Acknowledgments

Honorable William Peduto, Mayor
Karina Ricks, Director – Department of Mobility and Infrastructure
Councilwoman Deb Gross

Project Contributors

Department of Mobility and Infrastructure
Kim Lucas, Assistant Director
Dara Braitman, Principal Planner
Angie Martinez, Senior ROW Manager
Nick Ross, Municipal Traffic Engineer
Eric Setzler, Chief Engineer
Mike Maloch, Senior Project Manager
Cassandra Leopold, Principal Planner

Department of City Planning
Andrea Lavin Kossis, Riverfront Development Coordinator

Project Consultants
Stantec
Toole Design Group
John J. Clark & Associates

Strip District Neighbors
Strip District Business Association
Pittsburgh Parking Authority
Port Authority of Allegheny County
Bike PGH
Pittsburgh ULI
Downtown Pittsburgh Partnership
Stakeholder and public meeting participants
Dear Neighbors,

The Strip District is one of Pittsburgh’s most iconic destinations. Situated on flat terrain and bound by the Allegheny River to the north, a steep escarpment to the south, and Downtown and Lower Lawrenceville to the west and east, the Strip District’s location is well suited for the varied land uses it has seen over the years.

Early heavy industrial activity, followed by an economy based on wholesale and auction houses, employed generations of Pittsburghers. Such industries were supported by proximity to the Allegheny River and the many freight rail tracks that crisscrossed the neighborhood, linking it with the larger region. Remnants of the neighborhood’s industrial and wholesale past can still be seen today in the form of converted warehouses and railroad tracks embedded in the street.

The Strip District continues to change. New development is no longer limited to office and commercial uses – the neighborhood is seeing increasing numbers of people coming to live in both new construction and converted industrial buildings. Activity in the neighborhood varies widely by time of day, day of the week, and season of the year. On any given day, the Strip District is alive with the energy of visitors, residents, office workers, merchants and vendors, and construction crews. In such a diverse and growing neighborhood, there is no one size-fits-all solution for meeting the variety of mobility and parking needs.

With only a few streets running the length of the Strip District (southwest to northeast) and rapid development increasing the number of both people and trips, there is need to develop a well-thought-out network plan that will guide the prioritization and allocation of limited right-of-way. Building upon previous studies, planned roadway improvements, and projected changes in land use, the Strip District Mobility Plan develops a comprehensive strategy for the safe and efficient movement of people, bikes, transit, cars, trucks, and other means to, through, and within the neighborhood. It also identifies ways to better manage the curb and parking. The recommendations included in this plan have been designed to encourage and support multimodal travel and to improve neighborhood connectivity and circulation in a way that will help meet the needs of new and more users as well as the long-standing businesses that have helped define the Strip District as the iconic Pittsburgh neighborhood that it is.

Sincerely,

Kimberly Lucas, Acting Director
Department of Mobility and Infrastructure
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Acronyms and Abbreviations

- **ADA** - Americans with Disabilities Act
- **AV** - Autonomous Vehicle
- **BID** - Business Improvement District
- **CIP** - Capital Improvement Program
- **DCP** - Pittsburgh Department of City Planning
- **DOMI** - Pittsburgh Department of Mobility and Infrastructure
- **DPW** - Pittsburgh Public Works Department
- **EV** - Electric Vehicle
- **FHWA** - Federal Highway Administration
- **HSIP** - Highway Safety Improvement Program
- **LOS** - Level of Service
- **LPI** - Leading Pedestrian Interval
- **OTMA** - Oakland Transportation Management Association
- **PAAC** - Port Authority of Allegheny County
- **PDP** - Pittsburgh Downtown Partnership
- **PED** - Parking Enhancement District
- **PennDOT** - Pennsylvania Department of Transportation
- **PPA** - Pittsburgh Parking Authority
- **ROW** - Right-of-Way
- **SDBA** - Strip District Business Association
- **SDN** - Strip District Neighbors
- **SF** - Square Feet
- **SOVs** - Single Occupancy Vehicles
- **SPC** - Southern Pennsylvania Commission
- **TDM** - Transportation Demand Management
- **TIP** - Transportation Improvement Program
- **TMA** - Transportation Management Association
- **TRO** - Trip Reduction Ordinance
Introduction & Vision
Vision

The Strip District Mobility Plan (hereafter referred to as “the Plan”) envisions a transportation network that supports existing businesses and sustains growth by maximizing the use of limited space for safe, enjoyable multimodal travel.

Purpose and Need

To support this vision, the Plan process evaluated existing and projected land use and travel patterns to identify a series of recommendations to improve access, safety, and comfort for all users of the transportation network to, through, and within the Strip District.

This Plan, which was initiated by the City of Pittsburgh’s Department of Mobility and Infrastructure (DOMI), is necessary to guide and improve the neighborhood’s transportation network in such a way that balances the needs of existing businesses, new residential and economic activity, and anticipated future development. Land use patterns in the Strip District have changed considerably over the past five to 10 years; a trend that is most certainly expected to continue for the next decade. Some of this development will be sited on land that is privately owned and currently used as surface parking. The introduction of higher density land use presents numerous opportunities but may challenge Strip District residents, visitors, employers, and employees if enhancements to support more multimodal trips are not made and a shared parking strategy to absorb the demand created by new development and the removal of existing parking spaces is not advanced. New economic activity coupled with enhanced transportation options, including an intuitive publicly available parking system, will help long standing businesses maintain their livelihood and support overall neighborhood health and well-being.

In such a diverse and growing neighborhood, there is no one-size-fits-all solution. DOMI has five goals for travel in Pittsburgh; the Plan seeks to elevate travel in the Strip District closer to those goals. The Plan focuses on the next decade with the understanding that while short-term improvements are necessary, the Strip District’s needs will continue to evolve. To preserve existing character and to help support existing and future residents, visitors, businesses, and employees, this Plan was charged with five objectives that guided the planning process and the recommendations contained within this document.

To gain a comprehensive understanding of existing and future conditions to inform recommendations, the Project Team (1) gathered traffic and parking data, (2) reviewed existing data and plans, (3) conducted public and stakeholder outreach, and (4) analyzed potential impacts associated with anticipated future growth. Findings from these efforts, coordination with City staff, and insight from subject-matter experts informed a series of recommendations and a phased implementation plan for the Strip District. It should be noted that portions of this Plan were completed prior to the COVID-19 pandemic. DOMI recognizes that conditions on the ground may have shifted since the Plan was initiated and is committed to working with the public and stakeholders to ensure that changing needs and priorities are fully understood before individual recommendations are advanced for implementation.
### DOMI’s Goals

- **Goal 1:** No one dies or is seriously injured traveling on City streets (streets and intersections are intuitive to use, even by an adolescent or child).
- **Goal 2:** Every resident can access fresh fruits and vegetables within 20 minutes travel of home (without requiring a private vehicle).
- **Goal 3:** All trips less than 1 mile are easy and enjoyable to achieve by non-vehicle travel.
- **Goal 4:** No household must spend more than 45% of income on housing + transportation + energy (for any income quintile).
- **Goal 5:** Our streets reflect the values and pride of our city.

### Plan Objectives

- **Objective 1:** Develop an efficient and inclusive mobility network that accommodates movement for all users, abilities, and modes.
- **Objective 2:** Improve access to parking for employees, residents, and visitors to the Strip District.
- **Objective 3:** Identify an east-west bicycle connection.
- **Objective 4:** Explore options to pilot curbside management strategies that support the dynamic needs of a growing district.
- **Objective 5:** Identify an approach to ensure the successful implementation, management, and monitoring of implemented recommendations.

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### DOMI Vision

Provide the people of Pittsburgh the physical mobility necessary to achieve equitable economic mobility and a sustainable, inclusive, and vibrant city.

### Strip District Mobility Vision Statement

Create a transportation system that supports existing businesses and sustains growth by maximizing the use of limited space for safe, enjoyable multimodal travel.
Study Area

The study area is generally bounded by 11th Street to the west, 33rd Street to the east, the Allegheny River to the north, and Liberty Avenue to the south. To facilitate the discussion, the Strip District’s historic commercial core is further defined as the "Core" (see Figure 1).

Figure 1. Strip District Study Area
A Historic Pittsburgh Icon

Only four blocks wide and more than twenty blocks long, the Strip District has many enviable characteristics, including historic locally owned businesses and weekend markets, housing diversity, innovation incubators, population and economic growth, and proximity to other city neighborhoods and the Allegheny River.

Industrial activities in the Strip District began in the earlier part of the 19th century. Foundries, iron mills, and glass factories capitalized on proximity and access to the Allegheny River for shipping. The Fort Pitt Foundry made cannons between 12th and 13th streets. By the late 1800s, iconic American companies such as H.J. Heinz called the Strip District home. The late 1800s and early 1900s brought many wholesale operations that took advantage of the railroad spur on Liberty Avenue (now removed) for moving goods. Supporting businesses, such as restaurants for shift workers, also moved into the area.

Because of its narrow width, circulation has long been a challenge in the Strip District. Historically, land use decisions were piecemeal and made by individual and sometimes competing interests. As early as 1910, the City moved toward implementing one-way traffic circulation on Penn Avenue with Liberty Avenue as a parallel route to "keep traffic moving" and connect the Strip District with Downtown. In the meantime, individual businesses made accommodations to meet the times, eventually providing surface parking that served individual buildings. As the Strip District evolved, other changes were likely made independently of one another, such as transit service stop placement, regulation of parking on individual streets, and sidewalk construction, which does not lend to the uniformity often preferred within the public right-of-way (ROW).
The Changing Strip District

Long-standing businesses from merchants to wholesale to dining have kept the Strip District active for the last century; they most certainly contribute to Pittsburgh’s overall character. Most tourist materials mention the Strip District as a must-visit destination to take in the flavors of decades-old businesses as well as newer establishments that offer a variety of experiences for locals and visitors alike. In recent years, the central location of the Strip District coupled with its historic character, development potential, and proximity to the Allegheny River and Downtown has made it one of the fastest growing neighborhoods in Pittsburgh.

In recent years, vacant storefronts, old warehouses, and underutilized land have been converted to support new economic activity in the form of breweries, restaurants, technology innovation, housing, and office space, among others. Between 2010 and 2018, the residential population nearly doubled from 500 residents to more than 1,000 residents.1 While the number of jobs has remained relatively unchanged during this time, the types of jobs have shifted from warehousing and manufacturing to a more finance and insurance, management, and technology based economy. Specific trends include:

- Between 2010 and 2018, the median resident age dropped from 47 years to 33 years old.2
- Between 2010 and 2018, the share of households with earnings more than $75,000 increased from about 40% to nearly 70%.3
- In 2017, approximately 9,000 people worked in the Strip District.
- The population is expected to continue to increase considerably by 2035 with the addition of another approximately 1,100 residents.4 Regional estimates for growth are much lower than potential development indicates may actually occur.
- From 2002 to today, the composition of jobs located in the Strip District by employment sector has also changed. Employment in the finance and insurance sector increased from about 600 jobs to nearly 1,500 jobs. Employment in the management sector increased from 15 jobs to nearly 600 jobs. By contrast, jobs in information (i.e. telephone, publishing) have decreased 87% and employment in transportation and warehousing decreased by 64% during the same period.5

Almost three million square feet (SF) of commercial space and 1,000 new residential units are proposed or under construction and expected to come online in the next 10 years. Without question, whether realized in part or in full, the Strip District is quickly changing and each new development that comes online will bring new residents, employees, and visitors to the neighborhood.6 Based on future development, the number of jobs may nearly triple from existing conditions to over 21,000.7 (It should be noted that office space configurations will likely change in the post-COVID-19 workplace.)

