bicycle and pedestrian access need to be viable options. In particular improving bicycle infrastructure around stations and adding bicycle parking at stations that currently have none.
- Focus on managing demand – Due to the high cost of building new parking facilities, focus on managing existing demand. This includes introduction and expansion of permit programs, instituting daily fees for all parking at stations that experience high parking demand and developing permit parking zones to spread demand across multiple stations.
- Explore other uses during non-peak periods – Consider making Metro parking available for other uses, such as farmers markets and cultural events, during low demand periods.
- Consider rationalization of some parking facilities – Locations that experience very low occupancy (less than 10%) should be reviewed to determine whether there is a higher and better use.
- Where availability exists, consider selling parking to non-transit users – At locations where non-transit riders are parking and there is availability, consider selling parking to the non-transit riders.
- Adopt a consistent parking facility naming convention – Establishing a naming convention system-wide would avoid requiring that a rider know where he/she is parked relative to the station platform/portal.
- Improve consistency of experience at parking facilities under lease agreement – User experience should be comparable to Metro-owned facilities, including signage, lighting, security, upkeep and payment.
- Restripe spaces to add supply where possible – At high occupancy locations with long rows of standard dimension parking, restripe to compact stalls such that the total percentage of compact stalls does not exceed 20%.
- Increased enforcement – Enforcement is necessary to improve operation of permit and any other paid parking program and increase safety at Metro stations.
- Pick-up/drop-off areas – Due to the popularity of ride-hailing services such as Uber and Lyft, provide pick-up/drop-off areas in parking facilities if no curb locations near the platform/portal are suitable.
- Lighting – Improve lighting levels at parking facilities with deficient lighting conditions, replacing existing fixtures with LED fixtures is recommended. For parking garages, we also recommend painting walls and ceilings white to improve illumination.
- ADA updates – Deficiencies were observed and a more comprehensive review should be undertaken.
- Carshare – Metro should continue to make spaces available to carshare providers for a monthly fee.
- Vanpool – Offer dedicated vanpool spaces, but vanpool participants should be treated as transit riders and will need to adhere to the parking programs in place at the parking facility that their vanpool is based at.

Station-specific recommendations have also been provided and cover the following categories:

- Parking Signage and Wayfinding
- Bicycle Parking
- Pedestrian Wayfinding
- Lighting
- Parking Surface
- Traffic Calming
- Appearance
- Enforcement
- Security
- Permit Parking
- Surrounding Area – Security, Bicycle and Pedestrian Infrastructure

Each station was assessed using 23 measures which fall under the aforementioned categories. Each measure was assigned a metric with associated cost assumptions as well as a priority (high, medium or low). Some measures are on-going in nature and are indicated as “annual”. High priority items are focused on safety and security, while medium and low priority items address other categories.

- Improve Wayfinding Signage to Station Parking – improving signage directing drivers to station parking
- Improve Parking Wayfinding Signage among Facilities at Station – at stations with multiple facilities, improving signage to direct drivers from one facility to another
- Improve Parking Signage at Facility Entrance(s) – improving signage at parking facility entrances
- Increase Bicycle Racks – add bicycle racks at a station, some of which may not currently have any
- Increase Bicycle Lockers – add bicycle lockers at a station, some of which may not currently have any
- Improve Bicycle Parking Signage – improve signage directing bicyclists to station bicycle parking
- Improve Pedestrian Wayfinding to Station – improve signage directing pedestrians to a station
- Improve Pedestrian Wayfinding within Parking Facility/Facilities – improve signage within parking facilities that direct pedestrians to station platform
- Upgrade Lighting – retrofit existing lighting system where minimum lighting is at level of service D or below, which are unacceptably poor lighting levels from a customer service perspective.
- Resurface Pavement – for parking lots, resurface with a new slurry coat
- Restripe Spaces – restripe existing spaces to make them more visible
- Implement Traffic Calming within Facility/Facilities – provide speed humps to slow traffic and improve pedestrian safety
- Improve Landscaping – install new or upgrade existing landscaping
- Improve Upkeep – provide additional janitorial services on an on-going basis



- Power wash Facility/Facilities – for garages, power wash on an on-going basis
- Increase Parking Enforcement – increase on an on-going basis, especially when adjustments to permit parking programs are proposed
- Increase Security Patrols within Facility/Facilities – increase on an on-going basis
- Initiate Permit Parking at Station for Transit Riders – restripe, add signage and update permit system; high parking occupancy stations where transit riders would benefit from availability
- Initiate Permit Parking Spaces for Adjacent Uses – restripe, add signage and update permit system; only stations with ample parking availability considered
- Increase Number of Permit Parking Spaces – restripe, add signage and update permit system; where permit spaces experience high occupancy
- Improve Security on Sidewalks near Station – work with local agency to improve safety on sidewalks near station
- Improve Bicycle Infrastructure near Station – where rating is low, work with local agency to improve bicycle infrastructure connecting to station
- Improve Pedestrian Infrastructure near Station – where rating is low, work with local agency to improve pedestrian infrastructure connecting to station

Based on the detailed recommendations by facility contained in the Facility Assessment, cost projections were developed to provide Metro a baseline of understanding of the costs to maintain the system in a state of good repair.

Cost projections are based on Walker experience and industry standards. Walker projects that \$6.10 million over three years (including \$5.24 million in one-time costs) would be required to address the recommended improvements. And approximately \$286,000 per year thereafter for on-going maintenance and services. For Metro-owned facilities, \$1.38 million would be required over three years (including approximately \$943,000 in one-time costs) and approximately \$144,000 per year.

Based on the need to improve and maintain Metro-owned parking facilities, revenue streams should be identified to offset these costs. These may include introduction or expansion of permit programs and charging daily fees to parkers at high occupancy locations. In addition, rationalization of low occupancy facilities would reduce expenses associated with maintaining those facilities.

TECHNOLOGY RECOMMENDATIONS

A user-friendly experience is key to Metro's goals to serve its riders. Walker recommends that Metro utilize a Pay-By-Plate Multi-Space Meters with Stationary License Plate Recognition for parking enforcement, as this is an extremely efficient payment and enforcement scenario for both transient and monthly transit parking. This would be an ungated system, requiring enforcement; however, post-processing could enable extremely high capture rates of unpaid vehicles. Metro will need to administer citations to collect unpaid parking fees. Walker recommends offering mobile payments as there is no additional cost and it provides a convenient option to the customer. Walker recommends providing facility counts and mobile apps to advise patrons of facility status before they arrive.

Walker recommends that payment, enforcement and citation be fully integrated in a "TAP Wallet" in the future. The end goal is for the user to be able to use their TAP card for all payments related to



their commute. Currently, parking is paid for either with cash, credit card, or a credit/debit card tied to a parking flexible spending account. Transit payments are made via a TAP card which can be linked to a transit flexible spending account. Metro should continue to work with TAP to integrate both functions on a single TAP card, allowing a patron to tap once to pay for parking and tap once to pay the transit fare.

PARKING ENFORCEMENT RECOMMENDATIONS

The Parking Management Unit has developed a Parking Enforcement Transition Program centered on engaging a Parking Enforcement Contractor to focus on enforcing Metro's Parking Ordinance and Parking Fee Resolution (Metro Administration Code Chapter 8), adopted by the Board in September 2015, at all Metro-operated parking facilities. A parking enforcement transition from Metro Security to Parking Management will not only eliminate jurisdiction confusion among Metro Transit Security, LASD and CHP officers, but also consolidate parking enforcement, eliminating the cost of reimbursement to other agencies.

The overall goal of the enforcement transition and enforcement effort should be compliance and customer service rather than revenue generation.

The Parking Enforcement Program objectives should be to:

- Ensure compliance with Metro's Parking Ordinance at Metro parking facilities.
- Facilitate availability of parking spaces throughout the system for transit patrons.
- Support Metro's Parking Management Programs
- Increase safety and security.
- Identify and report maintenance needs.
- Increase patrons sense of safety at Metro parking facilities
- Improve overall customer satisfaction with the transit system.
- All citation administration and adjudication will remain with Transit Court.