The considerable amount of new development coupled with existing land use will place additional demand on the transportation network; however it also can serve as a moment of opportunity. There is a finite amount of roadway and parking capacity to serve new trips, particularly those taken by single-occupancy vehicles (SOVs). However, higher density land uses and improvements to the transportation network - including but not limited to infrastructure investment, wayfinding, and other operational changes - can make it easier, safer, and more comfortable and intuitive for users of all ages and abilities regardless of mode to frequent the Strip District.
Planning & Engineering Projects

Currently and separate from this Plan, the City is undertaking several citywide planning initiatives and infrastructure projects that will directly or indirectly affect mobility in the Strip District. Additionally, there have been a number of planning studies conducted in the Strip District in recent years. These plans and projects are summarized below.

Ongoing Citywide Transportation Planning Studies

Citywide transportation planning studies will set the framework for other site-specific investments and help identify the goals and objectives that should be considered as part of neighborhood transportation studies. Below is a summary of recently completed or ongoing citywide transportation planning studies. The recommendations in this Plan are consistent with and will help advance the overall objectives of these plans.

Bike(+) Plan (2020). The City’s first bike plan in 20 years calls for approximately 120 miles and 25 miles of new or upgraded on-street bike facilities and trails, respectively, over the next 10 years. The plan serves as the City’s playbook to make travel by bicycle or other small mobility modes safe, easy, and joyful for all users regardless of age or ability. The plan calls for numerous connections to and within the Strip District including (1) 15th Street from the Penn Avenue two-way cycle track from Downtown to Smallman Street, (2) 16th Street / David McCullough Bridge from the North Side to the western edge of the Strip District, (3) additional segments of the Allegheny Riverfront Trail, and (4) an east-west connection from Downtown to Lower Lawrenceville (see Figure 2). The specific street for the east-west connection was not identified in the Bike(+) Plan but rather highlighted because of its importance towards creating a connected bicycle network. An east-west connection was further evaluated as part of this Plan.

Pedestrian Safety Action Plan (2021). The Pedestrian Safety Action Plan was developed through a collaborative effort by DOMI, Federal Highway Administration (FHWA), a core group of local stakeholders, and the public. Based on a detailed analysis of local crash data, the plan identifies critical pedestrian safety issues and locations with a higher risk for pedestrian crashes. It also gives specific actions that DOMI will undertake to improve areas with identified concerns and hot spots as well as metrics for monitoring over time.

Complete Street Design Guidelines (ongoing). In November 2016, the City adopted its Complete Streets policy. Complete Streets policies and standards, which have been adopted by more than 500 municipalities across the United States and are intended to put all transportation modes on equal footing to ensure a safer and more equitable transportation network for all users. DOMI is currently finalizing its first Complete Streets Design Guidelines.

2070 Mobility Vision Plan (2021). This document will serve as the City’s long-range transportation road map for the next 50 years. While it is difficult to anticipate future modes, this document identifies the corridors where large-scale future capital investments might be anticipated and ways to ensure the successful management of existing assets. It will present various scales for this investment (i.e., region, centers) and is based on current and anticipated development trends, travel patterns, and overall infrastructure need. The plan asks where the connections between and among neighborhoods, across the City and region, and to global markets are that we need to be making to ensure a safe, affordable, accessible, and sustainable transportation network for the next generation. The 2070 Mobility Vision Plan will help ensure that the City is making incremental progress towards its long-term mobility goals. It identifies a series of improvements in the Strip District including the Allegheny Green Boulevard, a Strip District station on the East Busway, and a vertical connection to the Hill District and Oakland. Similar improvements are also identified in NEXTransit, the Port Authority of Allegheny County’s (PAAC) ongoing 25-year long-range plan.
Previously Completed Planning Studies

In recent years, there has been a considerable amount of time and energy expended by both the community and practitioners in preparing planning studies for the Strip District. Elements of those plans that are relevant to this Plan are summarized below and were reiterated and/or expanded upon in the recommendations set forth later in this document.

Allegheny Riverfront Green Boulevard Strategic Plan (2013). This plan focuses on a six-mile corridor that runs along the Allegheny River from Downtown to the eastern edge of the City. The plan calls for the extension of the Riverfront Trail along the Allegheny River through the Strip District from Downtown to 48th Street in Lawrenceville. It envisions a “Green Boulevard” along the Allegheny Valley Railroad ROW on Railroad Street through the Strip District. The plan also calls for rail service along the same ROW to neighborhoods to the east as well as opportunities for open space, riverfront access, a ferry pier, and other recreational features (see Figure 3).

Strip District Transportation and Land Use Plan (2013). This plan incorporates the findings of the Allegheny Riverfront Green Boulevard Plan mentioned above and identifies a modal priority for each of the east-west streets running through the Strip District. These priorities include (1) Liberty Avenue as the “Through Way” prioritizing vehicle movement, (2) Penn Avenue as a “Pedestrian Way” prioritizing pedestrian movements, (3) Smallman Street as the “Transit Way” with a streetcar, and (4) Railroad Street as the “Cycle Way” with a connection to the Riverfront Trail and the Allegheny Green Boulevard.

Riverfront Zoning District (2018). Locally described as “the RIV”, this new zoning district that was created in 2018 encourages sustainable development that supports the local riverfront ecology. The RIV allows lower parking ratios, provides the option to contribute to a mobility improvement trust, and requires developers to submit a transportation management plan that outlines planned mitigation for potential transportation impacts.
Strip District Riverfront Park Vision Plan (2016). Riverlife, a local nonprofit organization, worked with riverfront developers and property owners to create this open space vision for the Strip District riverfront between 11th and 31st streets. Acknowledging the changing nature of land use in the Strip District, the plan envisions that the neighborhood with numerous Complete Streets, including 11th, 15th, and most streets between 21st and 30th streets. The plan envisions these streets connecting to green space, public plazas, and a public park along the riverfront. Other recommendations include stormwater improvements to primary north-south corridors such as 21st Street.

Strip District and Lower Lawrenceville Neighborhood Circulator (~2016). This study, prepared by Strip District Neighbors (SDN), proposes a rubber-tire circulator running on a 30-minute route from the David L. Lawrence Convention Center in Downtown to 36th Street in Lower Lawrenceville. The circulator would head outbound on Smallman Street and inbound on Penn Avenue. The project does not identify a funding source but does note that grant money could potentially fund long-term operation.
Engineering Projects

The following projects are still in design. Recently completed work such as the reconstruction of Smallman Street are not included. The projects below are being initiated by DOMI, will include engagement during specific project milestones, and will require coordination with outside entities in varying capacities.

Liberty Avenue Highway Safety Improvement Program (HSIP) Signal Upgrades (ongoing). This project will include new vehicular and pedestrian traffic signals, improved accessibility in accordance with the Americans with Disabilities Act of 1990 (ADA) (i.e., updated curb ramps and audible push buttons), and advanced traffic signal communications. The potential does exist for the project to include a road diet, which would reduce the street from four vehicular to three vehicular travel lanes in response to a Road Safety Audit performed by the Southwestern Pennsylvania Commission (SPC) in 2010. The project provides an opportunity to (1) improve pedestrian safety, (2) improve bus stop access, and (3) change the character of the street from a focus on vehicular movement to both transit and vehicular movement with an improved pedestrian environment. Project design began in April 2020 and construction is anticipated to start in Spring 2022. Public meetings will be held as project design advances.

28th Street Bridge rehabilitation or replacement (ongoing). A Historic Bridge Rehabilitation Analysis is currently being conducted to determine if the existing structure can carry the proposed services (i.e. vehicle lanes, bike lanes, and wider sidewalks) or if a new bridge is needed. If the existing bridge can be rehabilitated, the project will likely include installing a new deck and sidewalks, strengthening and repairing selected portions of the structure, painting, and improving the roadway approaches and lighting on both sides of the bridge.

If the assessment indicates the existing structure cannot meet these needs, a new bridge will be designed. Engineering is anticipated to be complete in early 2023 and construction would be complete in 2024.

16th Street / David McCullough Bridge Road Diet (ongoing). The 16th Street / David McCullough Bridge traverses the Allegheny River with two vehicular travel lanes and a sidewalk on either side of the bridge. The bridge is a popular bicycle connection between the Penn Avenue two-way cycle track on the western edge of the Strip District and the Three Rivers Heritage Trail on the North Side.

Currently, cyclists must contend with either fast moving vehicle traffic on the roadway or pedestrians on eight-foot sidewalks, which are not a suitable width for both pedestrians and bicycles. Because of narrower 10-foot vehicular travel lanes and the adjacent guardrail, it is difficult for motorists to pass another vehicle traveling in the same direction on the bridge. As a result, many motorists choose to drive in a staggered fashion to provide more distance between vehicles. Larger trucks also commonly extend into the adjacent lane. Due to these behaviors, the bridge effectively operates as one lane in each direction along its length. At this time, DOMI is proposing a road diet for the bridge to reduce vehicle collisions and to provide dedicated space for cyclists on the roadway as opposed to leaving them exposed or sharing sidewalks with pedestrians.

The proposed road diet would reconfigure the bridge to have one 11-foot travel lane, one six-foot bike lane, and one three-foot buffer between the bicycle and vehicle travel lanes in each direction and 250-foot long turn lanes on either end. A queue length analysis was completed to ensure there is ample right-turn vehicle storage length so vehicles do not conflict with the new bike facility where it meets Penn Avenue. Design for this project is nearly complete; however, implementation will likely not occur until after the Liberty Avenue HSIP is operational to observe new traffic patterns and further evaluate how this change would affect overall network operations. Coordination with Allegheny County is ongoing as the County owns the bridge.

Riverfront Trail expansion (ongoing). DOMI is working with the appropriate railroad companies to acquire the lands necessary to support the expansion of the Riverfront Trail. It is anticipated that negotiations and associated surveying will be complete in 2021. Design and construction of the trail, which includes connecting to existing trails and other improvements, would occur after this time. Given the complexity of negotiations and other factors, the opening of this segment of the Riverfront Trail is anticipated to take a number of years.
Existing Conditions & Future Needs
Transportation Network Overview

The physical transportation network in the Strip District includes four east-west roadways and a grid of numbered streets running north to south. The following section provides a summary of the existing transportation network, which is presented in Figure 5. The information presented in this chapter is a combination of mapping, visual observation, and additional data collection. Data sources and other information used to prepare baseline conditions are presented in Appendix A. Data and Analysis Methodology.

- **Liberty Avenue** is four lanes, two in each direction, with discontinuous sidewalks on the south side. It is the primary transit corridor through the Strip District.

- **Penn Avenue** is one-way westbound (west of 31st Street) with two vehicle travel lanes and on-street parking on either side. There are sharrow markings from Lower Lawrenceville to 16th Street and a protected, two-way cycle track from 16th Street to Downtown. There are sidewalks on both sides. Some bus routes heading towards Downtown use Penn Avenue until 26th Street where they turn left to meet Liberty Avenue.

- **Smallman Street** is one lane in each direction with discontinuous sidewalks and on-street parking on most blocks. The roadway was just rebuilt between 16th and 21st streets and now includes back-angle parking and a dedicated bicycle facility.

- **Railroad Street / Waterfront Place** has one travel lane in each direction. The eastern end of the street has embedded railroad tracks and sidewalks in scattered locations. Portions of the street are privately owned.

- **Three east-west alleys** are bidirectional with no traffic control (stop signs or traffic signals) or sidewalks. These include Spring Way, Mulberry Way, and Spruce Way. Only Spring Way runs the length of the Strip District.

- **North-south, numbered streets** are a mix of one-way and two-way. Generally, there is no particular pattern of street direction. There are sidewalks on many, but not all, of these streets. Many one-ways streets are concentrated in the Core, which can confuse people trying to find parking and destinations in that area.

- **Five bridge structures** including Interstate 579 (I-579) / Veterans Bridge, 16th Street / David McCullough Bridge, 28th Street, 31st Street, and 33rd Street (rail).