Features of the enforcement program needed to achieve the objectives include:

- Use of innovative technology to support the Parking Management Program and enforce parking regulations. Parking enforcement vehicles equipped with mobile license plate recognition ("LPR") cameras which are integrated with all parking payment systems available to Metro customers.
- Reduction of enforcement operating costs by utilizing non-sworn peace officers and providing dedicated enforcement resources.
- Implementation of a proactive approach to enforcement driven by compliance data.

PARKING MANAGEMENT UNIT ORGANIZATION STRUCTURE RECOMMENDATIONS

With the transition of enforcement duties to Metro in 2018, and the continued induction of parking facilities into the Parking Management program, the Parking Management Unit's staff capacity will need to increase concomitantly to maintain a high level of customer service and management. Walker



recommends that up to six additional positions be added to the unit over the next six years. These new positions could include the following:

- Enforcement Customer Service Agents (2)
- Facility Maintenance Inspectors (2)
- Operations Assistant
- Planning Manager

RECOMMENDED PARKING FACILITY MAINTENANCE PROGRAM (FOR STRUCTURED AND SURFACE PARKING FACILITIES)

The purpose of a Maintenance Program is to protect the initial investment by coordinating proper and timely preventive maintenance that reduces premature deterioration of the parking facilities. This Maintenance Program will address general as well as specific maintenance needs in a cost-effective manner. Maintenance can be separated into two classes: Operational and Structural. Operational maintenance is required to operate a facility effectively. Structural maintenance is required to protect structural integrity and maintain the facility's fixed elements.

A key component of the implementation of the Strategic Plan is implementation of a comprehensive Maintenance Program at Metro parking facilities. As the Parking Management Program is rolled out to more locations, customer expectation related to the safety, cleanliness, and state of repair of parking facilities will rise.

Specific repairs exceed the scope of this plan. A qualified engineer should be consulted for structural repairs such as patching, floor slab overlays, traffic topping installation, sealer application, crack repairs, and expansion joint installation as well as surface parking lots pavement, sidewalks, retaining walls, sound barriers, drains, and embankments. Manufacturers and suppliers should be consulted for mechanical and electrical repairs, light poles and foundations, security and surveillance systems, signs, pavement markings, security systems, architectural features, landscaping, and fencing.

Metro has been supplied with equipment "Owner's Manuals" and service information.

Parking facility maintenance primarily includes actions to extend the service life and support the operation of the facility.

Many factors influence the cost of maintaining a parking facility. The types of items that need to be included are as follows:

- Cost of periodic repairs and/or corrective actions that are necessary to maintain serviceability and facility operations. This includes daily or routine maintenance.
- Cost of preventive maintenance actions that are required to extend the service life of the facility.
- Cost of major structural repairs to restore structural integrity and serviceability when the effects of aging and deterioration become widespread.



- The replacement cost for operational elements at the end of their estimated service life.

Walker has prepared detailed maintenance manuals for both surface lots and parking structures. Walker recommends that the Parking Management Unit add two staff members whose sole responsibility is to visit parking facilities and note maintenance and other issues that need to be addressed. Additionally, Walker recommends exploring the feasibility of outsourcing parking facility maintenance.

PARKING MANAGEMENT ALTERNATIVES

Based on the research, assessment, outreach, and analysis contained within this report, three general parking management alternatives have been identified and are described below.

Alternative 1

- High Parking Demand Stations (90%+ utilization)
- Parking facilities within this category are either already nearing, at, or over-capacity. At several high demand locations, the parking facility fills up by 7:00 AM or earlier. High demand stations are in critical need of parking management and should be prioritized for transition to the Parking Management Program. It is recommended that locations which exceed 90% utilization do the following:
 - Implement paid parking
 - Implementation of the transit verification system
 - Should parking demand continue to reach capacity then identify resources to increase the parking inventory through shared use and other non-capital improvements
 - Work with local jurisdictions to limit parking spillover and/or improve and implement parking management programs around the station areas.
- This parking management path is for stations that experience high parking occupancy even after transit rider verification steps are taken.
- Example of high demand stations currently in the Pilot Program include North Hollywood and Universal where TAP verification has been used to reduce non-transit parkers in the lot with an increase and maintenance of parking availability throughout the day.