- **Connections to the regional roadway network** are made via the 16th Street / David McCullough and 31st Street bridges.

- The **Riverfront Trail (also known as the Strip District Trail from Downtown through the Strip District)** is an off-road shared use connection that runs from Downtown to 27th Street along the Allegheny River.
Figure 5. Existing Strip District Multimodal Transportation Network

Note: one-way streets are labeled, all others are two-way circulation.
Walking & Rolling

Short block lengths, a dense street grid, and flat topography make the Strip District a great place to walk and enjoy the historic feel of the neighborhood’s famed shops and restaurants. However, limited pedestrian infrastructure and obstructions in certain locations are a safety hazard that create impassible and dangerous passages for people with limited mobility and strollers and also diminishes the appeal of the Strip District for some users.

The Strip District’s pedestrian network includes continuous sidewalks on both sides of Penn Avenue and a complete east-west sidewalk connection on the north side of Liberty Avenue (see Figure 6). Penn Avenue has crosswalks at most intersections, however, there are no crosswalks across Penn Avenue at 18th and 19th streets. Given the retail activity on Penn Avenue in the Core, especially during weekend markets, it is not surprising that pedestrian volumes are high in this area. This will only increase as new development comes online.

The dense street grid and relatively short length of most blocks makes it fairly easy for pedestrians to get quickly to their destination using a direct path of travel. However, this is not always the case when sidewalk segments are missing, damaged, or otherwise obstructed. ADA-compliant curb ramps and pedestrian signals are present at some crossings but are lacking at others.

In addition, there is no wayfinding signage to help people find their destination, including to and from bus stops and parking facilities.

Key Findings

- Deteriorating curb ramps and sidewalks, together with a lack of ADA-compliant intersections, present challenges for those using wheelchairs and other mobility devices as well as those with strollers or shopping carts.

- Crash patterns indicate "hot spots," where infrastructure should be improved, including a few locations in the Core (see Figure 6).

- Despite relatively wide sidewalks (seven- to 10-feet or more in many locations), sidewalk obstructions such as signage, vending, hydrants, and utility poles decrease the amount of usable sidewalk and limit accessibility. It is not uncommon for people to park on and further obstruct the sidewalk, making it particularly challenging for those with limited mobility.

- Loading activities and delivery vehicles are known to block all or part of the sidewalk making it difficult for sidewalk users.

- There are no crosswalks on 18th or 19th streets on Penn Avenue. Given the amount of commercial activity in this part of the Strip District coupled with high foot traffic, it is not uncommon to see people jaywalking at these locations. This is certainly an area of particular concern for the Penn Avenue merchants.

- Missing sidewalks and few crosswalks on 23rd and 24th streets from parking facilities to the Core present both safety and accessibility issues and have the potential to reduce the appeal of parking further from the commercial core.

- Lack of sidewalks on Railroad and Smallman streets in the eastern part of the study area make these streets uncomfortable for pedestrians.

- Some bus stop locations on Liberty Avenue, such as 14th and 27th streets, do not have crosswalks. On the south side of Liberty Avenue, the sidewalk west of 26th Street is relatively non-existent, in part because of a multi-block retaining wall, so people must cross the street to use a sidewalk.

- The Produce Terminal between 16th and 21st streets includes pedestrian cut-throughs from Waterfront Place to Smallman Street and the Core.
Walking Network Elements

Many signalized intersections in the Strip District lack pedestrian signals and do not have curb ramps.

Mapping sidewalks reveals significant gaps in the network. In many places, there are curb extensions marked with bollards and paint. This provides more space for people walking and increases their visibility at busy intersections. In this image, vending also obstructs the sidewalk.

Figure 6. Strip District Pedestrian Network (2019)
Riding a Bike

The Strip District benefits from flat topography, short blocks, and proximity to Downtown, the Riverfront Trail, and commercial and residential activity. These characteristics make it ideal for bicycling and other small mobility modes such as e-scooters, which will be coming online in Pittsburgh in the near term.

The existing bicycle network in the Strip District does not provide complete connections. There are shared lane markings on Penn Avenue the length of the Strip District (see Figure 7). High traffic volumes, loading activity, and lack of a dedicated bicycle facility make this corridor somewhat daunting for less experienced riders. At Penn Avenue and 16th Street, the protected two-way cycle track continues on Penn Avenue to Downtown. As mentioned above, a road diet and subsequently dedicated bike lanes are planned for the 16th Street / David McCullough Bridge providing a vital connection to the Three Rivers Heritage Trail on the North Side.

Dedicated bike lanes were recently installed on Smallman Street between 16th and 21st streets. A connection between Smallman Street and Penn Avenue via 15th Street is planned to be installed in the short term. There is no dedicated east-west bike connection through the Strip District east of 21st Street. This represents a critical gap in the network between Downtown and Lower Lawrenceville and was identified as such in DOMI’s recently completed Bike(+) Plan.

Outside of these locations, and sharrows on 28th Street, no on-street bicycle accommodations exist in the Strip District. The automobile-oriented nature of the Strip District’s roadway network, obstructions such as railroad tracks, and the prevalence of one-way streets can make bicycling to, through, and within the neighborhood challenging. A lack of bicycle racks, whether associated with individual properties or not, can also deter potential users.

The Strip District Trail runs along the Allegheny River from 27th Street west towards Downtown. To date, the portion of the trail in the Strip District has been constructed in a piecemeal fashion by developers. In some locations, the ground material is not suitable for bicycle use. City staff are working with developers and adjacent property owners to expand the trail to the east and also to prepare trail guidelines so any new trail adheres to similar design standards.

There are nine locations for Healthy Ride, Pittsburgh’s bikeshare system, in or bordering the Strip District. Six stations are sited along Penn Avenue. Healthy Ride data shows that many of the trips that originate in the Strip District also terminate in the Strip District as opposed to inter-neighborhood trips (see Figure 8).

Key Findings

- The Strip District’s lack of an east-west connection is a critical gap in the City’s overall bicycle network.
- Bicycling in the Strip District is an increasingly popular way to get around the neighborhood but the lack of dedicated facilities is a deterrent for less confident users.
- The share of residents who bike to work has decreased over the last several years. This decrease is likely attributable to numerous factors, one of which is likely to be the need to increase bicycle access and appeal.
- A comparison of job density (as a proxy for activity) in the Strip District and bicycle infrastructure shows that the bicycle network does not extend to where people might most want to be, which is east of 21st Street (see Figure 7).
- The embedded railroad tracks on Railroad Street are dangerous for cyclists to cross.
- The number of crashes involving cyclists on Smallman Street and Penn Avenue indicate that the design of these routes today is inadequate for people on bikes (see Figure 7). (Crashes on Smallman Street recorded prior to the implementation of the existing bike lanes).
- A lack of two-way north-south connections make it difficult for people on bikes to circulate around the Strip District and enter the neighborhood from the Allegheny River.
- There is only one Healthy Ride station on Waterfront Place / Railroad Street within proximity to new residential development, which may reduce the potential to increase bicycling for short-distance trips (see Figure 8).
People bike today in the Strip District despite the lack of continuous bicycle facilities.

There are gaps in the bicycle network and Healthy Ride Station coverage.

Figure 7. Bicycle Network, Bike Share, and Employment Density (2019-2020)

Figure 8. Top Destinations for Healthy Ride Trips Beginning in the Strip District (2018)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Destination</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10th St &amp; Penn Ave (David L. Lawrence Convention Center)</td>
</tr>
<tr>
<td>2</td>
<td>21st St &amp; Penn Ave</td>
</tr>
<tr>
<td>3</td>
<td>17th St &amp; Penn Ave</td>
</tr>
<tr>
<td>4</td>
<td>33rd St &amp; Penn Ave</td>
</tr>
<tr>
<td>5</td>
<td>12th St &amp; Penn Ave</td>
</tr>
</tbody>
</table>
Taking a Bus

Much of the Strip District is within a five-minute walk of a bus stop but due to limited or substandard pedestrian infrastructure, particularly at crossings, it can feel a lot further.

There are six local bus routes that serve the Strip District. The Martin Luther King Jr. East Busway (hereafter referred to as the “East Busway”) is a dedicated busway that runs through the Strip District on its southern boundary and provides service between Downtown and Wilkinsburg, extending further to the east than local bus routes (see Figure 9). Despite its proximity, there is no Strip District station along the East Busway. The closest access to East Busway service is at Herron Avenue at 34th Street, which is 1.5 miles from the Core and farther from new development concentrated on Railroad Street / Waterfront Place.

75% of the Strip District is within a five-minute walk of a bus stop (see Figure 10). During peak hours, there is robust PAAC bus service along Liberty Avenue in the Strip District. The street serves as a “transit spine” connecting Downtown with neighborhoods to the east with buses running every six minutes or less. Bus routes through the Strip District provide connections to Downtown, Lawrenceville, Bloomfield, East Liberty, and Wilkinsburg, among others.

In some areas, bus stops on Liberty Avenue are within one to two blocks of each other. The highest ridership stops are located on Liberty Avenue at 17th, 21st, 25th, and 29th streets.14 Heading west, three of the five bus routes that serve the Strip District run on Penn Avenue until 26th Street where they turn left to meet Liberty Avenue. Bus service on Penn Avenue west of 26th Street was discontinued years ago due to the reliability of service through the Core.

There are bus shelters on Liberty Avenue at 14th (outbound), 21st (outbound), and 26th (inbound) streets and Penn Avenue at 30th Street. The remaining bus stops in the Strip District have a sign on a pole but no other amenities.

Key Findings

- The majority of Strip District bus stops, including high ridership stops, do not have amenities for riders such as benches or shelters.
- Proximity to the closest East Busway stops makes this service fairly impractical for access to and from the Strip District today.
- On Liberty Avenue, there is a bus stop on almost every block in the Strip District. While frequent stops can reduce distances to final destinations, it also adds to travel time for all riders. Despite these challenges, there are nearly 2,700 transit trips (boardings and alightings) on a typical weekday in the Strip District.15
The vast majority of the Strip District is within a 5-minute walk of transit service. Today, 10% of residents and 17% of employees take transit.

Figure 10. Existing Transit Frequencies and Ridership (Boardings, 2018)
Driving

The Strip District’s roadway network supports traffic flow in and around the neighborhood as well as into Downtown and areas east. However, the lack of a clear pattern of one- and two-way streets can make travel within the Strip District circuitous and confusing.

The Strip District’s network of roadways includes four main east-west streets – Liberty and Penn avenues, Smallman Street, and Railroad Street / Waterfront Place. Liberty and Penn avenues provide through routes between Downtown and Lower Lawrenceville. An estimate using cell phone data shows that more than two thirds of vehicle trips are passing through and not stopping in the Strip District.17

In the five years between 2013 and 2017, there were about 240 crashes resulting in injury or even death (defined as “severe” for the purposes of the Plan), in the Strip District. Almost 60 of these crashes involved pedestrians and cyclists, including two fatalities on Liberty Avenue between 21st and 22nd streets.18 Many of the top locations for crashes are in the Core (see Figure 11).

A planning-level Level of Service (LOS) analysis was used to understand vehicle congestion in the neighborhood (see Figure 12). LOS is a measure of delay and a proxy for congestion. The methodology for LOS is described in greater detail in Appendix A. Data and Analysis Methodology. Looking at today’s traffic patterns using this tool reveals congestion at the “pinch points” where the regional network meets local streets, specifically at the approaches to the 16th Street / David McCullough and 31st Street bridges and Liberty Avenue at 11th Street.

Figure 12 also shows afternoon peak period traffic volumes. These volumes were collected either specifically for this Plan or for large-scale development projects that are required to evaluate how this change in land use may affect the transportation network. Not surprisingly, the highest traffic volumes are on Liberty Avenue, where pm peak volumes top 1,000 vehicles outbound. Inbound traffic volumes on Penn Avenue average between 400 vehicles and 500 vehicles. The 16th Street / David McCullough Bridge averages 900 vehicles outbound and 600 vehicles inbound while the 31st Street Bridge experiences an average of 600 vehicles outbound and 300 vehicles inbound during the afternoon peak. (See Appendix A. Data and Analysis Methodology for additional details regarding traffic volumes and methodology.)

Most of the numbered streets that run north to south connect from Railroad Street / Waterfront Place to Liberty Avenue with the primary exception being between 16th and 21st streets where the Produce Terminal is located. Primary north-south streets include 21st, 26th, and 28th streets. Streets are one- or two-ways or both depending on the block. Alleys such as Spring Way and Mulberry Way currently serve multiple functions including dumpster storage, loading and service entrances, informal / unmarked parking, and informal / unmarked bicycle routes.

As there are significant food service and wholesale operations in the Strip District, truck access and loading is essential (see Figure 13 and Figure 14).19 Trucks make deliveries to destinations on Penn Avenue either in a loading zone or using one of the vehicle travel lanes, on north-south streets, or in alleys as space allows. Given the narrow ROW on some numbered streets, it is not uncommon for deliveries to park on the sidewalk and block pedestrian access.

Key Findings

• Much of the vehicle traffic in the Strip District is passing through and not stopping at Strip District destinations.
• Traffic flows create congestion at the base of the 16th Street / David McCullough and 31st Street bridges as well as at Liberty Avenue at 11th Street on the western edge of the Strip District.
• One-way westbound travel on Penn Avenue and a lack of consistent one-way pairs forces out-of-direction travel and additional circulation on local streets.
• The character and functional purpose of the Strip District’s alleys can create unsafe conditions and conflicts between travel modes.
• The wholesale distribution and restaurant businesses that have long given the area its character present an ongoing need to accommodate truck deliveries both within the Core and on Smallman Street. In the Core, and on Penn Avenue in particular, this creates conflicts between pedestrians, motorists, people parking, and loading needs.20
• Crash data indicates that today’s roadway network is unsafe across the Strip District. Conditions are particularly acute in the Core, which has exceptionally high pedestrian activity.
Today’s vehicle traffic is congested at “pinch points” where the regional network meets the local Strip District network. Data-based estimates show that about two thirds of trips are driving through, not to, the Strip District.

Figure 12. Circulation and Estimated LOS

Figure 13. Density of Food Service Jobs, 2017

Figure 14. Density of Wholesale Jobs, 2017

These locations likely draw relatively more truck / loading traffic in the Strip District than other uses such as office or residential.

This chart includes all crashes with at least one injury or death, including those involving pedestrians, bicycles, and vehicles, from 2013 to 2017.

<table>
<thead>
<tr>
<th>Location</th>
<th>Estimated Crashes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liberty Avenue and 16th Street</td>
<td>19</td>
</tr>
<tr>
<td>Liberty Avenue and 28th Street</td>
<td>10</td>
</tr>
<tr>
<td>Liberty Avenue and 31st Street</td>
<td>9</td>
</tr>
<tr>
<td>Penn Avenue and 11th Street</td>
<td>9</td>
</tr>
<tr>
<td>Penn Avenue and 16th Street</td>
<td>9</td>
</tr>
</tbody>
</table>
Parking Supply

The current parking supply in the Strip District is a patchwork of metered and non-metered on-street parking as well as public and private surface lots and garages with different systems of pricing, regulations, and enforcement. This array of options contributes to confusion as to where parking is available.

There are more than 10,000 parking spaces in the Strip District (see Figure 15 and Figure 16). Publicly accessible on- and off-street parking accounts for just over half the supply in the Strip District. Publicly accessible parking may be publicly or privately owned but is open to anyone, regardless of who owns / operates the facility. Pricing varies between hourly, daily, and monthly rates. Monthly leases then generally become unavailable for public use when not used by the lessee and may sit unused during weekend markets when parking demand is highest. In the Strip District, the cost to park on the street is either free or $1.50 per hour. In contrast, the cheapest off-street parking rate (2019) was $3 for a minimum of two hours; the highest rate was over $10 for the day with no hourly option available.

Restricted parking accounts for just under half the parking supply in the Strip District. Restricted parking is limited to customers of a certain business, residents of a building, certain types of vehicles, or even specific individuals.

Key Findings

- The different restrictions and pricing of parking facilities results in the perception that there is limited parking within proximity to the Core, especially for customers and visitors seeking to make a short visit.
- On-street parking in the Core is much cheaper than off-street parking at nearby surface lots and garages, despite being the most convenient. This pricing motivates those looking for parking to circulate and potentially contribute to congestion in high volume areas.
- Although there is publicly available on- and off-street parking close to the Core, much of it is located on blocks that have incomplete sidewalk coverage and are slightly farther away.
- There is no cohesive wayfinding or signage that makes it evident to drivers where and what their parking options might be, spurring confusion and contributing to the perception of limited parking supply. This leaves people to find information on each individual facility beforehand or learn of pricing and other restrictions upon trying to enter the facility.

#### Figure 15. Parking Inventory by Regulation (2018)

<table>
<thead>
<tr>
<th>Restricted Parking</th>
<th># Of Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Lot</td>
<td>3,600</td>
</tr>
<tr>
<td>Restricted To Construction Vehicles Only</td>
<td>200</td>
</tr>
<tr>
<td>Private Garage – Residential</td>
<td>500</td>
</tr>
<tr>
<td>On-Street Loading Zones, Permit, Valet</td>
<td>100</td>
</tr>
<tr>
<td>Subtotal</td>
<td>4,400</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Publicly Accessible Parking</th>
<th># Of Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Publicly Accessible Lot</td>
<td>2,500</td>
</tr>
<tr>
<td>Publicly Accessible Lot – Leases Only</td>
<td>1,600</td>
</tr>
<tr>
<td>Publicly Accessible Garage</td>
<td>600</td>
</tr>
<tr>
<td>On-Street Unregulated Parking</td>
<td>500</td>
</tr>
<tr>
<td>On Street 2-hr Time Limit, 8:00 am – 6:00 pm, $1.50 per hr Parking</td>
<td>500</td>
</tr>
<tr>
<td>Subtotal</td>
<td>5,700</td>
</tr>
</tbody>
</table>

**Total** 10,100

- There are very few designated on-street loading zones in the Core; most are located in the eastern part of the study area.
- There is a significant amount of privately owned yet publicly available surface parking; however, much of this is available by monthly lease only. These surface lots are concentrated on the west side of the Strip District and likely serve Downtown commuters.
- A few surface lots in the Core maximize the use of limited space by operating valet or tandem parking, where the operator takes keys and parks cars in a more dense configuration than could be achieved by individual drivers.
On-street is the most convenient and cheapest option for hourly parking.

On-street parking on Penn Avenue is cheap and "right out front," and, therefore, often very busy.
Parking Utilization

As part of this planning process, parking data was collected across 6,500 public and private spaces to better understand parking utilization and demand by location, time of day, and facility type. High-level findings are presented below and shown on Figure 17 to Figure 22. More detailed information can be found in Appendix D Parking Utilization Maps. The first summary below includes the entire Strip District while the second is specific to a portion of Penn Avenue, where on-street parking is generally in the highest demand because of adjacent commercial activity.

**Key Findings - Overall**

- Peak parking demand is 11:00 am to 1:00 pm on weekdays (see Figure 17).

- More than 70% of the parking supply is unused after 5:00 pm.

- Even at the busiest times, there are hundreds of unused parking spaces in the Strip District. However, not all of these parking spaces are publicly available and/or they are farther from areas of high commercial activity than some users find convenient.

- Publicly accessible surface lots and garages, such as the Cork Factory Garage, are busy but have some availability throughout the weekday. However, these spaces are more expensive and less convenient to shopping destinations than on-street parking on Penn Avenue in the Core.

- Non-metered parking in Penn Avenue east of 25th Street is busy on weekdays but relatively available on weekends.

**Key Findings - Inset Area**

- Parking between Smallman Street, Penn Avenue, and 16th and 22nd streets on both weekdays and weekends is busy, particularly on Penn Avenue (see Figure 18 and Figure 19). This heavy utilization contributes to the perception that parking is at capacity in the Core as these are the most visible, convenient spaces. It is important to note that many parking spaces on Smallman Street between 16th and 21st streets were not available during the time of data collection because of road reconstruction but have since reopened. Parking spaces associated with the Produce Terminal have also reopened since the data was collected.

- Despite congestion on Penn Avenue, there is availability on the side streets such as 14th and 21st during the weekday peak (see Figure 20 and Figure 21).

- On weekends, many parking areas including on-street spaces and surface lots are over capacity (for example, 21st Street and the small surface lots in the Core) as people hunt for a space close to the retail on Penn Avenue (see Figure 22).
Figure 17. Weekday Parking Utilization: Overall (6,500 spaces counted)

Figure 18. Weekday Utilization – Penn Avenue in the Inset Area (150 spaces)

Figure 19. Weekend Utilization – Penn Avenue in the Inset Area (150 spaces)

Figure 20. Strip District Parking Utilization Weekday Peak 1:00 pm (Spring/Summer 2019)

Figure 21. Weekday Parking Utilization, 12:00 pm

Figure 22. Weekend Parking Utilization, 12:00 pm
Travel Choices

Many factors influence how people choose to travel to the Strip District. These choices may vary on different days depending on trip purpose and weather conditions. Drawing on a variety of data compiled from the U.S. Census Bureau, City of Pittsburgh, and intercept surveys conducted in the Strip District provides a snapshot as to how different user groups travel to destinations in the Strip District. Below is a summary of key findings.

Employees

A majority (70%) of those who commute to the Strip District drive as their main mode of transportation – 63% drove alone and 7% in carpools (see Figure 23). Employees in the Strip District utilize transit service more than residents or visitors. Approximately 17% use transit for their daily commute.25

Residents

Based on mode share trends, the growing residential population is driving more and taking transit less than in previous years. In 2010, 48% of residents drove compared to 59% in 2018 (see Figure 24). During this same period, the percentage of residents taking transit declined from 14% to 10%.26 The percentage of residents who bike to work also decreased.

Visitors

About two thirds of survey respondents who were visitors to the Strip District arrived via private car. Another 10% of respondents took transit while another 17% walked (see Figure 25).27 These numbers indicate that although travel space in the Strip District is overwhelmingly dedicated to private cars, people are choosing other modes despite challenges such as discontinuous sidewalks and limited transit amenities.

Penn Avenue

Figure 26 shows how these user groups and others move through the Strip District. Truck traffic is more predominant on the east side of the Strip District (for example at Penn Avenue and 31st and 34th streets), while people walking make up the majority of traffic on a weekend at 17th Street and Penn Avenue in the Core.
Since 2010, the estimated share of residents driving to work has grown while the share taking transit and biking has decreased. The share of people walking to work has increased slightly.

Almost two thirds of survey respondents carpooled or drove alone.

Truck traffic is more predominant on the east side of the Strip District (for example at Penn Avenue and 31st and 34th streets) while people walking make up the majority of weekend traffic at 17th Street and Penn Avenue in the Core. Note that this chart includes counts of the number of buses rather than people on buses so the actual share of people traveling by bus is likely higher.
What is to Come?

The Strip District has more recently and will continue to be a large part of the development boom in Pittsburgh. Over the next decade, the Strip District may gain nearly three million square feet (SF) of new commercial space and over 1,000 housing units. This amount of development represents both an opportunity and a challenge for the Strip District as new residents, employees, and visitors travel to, within, and through the area.