Alternative 2

- Medium Parking Demand Stations (89% to 69% utilization)
- Parking demand at medium demand stations is nearing, but not yet at capacity, with parking generally available throughout the day. Medium demand locations should be transitioned to the Parking Management Program after the high demand locations. It is recommended that medium parking demand stations do the following:
 - Implement a paid parking fee
 - Implement the Transit Verification System
 - Paid parking for non-transit users if availability exists, during the weekday and on nights and weekends – shared parking of existing Metro facilities
 - Work with local jurisdictions to limit spillover and/or improve and implement parking management programs around the station areas.



- This parking management path is for stations that experience medium occupancy after transit rider verification steps are taken, but are not expected to reach capacity on a regular basis with implementation of paid parking.

Alternative 3

- Low-occupancy stations (below 69% utilization)
- Low demand stations cover a wide range, from stations that may be nearing 'medium demand status, to stations with very low parking occupancy rates. They have the lowest priority for entry into the Parking Management Program, but are an important component of the overall system. For example, parking demand from a nearby high demand station could be shifted to a low demand station, helping to balance the system and increase overall availability. It is recommended that lower parking demand stations do the following:
 - Free parking for transit riders
 - Sell parking to non-transit riders and adjacent uses where opportunities exist.
 - Actively market parking availability to increase occupancy and reduce utilization at nearby high demand locations.
 - Consider Shared Parking Agreements with adjacent land uses that may need additional parking.
 - Consider divestiture of some or all of a station's parking assets if parking demand remains low.

In cases and locations where Metro's parking spaces were found to be underutilized on a regular basis, the Pilot Program was used to make these spaces available to serve the adjacent community including. For example:

- Monthly parking has been made available to non-transit users at Expo/Sepulveda, where parking demand has remained low. In July 2017, the Board authorized Metro to enter into a monthly parking program to provide 100 monthly parking for \$120.00 per parking space per month for construction workers of an adjacent development project. Spaces are assigned in the upper level of the facility to minimize disruption to transit patrons. These parking passes may be cancelled if transit parking demand increases.
- Parking to serve customers of adjacent commercial uses has been made available for a daily rate with time limits for non-transit riders at Atlantic Station, after 11:00 AM once typical demand for transit parking has been met and when the demand for neighborhood customer parking increases.
- In Monrovia, available parking spaces on weekends and at night, when the demand for transit parking is low, have been made available to serve customers of the commercial district without TAP card verification.

Opportunities to leverage parking, and development, along transit lines and corridors have also been explored as part of this effort, recognizing that parking along an individual line may operate as one comprehensive system, thereby presenting efficiencies and opportunities for management and building transit-oriented development. For example, Metro's North Hollywood and Universal City parking facilities both park transit riders accessing the Metro Red Line for trips to Hollywood, Downtown and other parts of the Metro system. The STPP analysis explored the advantages at opportunities to build transit-oriented development at the North Hollywood station by concentrating

the parking supply for commuters at Universal City, which may be less suited for development. Under this scenario, more residential, transit-oriented development is possible in North Hollywood while maintaining a reasonable parking supply for transit riders who must drive to access Red Line.

Based on the Facility Assessment, which is discussed in more detail further in this Executive Summary and in the report, and stations already in the Pilot Program, parking at approximately 29 of the 59 existing Metro stations qualify as either high demand or medium demand locations and should be prioritized, based on parking occupancy levels.

Figure ES-1: Metro Parking System Weekday Morning Occupancy Map



Source: Walker Parking Consultants, 2016. Based on data collected during the facility assessment research in 2016.



With some exceptions, high demand stations should be included in the Parking Management Program. In addition, several lower demand stations at the time of the facility assessment have become high demand station due to the implementation of Parking Management at an adjacent station, and several additional stations should be considered due to their adjacency to high demand stations.

Overall, a total of 39 stations are either in the Pilot Program or should be prioritized for inclusion in the Parking Management Program. Table ES-1 lists the initial stations that should be included in the Parking Management Program

Table ES-1: Proposed Stations in Parking Management Program

Line	Station
Orange	Reseda
Orange	Balboa
Orange	Van Nuys
Orange	Sepulveda
Red/Orange	North Hollywood*
Red	Universal City*
Gold	Atlantic*
Gold	Indiana
Gold	Lincoln/Cypress
Gold	Heritage Square
Gold	Filmore
Gold	Sierra Madre Villa
Gold	Arcadia
Gold	Monrovia*
Gold	Duarte/City of Hope
Gold	Irwindale*
Gold	Azusa Downtown
Gold	APU/Citrus*
Silver	Harbor Gateway Transit Ctr
Silver	El Monte*

Line	Station
Expo	17th St/SMC*
Expo	Expo/Bundy*
Expo	Expo/Sepulveda*
Expo	Culver City*
Expo	La Cienega/Jefferson
Expo	Expo/Crenshaw
Blue	Florence
Blue/Green	Willowbrook/Rosa Parks
Blue	Artesia
Blue	Del Amo
Blue	Wardlow
Blue	Willow Street
Green	Norwalk*
Green	Lakewood*
Green	Long Beach Boulevard
Green	Crenshaw*
Green	Hawthorne/Lennox
Green	Aviation/LAX*
Green	Douglas

* = Pilot Program Location

Source: Walker Parking Consultants, 2017

STRATEGIC IMPLEMENTATION PLAN

The goal of the Strategic Implementation Plan, and of the overarching Master Plan effort, is to create a world class parking organization that leverages technology, provides excellent customer service, and improves the overall transit experience while covering its operation costs. A 10-year planning horizon is envisioned for full implementation of the plan.

The primary objectives of the Strategic Implementation Plan are:

- Maintain a state of good repair at all parking facilities



- Use available technology to improve customer service and reduce transaction times
- Enforce the system with a focus on compliance
- Monitor the Parking Program, and adjust operations as necessary
- Act as a County-wide resource for local jurisdictions and assist with managing potential parking overspill in station-adjacent areas.
- Bring all existing parking facilities, and future facilities at new stations, under the Parking Program umbrella.
- Staff the Parking Management Unit to grow with the growth of the parking management program and provide excellent customer service, enforcement, planning and operations.
- Use the parking facility design toolkit and long-range planning checklist to plan future facilities in a forward-thinking manner.

The actions and recommendations to achieve the Strategic Plan’s objectives are organized along two paths, overarching actions and recommendations that should occur throughout the 10-year horizon, as well as a list of specific actions and goals over the course of the planning horizon.

YEAR 1-10 ONGOING ACTIONS AND RECOMMENDATIONS

PLANNING

- Act as a Countywide planning resource, offering assistance to jurisdictions in the management of parking overspill issues near stations.
 - With authority from jurisdictions, Metro can offer parking enforcement around station areas and recommend parking policy adjustments such as time limits, permits, or a manageable paid parking program to increase the efficiency of the parking system.
- Review parking occupancy in Metro parking facilities on a quarterly basis
 - Update the prioritization of stations being added to the Parking Management Program if necessary
- The Parking Management Unit should be involved in the planning and of all future assignment utilizing the tools that have been developed as part of the Master Plan
 - The Long-Range Parking Planning Toolkit and Checklist should be utilized to plan parking at all future facilities
- Strategically design what parking capacity to build with an eye on technological trends that could affect parking demand.
- Strategically plan not to overbuild new parking facilities
- Future facilities should be planned to have paid parking on opening day
 - The Parking Design Toolkit and Checklist should be utilized to design future parking facilities to reasonable and appropriate parking design standards
- The Parking Management Unit should be staffed appropriately to run and maintain a world class parking system.
- Periodically conduct parking rate surveys of non-Metro parking facilities to keep Metro parking competitively priced to discourage the use of Metro parking facilities by non-riders.
- Periodically evaluate the parking price ceiling.