Based on information provided by the City and its partners, the Project Team analyzed how anticipated growth would affect the transportation network and projected parking demand. Information was provided in 2019 and some new development has come online or been proposed since that time. The future demand scenario does not consider changes to proposed development that may result from the COVID-19 pandemic. There is limited land use data available for existing buildings in the Strip District. However, a rough calculation of office space per employee using data from a national analysis of office trends shows that the proposed new office space alone would represent an increase of more than 13,000 jobs from the existing 9,000 jobs. Proposed new residential development would more than double the number of existing units (approximately 750 residential units as of 2018). These numbers may be a slight overestimate of the net new development as some developments are opening in phases and therefore may already be represented in some of the population and housing data collected for this Plan.

New development that is anticipated to come online over the next two years and is included in the future land use scenario for this Plan is presented below by land use type and in Figure 27. Additional information about proposed development can be found in the Appendix A. Data and Analysis Methodology.

<table>
<thead>
<tr>
<th>210,000 SF</th>
<th>70,000 SF</th>
<th>1,100 SF</th>
<th>2.6M SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail Space</td>
<td>Restaurant Space</td>
<td>Residential Units</td>
<td>Office Space</td>
</tr>
</tbody>
</table>
There are nearly 3 million SF of development proposed in the Strip District.

Figure 27. Future Development Scenario

1 3 Crossings: 550,000 SF office | 17,000 SF retail | 300 residential units | 1,100 parking spaces
2A Riverfront Landing: 650 residential units | 750 parking spaces
2B Riverfront Landing: 770,000 SF office | 500 parking spaces
3 Produce Terminal & 1600 Smallman | 100,000 SF office | 170,000 SF retail | 500 parking spaces
4 21st & Smallman | 380,000 SF office | 45,000 SF retail | 900 parking spaces
5 23rd & Railroad | 250 residential units | 4,000 SF retail | 200 parking spaces
6 Penn & 24th | 20 residential units | 30 parking spaces
7 2528 Smallman St | 30 residential units | 30 parking spaces
8 District 15 | 300,000 SF office | 25,000 SF retail | 500 parking spaces
9 1501 Penn (Wholey's Site) | 520,000 SF office | 17,000 SF retail | 850 parking spaces
Future Travel Demand

Mode share is the portion of population who choose to use a specific type of transportation, such as walking, biking, driving, or transit. To understand the impact that new development may have on the Strip District’s transportation network, the Project Team took a planning-level look at existing travel patterns and estimated the number of new walking, biking, driving, and transit trips that the future development scenario could generate.

Travel by Transit, Walking, and Biking

Census data shows that recent trends have been moving toward a larger proportion of residents choosing to drive. However, if more people were to take non-auto trips, the limited street space in the Strip District could support more trips with less vehicular congestion.

The Project Team analyzed two scenarios to understand the anticipated impacts of new development on the Strip District’s transportation network. One scenario considers trips by all modes where the mode split remains as under existing conditions. In this scenario, the network will continue to be challenged if the mode share does not change. The other scenario is considered an “aspirational” mode split where people walk, bike, and take transit with increased frequency for more trips (see Figure 28).

In both scenarios, sidewalks and bicycle facilities will need to be able to accommodate hundreds of additional biking, walking, and rolling trips in the afternoon peak over existing conditions. For example, the number of people biking at the peak hour will at least triple relative to today’s levels. In addition, the concentration of new residents, employees, and retail opportunities will likely produce many more short trips between uses in the Strip District, where walking or biking should be the most convenient mode.

New Modes

In the aspirational scenario, the Strip District transit network would carry between 700 and 1,000 new boardings and alightings in the afternoon peak hour. Today’s network carries about 2,700 boardings and alightings in an entire day.23

Figure 28. Estimated New Afternoon Peak Hour Trips by Walking, Biking, and Transit for Residents, Employees, and Visitors

Transportation choices are continually changing, as evidenced by the growth of rideshare, bikeshare, and scootershare in recent years. It is likely that many existing and development-generated trips may switch to alternate modes if they are available. Both the City as well as developers and property owners will need to plan and coordinate how the transportation network and supporting features, such as bike racks and mobility hubs, can be appropriately sited and operated safely.

Street Network & Congestion

Applying existing mode split to projected development, the Strip District can expect to see significantly more driving trips in the afternoon peak hour. This increase will put a strain on the network, particularly at congested “pinch point” intersections, including (1) the bridge crossings of 16th Street at Penn and Liberty avenues and 33rd Street and Penn Avenue, (2) 15th Street at Smallman Street, and (3) 11th Street at Liberty Avenue (see Figure 29). Many of these intersections currently experience high traffic volumes; the absence of designated left turn lanes further congests traffic flow.
If more people walk, bike, and take transit, the limited street space in the Strip District could support more trips with less vehicular congestion.

Figure 29. Existing and Future Vehicle Traffic Level of Service
Parking Demand

The Project Team compared existing land use to parking utilization to create a model of current parking demand in the Strip District. This model then facilitated a planning-level assessment of potential future parking demand based on the future development scenario. Based on the proposed development presented in Figure 27, the planned parking supply could likely absorb future demand as long as that supply serves multiple users throughout each 24-hour period and investment continues to support multimodal opportunities.

The parking demand model created for this Plan focused on the area generally bounded by 13th and 26th streets, Liberty Avenue, and the Allegheny River. It evaluated both peak demand and demand fluctuations by time of day. This model was built using both national standards and local data. An overview of the modeling process is presented in Figure 30 and described in greater detail in Appendix A. Data and Analysis Methodology.

Current zoning requires that each new development provide its own supply of parking. Based on the proposed development data provided by the City, the overall parking supply in the area of analysis will increase by approximately 1,400 spaces over existing conditions. This number factors in the anticipated loss of existing surface parking as well as the introduction of structured parking associated with new developments.

Much of the existing surface parking supply that would be converted for new development is generally used by monthly leaseholders, many of whom are likely Downtown commuters or Strip District employees (see Figure 27). The parking demand model indicates that some, but likely not all, of this demand could be absorbed in parking facilities associated with new development should this supply also be open to the public in addition to the tenants and visitors of a particular development. Some parkers may choose to find alternate locations outside of the Strip District or switch modes.

The parking demand model further indicates that anticipated future parking demand could be absorbed by the remainder of the existing parking supply as well as that constructed as part of new development if parking is shared to the maximum extent and continues to function at estimated Strip District demand levels (see Figure 31). To be conservative, the Project Team compared estimates of future demand to approximately 90% of the future supply, which is considered an industry standard for when parking is “functionally full.”
A traditional approach to parking provision is to create a designated supply for each type of land use, based on its peak demand. This approach does not account for fluctuations by time of day, and can result in parking being overbuilt.

Actual parking demand varies by land use and by time of day. Residential demand is higher in the evenings while office is higher in the middle of the day. Accounting for these differences still results in an estimated peak demand that is higher than what was observed.

Based on observed parking patterns, a calibrated model reflects existing Strip District transportation conditions, including the ability to park once and visit multiple destinations. This approach results in a lower overall estimate of demand at peak times. This model can then be used to estimate future demand.

Modeling results show that:

- Parking demand over and above that demonstrated under existing conditions could be absorbed in parking associated with new development as well as the remaining existing parking supply if it is shared to the maximum extent and continues to function at estimated Strip District demand levels.
- The majority of future demand will come from new office development, indicating an opportunity for commute-based demand management.
- In the evening, much of the future supply may be underutilized and able to support additional uses, such as residential and/or restaurant activity.

It is important to note that there are many factors that influence how actual parking demand will work, such as commuting trends, parking restrictions, parking management and pricing, and the number of employees per square foot in office space. The model prepared for this Plan provides a planning-level estimate of the change in demand based on observed 2019 Strip District parking patterns.
At project inception, the Project Team spent several days in the Strip District conducting field visits and meeting with stakeholders. A wide variety of tools were utilized to gather feedback, including the approaches listed below.

- In-person and online surveys. More than 450 people participated.
- Roundtable meetings with merchants, SDN, PAAC, and DOMI staff.
- Three days of mobile workshops, including during the weekend markets.
- Project website and online mapping exercises.

The Project Team returned to the Strip District to present draft recommendations. This included roundtable meetings and a comment period providing an opportunity for written feedback. Feedback was received from numerous parties, including those mentioned below.

- Strip District Business Association (SDBA) and individual merchants
- SDN
- Developers
- Local legislators
- City departments, PAAC, and other agency and nonprofit partners
- The public

DOMI led a series of focus group meetings with representatives from SDN and SDBA to review the refined recommendations and implementation priorities for the community.

In July 2021, the focus group reconvened to discuss final recommendations in the Plan, particularly identifying any changes since the last meeting. During that same week, there was also an open house for stakeholders where DOMI and PAAC staff provided information about the various ongoing projects in the neighborhood.

Throughout the planning process, DOMI staff had additional conversations with the groups listed below.

- Pittsburgh Parking Authority (PPA)
- PAAC
- Other City departments
- Focus groups
- Outreach and periodic updates with the community regarding specific recommendations in the Plan and other DOMI-led projects
Walking & Rolling

Pedestrian Safety

Pedestrian safety was the one of the primary concerns heard during outreach. Respondents expressed concern about the narrow sidewalks on Penn Avenue given the high levels of pedestrian activity, particularly during weekend markets when space is even more constrained because of vendor activity. The sidewalk network is also incomplete in many areas despite new sidewalk construction in and around new residential developments. Many intersections lack pedestrian countdown signals and accessibility accommodations. This coupled with high vehicle speeds oftentimes translates to pedestrians feeling unsafe. Little to no pedestrian-level signage makes it challenging for people, particularly those unfamiliar with the neighborhood, to find their way.

What People Suggested

Ideas focused on creating more sidewalk space and investing in pedestrian infrastructure, including universal design such as ADA-compliant curb ramps, in areas with higher pedestrian activity. Recent pilot projects, such as painted curb extensions, have been well received by the community. Other ideas focused on overhead streetlight improvements and investments to enhance 21st Street as a key pedestrian connection between Penn and Liberty avenues. Opinion was split with regards to piloting Penn Avenue closures, either partial or full, to vehicle traffic during weekend markets and over the holidays.

Riding a Bike

No Direct Bicycle Connection

There was strong participation in this Plan from the cycling community. The principal concern is the lack of a continuous protected and / or separated east-west bike connection through the neighborhood as well as connections to and along the waterfront. Other safety concerns focused on conflicts with vehicular traffic and loading activity on Penn Avenue. While more advanced cyclists use the alleys, sight lines and visibility at intersections are poor and road surfaces are often covered with trash and obstructions. A lack of bicycle parking was also noted.

What People Suggested

Participants had several suggestions including adding east-west bike lanes on all four major streets and increasing the number of bicycle parking spaces. Most favored adding a bicycle lane on Smallman Street. The preferred link at the east end of the Strip District was 31st Street due to topography. Not surprisingly, there was support for riverfront access and completing the Riverfront Trail.
Driving

What People Suggested
Stakeholders and the public offered several ideas to improve the driving and parking experience in the Strip District. These suggestions included a new signal at 21st and Smallman streets as well as additional parking in the Core and a new public parking garage. Although some people wanted more free parking, others expressed support for restructuring on-street parking pricing to reduce congestion and encourage parking in less busy locations. A circulator shuttle, serving remote parking and new residential and employment areas closer to the riverfront, was also suggested. Response was mixed with regards to a proposed road diet and introduction of left-turn lanes on Liberty Avenue to improve safety for all users.

Confusing Streets, Lack of Parking
One of the principal concerns was a perceived parking crunch, especially close to destinations in the Core. Drivers also mentioned that due to narrow travel lanes, making left turns and driving on Liberty Avenue felt unsafe. It was also noted that the wide ROW on 21st Street and inconsistent one-way street directions and pairings invite wrong way travel. Many respondents also noted the competing demands for limited curb space during peak business hours, including Uber and Lyft, hotel shuttles, loading, and double-parking, made the Strip District environment feel somewhat chaotic.

Taking A Bus

What People Suggested
The community suggested transit stop improvements and the addition of amenities, starting with expanding waiting areas where feasible at outbound bus stops on Liberty Avenue. Additional ideas included the addition of real-time arrival signage and Connect Card machines. The opportunity for creating a new transit hub and stop on the East Busway were suggested. Ideas for stop locations included 21st and 26th streets, which would provide improved access to Penn Avenue shops, new development, and other destinations. Other transit-related improvements focused on enhancing bus service and improving connections to the Amtrak station. Ideas included extending light rail from Penn Station to the Strip District as well as introducing a Strip District circulator shuttle.

Lack of Bus Amenities
Most concerns related to the lack of bus stop amenities on Liberty Avenue, particularly space to wait for the bus and limited signage and schedule information. Participants described transit riders having to lean into oncoming traffic to see if the bus was coming, having no place to wait during inclement weather, and generally not having enough space on narrow sidewalks. Additionally, stakeholders mentioned that even though the East Busway runs through the Strip District, there is no stop. It was also observed that many of the existing bus stops on Liberty Avenue are close together requiring frequent stops, which slows service.
Recommendations
Recommendations

The following recommendations were identified through consultation with DOMI staff, agency and nonprofit partners, stakeholders, and the public over the course of two years, as described in Chapter 3. The description of each recommendation includes an overview of anticipated benefits, implementation time frame, responsible entity and / or potential partners, and other complimentary recommendations that when implemented together would recognize the greatest benefits. An overview of the implementation plan, which demonstrates when individual recommendations could be expected to advance, is presented in Figure 32. A more detailed implementation plan that describes how each recommendation helps meet both DOMI goals and the objectives of this Plan, steps needed to ensure success, and planning-level costs, is presented in Chapter 5. Implementation Plan.

Figure 33 provides an overview of the proposed 10-year multimodal network for the Strip District. These are planning-level recommendations. Additional engagement will be conducted, as appropriate, as individual recommendations are further evaluated for implementation.

Recommendations are organized by the following groupings.

1. Pedestrian and Accessibility Improvements
2. Bicycle Connections
3. Elevating Transit Access to the Strip District
4. Vehicular Circulation
5. Managing the Curb
6. Districtwide Parking Management
7. Technology and Communications
8. Establish Strip District Funding Mechanism
9. Transportation Demand Management (TDM) and Districtwide Organization
Figure 32. Implementation Plan Overview

The graphic below provides an overview as to when select individual recommendations could reasonably be expected to be advanced for implementation.

<table>
<thead>
<tr>
<th>SHORT TERM (&lt;3 YEARS)</th>
<th>MID TERM (3-5 YEARS)</th>
<th>LONG TERM (5+ YEARS)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CIRCULATION &amp; SAFETY</strong></td>
<td><strong>PARKING</strong></td>
<td><strong>DISTRICTWIDE MANAGEMENT</strong></td>
</tr>
<tr>
<td>Overall walk safety upgrades: crosswalks, curb ramp/ accessibility for persons with disabilities upgrades, repainting crosswalks, lighting audit</td>
<td>Monitor parking utilization post-opening of Produce Terminal, Smallman Street</td>
<td>Continue to meet with SDN and SDBA to provide status updates on Strip District road closures and other issues of concern</td>
</tr>
<tr>
<td>Smallman Street public realm improvements</td>
<td>Work with private property owners to standardize signage for public parking</td>
<td>Form Transportation Management Association (TMA), including hiring an employee for coordination and communication</td>
</tr>
<tr>
<td>New signal at 15th Street</td>
<td>Adjust on-street parking price in the Core</td>
<td>Centralize construction communications and develop communication protocol</td>
</tr>
<tr>
<td>Loading audit and discussion with merchants as necessary</td>
<td>Implement metered zone on Penn Ave east of 25th Street</td>
<td>Create Trip Reduction Ordinance</td>
</tr>
<tr>
<td>Implement Uber/Lyft drop-off zones on-street</td>
<td>Offer in-kind services in exchange for bringing publicly available parking into a streamlined management system</td>
<td>TMA grows, takes on larger projects</td>
</tr>
<tr>
<td>Implement east-west bike connection</td>
<td>Consider paid on-street loading zones</td>
<td></td>
</tr>
<tr>
<td>16th Street Bridge Road Diet</td>
<td>Additional public parking from new development as needed</td>
<td></td>
</tr>
<tr>
<td>Healthy Ride stations and Mobility Hubs co-located as feasible</td>
<td>Create Parking Enhancement District</td>
<td></td>
</tr>
<tr>
<td>Traffic signal upgrades, including walk signals, on Penn and Liberty avenues</td>
<td>Use data from this study to develop parking website/map</td>
<td></td>
</tr>
<tr>
<td>Improvements to higher ridership bus stops</td>
<td></td>
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<tr>
<td></td>
<td>Use data from this study to develop parking website/map</td>
<td></td>
</tr>
<tr>
<td>Create Trip Reduction Ordinance</td>
<td>Create Parking Enhancement District</td>
<td></td>
</tr>
<tr>
<td>28th Street Bridge Rehab (in design)</td>
<td>Consider paid on-street loading zones</td>
<td></td>
</tr>
<tr>
<td>Create additional space to wait and cross the street at Liberty Avenue bus stops (through HSIP project)</td>
<td></td>
<td></td>
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</tbody>
</table>
Figure 33. Proposed 10-year Strip District Multimodal Network
1. Pedestrian and Accessibility Improvements

Both the public and stakeholders have expressed concern about the poor quality of pedestrian infrastructure and accessibility for persons with disabilities in the Strip District. With narrow or absent sidewalks in some places, little curb reveal, and high vehicular speeds, Liberty Avenue in particular is viewed as uncomfortable and unsafe for pedestrians. While some improvements have been made on Penn Avenue and corresponding side streets, such as painted curb extensions with flexposts, there is still a perception that many areas of the Strip District are unsafe for pedestrians. Smallman Street in some places is lacking sidewalks and has long curb cuts in others. Improvements suggested by the public and stakeholders include wider sidewalks, better crosswalks, and re-thinking the areas under the bridges for pedestrian (and multimodal) amenities.

The following recommendations outline strategic improvements to the pedestrian environment to help meet the goals and objectives of the Plan.

**Figure 34. Pedestrian Network Improvements**

1.1. Pedestrian Emphasis Corridors

- **Implementation time frame.** Short term (<3 years) and mid term (3-5 years)
- **Responsible entity and/or potential partners.** DOMI and property owners

In the Core, pedestrian volumes can be considerably higher than vehicular volumes. This is especially true on weekends, around the holidays, and during the warmer months. In some locations, sidewalks are narrow, have numerous obstructions, and/or are lacking or in need of repair. Pedestrian/vehicle crash hot spots, such as those on Penn Avenue in the Core, contribute to concerns about the pedestrian network in the Strip District. As underutilized or vacant land is developed, pedestrian activity will continue to increase in the Strip District.

This recommendation is to treat the Core as a high priority pedestrian infrastructure zone and make the following improvements on primary corridors that connect to and within the area, many of which have been
identified as areas of concern in previous plans (see Figure 34). As development continues to come online, it may be appropriate to apply these treatments to additional streets that provide connections to new housing, jobs, and retail.

- Ensure all crossings meet ADA requirements.
- Identify locations where painted curb extensions could be permanent.
- Use flexposts to shield sidewalks from people parking on them.
- Consider stamped and / or alternatively paved pedestrian crossings to serve as gateways and to notify motorists that they have entered a slower-speed zone where pedestrians have high priority. One potential candidate for this treatment might include the intersection of Penn Avenue and 22nd Street as motorists enter the Core. It should be noted that the installation and maintenance of such treatments may be cost prohibitive.
- Use high-visibility crosswalks / artistic features, such as artistic painted curb extensions (in accordance with City standards) to reflect Strip District character and increase visibility for and of people crossing.
- Audit lighting levels and install pedestrian-scale street lighting, where possible, to improve pedestrian safety, comfort, and overall aesthetics. The addition of pedestrian-scale street lighting may require sub-grade surveys or solar lights and is a likely a complex, expensive, and time-intensive endeavor given the below grade infrastructure often found in Pittsburgh.
- Use additional landscaping features such as hanging pots and planters where sidewalk width allows, to add visual interest and delineate pedestrian space.
- Introduce Strip District branded pedestrian-oriented wayfinding signage. For example, wayfinding indicating the distance and time to certain destinations in and around the Core could be located at high volume bus stops on Liberty Avenue.
- Install countdown timers at traffic signals as upgrades are made through the Liberty Avenue HSIP and anticipated near-term work on Penn Avenue.
- Ensure that countdown timers use LPIs, which provide pedestrians a few seconds head start before the light turns for motorists. This feature improves pedestrian visibility.

Benefits

- Pedestrian priority creates safe, comfortable places for pedestrians to continue to experience all the Strip District has to offer.
- Pedestrian improvements can help make parking that is farther from destinations feel closer.
- Pedestrian enhancements facilitate easier movement from new development concentrated closer to the river to destinations in the Core, as well as transit service on Liberty Avenue.

Complementary Recommendations

1.2 Strategic Pedestrian Infrastructure Investments

1.4 Add Pedestrian / Bike Connections under the 16th Street / David McCullough Bridge

1.2. Strategic Pedestrian Infrastructure Investments

- Implementation time frame. Short term (<3 years) and mid term (3-5 years)
- Responsible entity and / or potential partners. DOMI and property owners

The following strategic investments in sidewalks and crossings are recommended in addition to those included in Recommendation 1.1. These recommendations address locations with gaps in pedestrian infrastructure, and have higher pedestrian counts as well as crashes involving people walking and biking. They also align with desire lines to the Riverfront Trail, underutilized parking, higher ridership bus stops on Liberty Avenue, and concentrations of employment activity.
Sidewalk Additions (or upgrades)

- Liberty Avenue, particularly at higher ridership bus stops including 17th, 21st, and 25th streets. The retaining wall on the south side of Liberty Avenue will limit a continuous connection. Improvements will need to focus on the north side of Liberty Avenue and crossings to transit service on the south side.
- The west side of 24th Street between Penn Avenue and Smallman Street.
- Smallman Street between 15th and 16th streets (south side), 21st and 23rd streets (north side), and 26th and 28th streets (south side).
- 15th Street on the east side between Penn Avenue and Smallman Street.
- Waterfront Place / Railroad Street on both sides as adjacent land is developed in accordance with zoning requirements.

Crosswalk and ADA-Compliant Ramps

- At intersections where new sidewalks are installed as mentioned above.
- Penn Avenue at 18th and 19th streets to decrease the distance between marked crossings in the Core.
- Liberty Avenue at 17th and 25th streets to better connect high ridership bus stop locations to the Core. Any potential bus stop consolidation may change these locations in the longer term.
- Smallman Street and Penn Avenues at 23rd and 24th streets to connect between parking facilities and newer developments to the Core.

All crosswalks should be “continental style,” or incorporate reflective elements for maximum visibility, particularly at gateway entries into higher pedestrian traffic areas (see Figure 35).

Benefits

- Closing sidewalk gaps and improving crosswalks enhances access to transit service from both the Core as well as new and future development near the river.
- Sidewalk and crosswalk improvements emphasize access to existing publicly available parking facilities.
- New sidewalk and better crosswalks will encourage employees and residents closer to the river to walk to destinations in the Core and use transit. This has the potential to grow the pool of customers for local businesses and reduce the demand for vehicle parking.