ENFORCEMENT

- Maintain a focus on customer service
- Adjust enforcement program as needed to close loopholes and improve customer service

OPERATIONS

- Facilities Maintenance Inspectors should visit parking facilities on a rotating basis, with an emphasis on stations in the Parking Program, to document repair and maintenance issues.
- Engage qualified structural engineers to provide assessments of structured parking facilities and prepare Capital Asset Plans for each facility to maintain a state of good repair.
- Consider outsourcing routine cleaning and maintenance for Metro parking facilities
- Routinely clean parking facilities
- Conduct structural repair as outlined in Capital Asset Plans for each facility to maintain a state of good repair.

PARKING MANAGEMENT PROGRAM

- At the end of the 10-year Strategic Plan horizon, the Parking Management Program should have been implemented in at least 39 of Metro's 59 stations with parking.

10-YEAR PLANNING HORIZON – SPECIFIC ACTIONS AND RECOMMENDATIONS

Table ES-2: Year-by-Year Strategic Implementation Items

Year/Action	Seismic Study of Older Structures	Seismic Retrofits Where Necessary	Implement Parking Management Program at Additional Locations	Staff Parking Management Unit Appropriately	Complete Enforcement Transition	Improve Signage/Wayfinding and Lighting at High Priority Locations	Improve Signage/Wayfinding and Lighting at Medium Priority Locations	Improve Signage/Wayfinding and Lighting at Low Priority Locations	Complete TAP Wallet Transition	Install Parking Guidance Systems at High Priority Locations	Install Parking Guidance Systems at Medium Priority Locations	Install Parking Guidance Systems at Low Priority Locations	Resurface or Reconstruct Pavement at High Priority Locations	Resurface or Reconstruct Pavement at Medium Priority Locations	Resurface or Reconstruct Pavement at Low Priority Locations	Review Technology Options/Requirements and Re-bid Operator Contract
Year 1	X		X	X	X								X			
Year 2		X	X	X									X			
Year 3		X	X	X		X			X	X			X			
Year 4			X	X		X				X				X		
Year 5			X	X		X				X				X		X
Year 6			X	X			X				X			X		
Year 7			X	X			X				X				X	
Year 8			X	X			X				X				X	
Year 9			X	X				X				X			X	
Year 10			X	X				X				X			X	

Source: Walker Parking Consultants, 2017

OVERALL FINDINGS/RECOMMENDATIONS

Based on the outreach, research, analysis and fieldwork completed by the STPP team, as well as the results of the Pilot Program to date, Walker provides the following overarching recommendations:

- Metro should adopt the Supportive Transit Parking Program (“STPP”) Master Plan in its entirety as policy.
- Metro should transition the Pilot Program to a permanent system-wide Parking Management Program.
 - While parking fees that are charged will generate modest revenue, the focus should continue to be using reasonable pricing to manage parking demand as opposed to using pricing as a revenue generator.
- Metro should proactively manage its parking assets by incorporating parking management procedures when a location reaches 70% occupancy.
- Metro should adopt the proposed parking ordinance and fee resolution contained in this Master Plan.

Metro’s parking facilities represent a significant investment in both capital and land, and should be managed to maximize not only their utilization, but also to enhance Metro parker’s customer service experience. Implementation of the STPP should achieve the following goals:

- Protect the parking supply for Metro parkers where necessary.
- Increase availability of parking, including the ability for a Metro parker to find a parking space at any time during the day.
- Maximize the utility of parking assets by engaging in joint use and shared parking agreements at less utilized facilities.
- Extend the life of parking assets and reducing large capital expenditures by proactively maintaining parking facilities.
- Improve management and efficiency of non-Metro parking facilities in the vicinity of Metro stations via collaboration between Metro and the local jurisdictions.