Complementary Recommendations

- 1.1 Pedestrian Emphasis Corridors
- 1.3 Create Districtwide Wayfinding System
- 3.1 Enhance Higher Ridership Bus Stops

1.3. Create Districtwide Wayfinding System

- **Implementation time frame.** Short term (<3 years) and mid term (3-5 years)
- **Responsible entity and / or potential partners.** DOMI, SDN, SDBA, and future Strip District TMA

A districtwide wayfinding system would provide signage to guide people through the Strip District to key locations. Signage should be sited at key “decision points” where someone walking, biking, or driving has to decide to turn one way or another. They should also be incrementally sited en route to destinations to show users that they are heading in the right direction. Signage may be located on existing sign posts (together with street or parking signage, for example) or on its own pole if feasible and appropriate. Wayfinding should be coordinated with the “How-to-Travel" map (Recommendation 6.1). A districtwide wayfinding system should consider the following:

- Information on short and long term public parking options
- Highlight local landmarks
- Include walk times and distances
- Use a color scheme and design that is consistent with other Strip District marketing material and information and also coordinated with Pittsburgh Downtown Partnership’s (PDP) ongoing wayfinding program
- Be redundant - people should be able to see information multiple times, which will help them navigate unfamiliar territory
- Create safe, comfortable places for pedestrians in a key Pittsburgh destination.
- Allow new employees and residents to get familiar with how to walk to key destinations.

Benefits

- Wayfinding signage creates a customer-friendly environment.
- Directional signage helps people driving and biking more easily access parking resources and return to their vehicle at the end of a trip.
- Clear signage reduces unnecessary vehicle circulation by making it for people to know where they want to go, particularly in the Core where there is a concentration of one-way streets.
- Neighborhood-based signage provides opportunity to market local destinations and transportation options.

Complementary Recommendations

- 3.1 Enhance Higher Ridership Bus Stops
- 6.1 Create a Strip District How-to-Travel Guide and Parking Map
- 6.2 Develop Strip District Parking Zones
- 6.9 Work With Private Property Owners To Add To Publicly Available Supply
1.4. Add Pedestrian / Bike Connections under the 16th Street / David McCullough Bridge

- **Implementation time frame.** Short term (<3 years) and mid term (3-5 years)
- **Responsible entity and / or potential partners.** DOMI and potentially Pennsylvania Department of Transportation (PennDOT)

The 16th Street / David McCullough Bridge provides a valuable route into the Strip District. However, under the bridge at both Waterfront Place and Smallman Street the experience is at best uncomfortable for pedestrians and at worst a missed opportunity for rethinking the area as a potential public space and connection to the Riverfront Trail.

This recommendation is to consider removing some of the parking to accommodate a safe pedestrian connection. Over the long term, all parking might be removed so this area can be fully repurposed as an extension of the Riverfront Trail.

**Benefits**

- An enhanced sidewalk / trail would provide a safe walking and biking connection to the Riverfront Trail.
- Pedestrian and cyclists use activates an area that is currently used to store parked cars.

**Complementary Recommendations:**

- 1.1 Pedestrian Emphasis Corridors
- 1.3 Create Districtwide Wayfinding System
2. Bicycle Connections

The central location of the Strip District between Downtown and Lower Lawrenceville and adjacent to the Riverfront Trail means that it is a vital link in the Bike(+) network. Increasing but still limited bicycle infrastructure in the Strip District represents a critical gap in the City's overall network. The following section identifies a series of proposed improvements to create a safe, convenient, and comfortable experience for Bike(+) users to travel to, through, and within the Strip District (see Figure 36).

2.1. Implement 15th Street Bicycle Connection

- **Implementation time frame.** Short term (<3 years)
- **Responsible entity and / or potential partners.** DOMI and private property owner(s)

DOMI recently completed the reconstruction of Smallman Street between 16th and 21st streets. This project included the installation of dedicated bike lanes on either side of the street. There is also the two-way cycle track on Penn Avenue from 16th Street to Downtown. However, there currently is no dedicated bike infrastructure to connect the two. Because Penn Avenue and Smallman Street do not connect at 16th Street due to the approach to the 16th Street / David McCullough Bridge, 15th Street is the appropriate location for this connection.

Figure 36. Bicycle Network Improvements
The developer of the Wholey's Building (1711 Penn Avenue) is planning to install bike infrastructure on the east side of 15th Street between Penn Avenue and Smallman Street. It is recommended that a bike lane on the west side of 15th Street be installed to complement the connection on the east side of the street. These connections will also support improved access to the Riverfront Trail and the 16th Street / David McCullough Bridge. Wayfinding guiding people to and off the bridge is also recommended.

Benefits

• New bike infrastructure would provide a dedicated and marked transition between the Penn Avenue two-way cycle track and new bike lanes on Smallman Street at 16th Street.
• 15th Street bike facilities would support an improved connection to the Riverfront Trail.

Complementary Recommendations:

• 1.3 Create Districtwide Wayfinding System
• 2.5 Create Bicycle Link(s) to Riverfront Trail

2.2. Implement an East-West Bicycle Connection

• Implementation time frame. Short term (<3 years)
• Responsible entity and / or potential partners. DOMI, community organizations

Sharrows on Penn Avenue heading towards Downtown are the only bicycle markings between Lower Lawrenceville and the newly completed bike lanes on Smallman Street between 16th and 21st streets. As a result, one of the primary objectives of this Plan is to identify an east-west bicycle connection that would complete this critical gap in the bicycle network that could be installed within the next one to two years. This connection is not an easy concept to advance given that each of the four east-west roadways presents numerous challenges to installing bicycle infrastructure. The following provides an overview of each of the east-west streets and then identifies a number of potential alternatives. Additional traffic analysis and engagement is needed prior to implementation.

Liberty Avenue. This roadway has the highest vehicle volumes of the east-west streets through the Strip District. It also serves as the transit spine to and through the neighborhood. The limited ROW and high speeds make this an unsafe corridor for cyclists. It is also further from new and planned development closer to the river. It is anticipated that the ongoing Liberty Avenue HSIP will recommend reducing the lane configuration from four to three lanes. This Plan recommends Liberty Avenue as the vehicle and transit spine in the Strip District.

Penn Avenue. Compared to the alternative corridors that serve the Strip District, Penn Avenue is the optimal street for the safest and most connected bike facility to serve residents and visitors traveling to and through the Strip District from Downtown and Lower Lawrenceville. By connecting to the existing protected two-way cycle track and continuing it, bike(+ travelers would not only have a direct path, but one that connects them to many destinations east and west beyond the Strip District.

The Core on Penn Avenue is a local and regional draw for its famed specialty stores and markets. Loading often occurs on Penn Avenue and it serves as a primary vehicle connection with two travel lanes heading into Downtown. There are currently sharrows on Penn Avenue (from 16th Street to the east), but the street is generally used only by the most confident cyclists. Despite these realities, Penn Avenue remains the best bicycle connection because of the ability to tie into an existing premiere bicycling facility starting at 16th Street, and the relatively generous street width from curb-to-curb, which would enable an appropriately sized bike facility. However, given historic and current land uses in the Core, and the demand for existing curbside uses, some stakeholders have voiced opposition to Penn Avenue being redesigned to support bicycle infrastructure

Smallman Street. Current loading activity, curb cuts, varying roadway width, and high vehicle volumes means that introducing bicycle infrastructure on Smallman Street will be challenging yet sections of it may be the most viable short-term option for an interim bike connection. It is located between key destinations in the Core and new development closer to the river. It would also introduce a seamless connection to new dedicated lanes in front of the Produce Terminal and to Lawrenceville by continuing to the east via a not yet identified neighborway.

Curb-to-curb width varies on Smallman Street. Between 15th and 16th streets as well as 21st to 22nd streets, the width allows for bicycle lanes on both sides as well as parking. From 28th Street to the edge of the study area at 33rd Street, there is space for either one lane of parking and two narrow bicycle lanes, or two lanes of parking and “advisory bicycle lanes.” Without a substantial roadway change, such as converting Smallman Street to a one-way street or implementing a traffic diverter to substantially reduce vehicle volumes, full-sized bicycle lanes are not feasible while maintaining parking.

Railroad Street. The concentration of new development coupled with low vehicular volumes has the potential to make Railroad Street an ideal place for bicycle infrastructure. However, the presence of embedded railroad tracks - a hazard for many cyclists - and the complexity of working with the railroad to permit bicycle use within rail ROW (typically 10-12 feet on either side of the tracks) eliminates this project from early-action consideration.
Potential East-West Connections

From a safety, connectivity, and rapid implementation perspective, Penn Avenue and Smallman Street are the only two east-west streets where dedicated bike infrastructure is feasible. A detailed traffic analysis was conducted to determine if traffic diverters could reasonably be installed on Smallman Street without adversely affecting the rest of the local transportation network. The analysis concluded that current traffic volumes are just too high to redirect a significant number of those trips elsewhere in the local network. As a result, the following alternatives have been identified for further evaluation. These alternatives place the east-west bike connection on Penn Avenue and/or Smallman Street, both streets having their own benefits and complexities associated with the introduction of new dedicated bike infrastructure. Specific alternatives include:

- **Bike lanes on Smallman Street.** This alternative would include conventional bike lanes on both sides of the street, with the exception of advisory bike lanes from 24th to 27th Street. Benefits of this alternative include direct connections to destinations for people on bikes, dedicated space for people on bikes, and clear bike/ped/vehicle interactions. Challenges include parking loss due to bike lanes, narrow and unprotected bike lanes, narrow travel lanes, and advisory bike lanes on a street with moderate traffic volumes.

- **Two-way protected bike lane on Penn Avenue.** This alternative would include a two-way, protected bike lane with parking on both sides, except for between 31st and 34th streets. Benefits of this alternative include direct connections to destinations for people on bikes, dedicated space for people on bikes, and clear bike/ped/vehicle interactions. Challenges include parking loss, lack of cycletrack between 16th and 21st streets, limited right of way, and fire access.

- **One-way protected bike lane on Smallman and one-way protected bike lane on Penn Avenue.** This alternative would include a one-way protected bike lane on Smallman Street westbound, and Penn Avenue eastbound. Benefits of this alternative include direct connections to destinations for people on bikes, dedicated space for people on bikes, and clear bike/ped/vehicle interactions. Challenges include loss of parking and fire access on constrained segments of Penn Avenue.

**BENEFITS**

- An east-west bicycle connection creates space for people biking and elevates biking as a viable mode of travel to, through, and within the Strip District.
- This connection fills a gap in the citywide bicycle network.

**Complementary Recommendations:**

- 1.3 Create Districtwide Wayfinding System
- 2.5 Create Bicycle Link(s) to Riverfront Trail
- 2.6 Add Healthy Ride Stations and Mobility Hubs

**2.3. Implement Bicycle Connection at 31st or 32nd Street from Liberty Avenue**

- **Implementation time frame.** Short term (<3 years)
- **Responsible entity and/or potential partners.** DOMI

Currently, cyclists originating in Lower Lawrenceville headed inbound to Downtown tend to take Butler Street to Penn Avenue or Smallman Street. Cyclists originating in Bloomfield headed inbound may take Penn or Liberty avenues. Currently only Liberty Avenue has bicycle facilities, which end at 34th Street.

This recommendation includes the introduction of a bike connection on either or both 31st and 32nd streets. The bike connection may include the following. Note that the east-west connection where these new connections would meet has not be determined at this time.

**Northbound and Southbound on 32nd Street**

- Sharrows or bike lanes may be most appropriate in the short term between Penn Avenue and Smallman Street. However, 32nd Street is one-way northbound between Liberty and Penn avenues and the design would require a southbound contraflow bicycle lane. This contraflow bike lane may be designed as a separated bike lane. The cross section would be a southbound contraflow bike lane, an optional painted/delineated buffer, a northbound left turn lane, and a northbound through/right lane with a sharrows.
- Over the long-term, the conversion of 32nd Street to for two-way vehicular travel between Liberty and Penn avenues with bike lanes on each side could be an option.

**Northbound and Southbound on 31st Street**

- Add sharrows or bike lanes between Liberty and Penn avenues.
- Between Penn Avenue and Smallman Street, use sharrows or remove parking and add bicycle lanes. Add an "except bikes" plaque to the "All Traffic Must Turn Right" sign at Penn Avenue to allow southbound cyclists to continue straight.
Southbound on 31st Street and Northbound on 32nd Street

There is sufficient width to introduce an inbound connection on 32nd Street and outbound connection on 31st Street, which could include the following:

- **31st Street**
  - Between Penn Avenue and Smallman Street in the southbound direction, use sharrows or remove parking and add a southbound bicycle lane. Add an “except bikes” plaque to the “All Traffic Must Turn Right” sign at Penn Avenue to allow southbound cyclists to continue straight.
  - Between Penn and Liberty avenues, provide a southbound bicycle lane, a southbound motorist lane, and a northbound motorist lane.

- **32nd Street**
  - Between Penn Avenue and Smallman Street, provide a northbound bicycle lane, southbound motorist lane, and a northbound motorist lane.
  - Between Penn and Liberty avenues, provide a northbound bicycle lane, northbound motorist left turn lane, and a northbound motorist through/right lane.

**Benefits**

- 31st and/or 32nd streets completes a critical missing link in the City’s bicycle network.
- A complete system promotes cycling as a means of traveling to, through, and within the Strip District.
- Formalized bicycle facilities improve safety and visibility for cyclists.

**Complementary Recommendations:**

- 1.3 Create Districtwide Wayfinding System
- 2.5 Create Bicycle Link(s) to Riverfront Trail
- 2.6 Add Healthy Ride Stations and Mobility Hubs

**2.4. Complete Riverfront Trail between 27th Street and 36th Street**

- **Implementation time frame.** Mid term (3-5 years) and long term (5+ years)
- **Responsible entity and/or potential partners.** DOMI, DPW, and adjacent property owners

While this recommendation echoes those made in prior studies, including the 2013 Green Boulevard Strategic Plan, it also identifies expedient interim measures. The existing Riverfront Trail is part of the Three Rivers regional trail network, and has the potential to serve as a commuting link as well as a recreational one. Today, the improved section through the Strip District from Downtown terminates at 27th Street.

The Project Team recognizes that the City and its nonprofit partners are actively working to complete this connection but it is not without its challenges and complexities. This Plan endorses continuation of the trail by whatever means feasible. Ideally, this would mean not only extending the paved section but also enhancing existing sections to meet minimum standards for shared-use trails, including appropriate lighting and signage. The goal is to provide a high comfort “eight to eighty” facility for all ages. In the interim, cost effective solutions such as crushed gravel in place of pavement are recommended. Signage can direct cyclists to the new east-west bike connection until such date when the trail is completed between 27th and 35th streets.

**BENEFITS**

- A well-designed trail introduces an off-street “eight to eighty” facility for all ages.
- A completed trail would fulfill long-planned connections along the Allegheny River.

**Complementary Recommendations**

- 1.3 Create Districtwide Wayfinding System
- 2.5 Create Bicycle Link(s) to Riverfront Trail
- 2.6 Add Healthy Ride Stations and Mobility Hubs

**2.5. Create Bicycle Link(s) to Riverfront Trail**

- **Implementation time frame.** Short term (<3 years) and mid term (3-5 years)
- **Responsible entity and/or potential partners.** DOMI and adjacent property owners

It will be important to designate one or multiple mid-Strip District north-south routes from the Riverfront Trail to both the Smallman Street bicycle facilities and Penn Avenue sharrows. This Plan recommends the actions listed below.

**26th Street Connection.** A two-way link at 26th Street is preferred in the short-term (compared to 28th Street) as it connects to the existing Riverfront Path. This link would not require the removal of a significant amount of parking. The intersection of Penn Avenue and 26th Street is signalized, providing a safer crossing for cyclists. This can become a bicycle friendly route with additional investment including the elements below.

- In select segments the approximately 30’ wide cartway could accommodate a 5’ bike lane on each side with two 10’ travel lanes
  - This would require enforcement/no parking signage as currently 26th Street has some informal parking just northwest of Penn Avenue.
• Travel lanes with no centerline tend to encourage lower speeds which would help to create a calmed/yield street as people driving slow down to pass one another.
• A new traffic signal at Smallman Street and 26th Street with LPI (see Recommendation 4.1)
• Installation of sharrows in segments as necessary to make it clear that bikes share the road with cars
• Wayfinding and signage

28th Street Connection. Options for 28th Street are similar to those described for 26th Street with the added benefit of connecting to Polish Hill via the 28th Street Bridge. This should be considered as the Riverfront Trail is improved and extended (see Recommendation 2.4). It should be noted that negotiation with private property owners will be needed as 28th Street does not currently connect to the Riverfront Trail. Further evaluation of this connection may be necessary based on potential traffic diverters on Smallman Street.

Benefits
• Additional links provide riverfront access for cyclists.
• Additional bike connections will link into the Core of the Strip District as well as new residential developments like 3 Crossings.
• New connections will increase the overall reach of the Strip District bicycle network.

Complementary Recommendations
• 1.3 Create Districtwide Wayfinding System
• 2.4 Complete Riverfront Trail between 27th Street and 36th Street

2.6. Add Healthy Ride Stations and Mobility Hubs
• Implementation Time Frame. Short term (<3 years) and mid term (3-5 years)
• Responsible entity and / or potential partners. DOMI, Healthy Ride, and MovePGH

The Healthy Ride system is well distributed within the Strip District but is not always close to existing on-street bicycle facilities. As bicycle facilities in the Strip District are improved and bicycling demand increases, the siting of Healthy Ride stations should be re-evaluated, re-distributed, and expanded, if needed. In addition, the City may be able to work with developers to include space for Healthy Ride stations on private property, particularly those that are near the Riverfront Trail or adjacent to existing or proposed dedicated bike infrastructure.

The new mobility hubs being sited across the City, such as the one in front of the Produce Terminal, include e-scooters as well as real-time transit information. Over the long term, they may expand to include other mobility options and services. Where possible, Healthy Ride stations should be sited within proximity to mobility hubs to leverage the range of services, particularly real-time transit information, they provide and maximize use by more and diverse users.

Benefits
• Increased use of Healthy Ride decreases both roadway and parking congestion.
• Bikeshare provides an affordable alternative to bicycle ownership.
• Locating bikeshare stations near bicycle infrastructure enhances visibility of both.
• Co-locating multiple modes such as parking, bikeshare, scootershare, and transit facilitates transfer between modes and visibility of available travel options.

Complementary Recommendations
• 1.2 Strategic Pedestrian Infrastructure Investments
• 1.3 Create Districtwide Wayfinding System
• 2.2 Implement an East-West Bicycle Connection
3. Elevating Transit Access to the Strip District

Today, Smallman and Railroad streets and even sections of Penn Avenue feel very far from the robust, six-minute bus service that serves Liberty Avenue just a few short blocks away. In general, the lack of bus stop amenities, signage, and visibility is a barrier to attracting new ridership, something that was continuously repeated by the public and stakeholders throughout this planning process.

The following recommendations seek to improve access to existing bus services with added amenities, signage, and better pedestrian connections to destinations in the Strip District. Pedestrian improvements, such as those identified in Recommendation 1.1, should be made to better link existing and future development on Waterfront Place / Railroad Street to the bus stops on Liberty Avenue via 17th and 21st streets.

Over the long term, the Strip District has the potential to become an even more transit-rich destination with a new station on the East Busway, a vertical connector to the Hill District, Oakland, and beyond, and high-capacity transit within the Allegheny Railroad ROW, all of which were identified as potential projects that should be further evaluated in the recently completed long-range plans for both PAAC and DOMI (NEXTransit and 2070 Mobility Vision Plan, respectively).

Below are some potential stops for upgrades.

3.1. Enhance Higher Ridership Bus Stops

- **Implementation time frame.** Short term (<3 years) and mid term (3-5 years)
- **Responsible entity and / or potential partners.** DOMI and PAAC

Bus stops are the gateways to a transit system. Amenities - such as bus shelters, accommodations for people with disabilities, benches, and lighting - can make significant differences in the experience of waiting for the bus and support existing and encourage new ridership. These upgrades should be concentrated at high ridership stops, particularly those that have been identified as preferred locations for “premier” stops by the public and stakeholders such as 21st Street. Enhancements will need to be further coordinated with the ongoing Liberty Avenue HSIP and may change slightly should it be necessary as part of that project and / or bus stop consolidation efforts being undertaken by PAAC. It should be noted that these efforts are currently being coordinated to inform project design and maximize user safety.

- Liberty Avenue at 17th Street
- Liberty Avenue at 21st Street
- Liberty Avenue at 25th Street
- Liberty Avenue at 29th Street

Bus stop improvements should include some or all of the following elements.

- Lighting, shelters, signage, and benches
- Real-time arrival signage and / or information on routes and timetables
- Level boarding
- Branding as “Strip District stops” so that riders identify the stops with destinations

In many locations, creative solutions will be necessary to accommodate amenities in the narrow ROW on Liberty Avenue. For example, a person using the inbound stop at 21st Street would utilize a sidewalk that is currently extremely narrow. At "pinch points", DOMI and / or PAAC may need to work with adjacent property owners to accommodate bus stop amenities and ensure sufficient sidewalk clearance.

**Benefits**

- Installing amenities at bus stops provides safe, comfortable waiting areas for transit riders.
- Enhanced bus stops may decreases perceived wait times by enhancing passenger comfort.
- A welcoming bus stop environment may decreases barriers to transit use for potential new riders.
- High quality transit amenities will elevate the perception of bus service in the Strip District, as stops serve as the gateway to the system.

**Complementary Recommendations**

- 1.2 Strategic Pedestrian Infrastructure Investments
- 1.3 Create Districtwide Wayfinding System
- 3.2 Consolidate Bus Stops to Make Service More Efficient
- 3.4 Explore Access To The East Busway From The Strip District
3.2. Consolidate Bus Stops to Make Service More Efficient

- **Time frame**  Short term (<3 years) and mid term (3-5 years)
- **Responsibility and Potential Partners:** DOMI and PAAC

Consolidating bus stops can increase the speed and reliability of bus routes. Reduced stops means there are fewer opportunities for buses to be delayed by pulling into / out of traffic, and there is less starting and stopping in general which improves passenger comfort. The following changes to existing transit service are recommended and/or supported by this Plan:

- **Liberty Avenue bus stop consolidation.** PAAC is currently evaluating bus stop consolidation at some locations on Liberty Avenue. This Plan recommends that bus stops at 27th, 28th, 30th, and 31st streets be considered on the basis that they see lower ridership and because of their proximity to each other or higher ridership stops (see Figure 3). It should be noted that this Plan does not recommend all of these bus stops be eliminated. Community input and coordination with the Liberty Avenue HSIP project will be included as part of PAAC’s process.

- **Consider consolidation of Penn Avenue service onto Liberty Avenue.** Moving all Penn Avenue service onto Liberty Avenue would have the benefit of making the system simpler to interpret because today some PAAC routes (the 54, 88, and 91) run westbound on Penn Avenue to 26th Street and eastbound on Liberty Avenue. Under a scenario where all service is moved to Liberty Avenue, the system becomes more intuitive with bi-directional service on a single street. This Plan recommends exploring the feasibility of this consolidation. The analysis would need to consider other bus stop consolidation planned for Liberty Avenue, operating conditions, and community impacts as well as potential investment in pedestrian infrastructure, wayfinding, and real time messaging at key locations.

**Benefits**

- Decreasing the number of stops increases the speed and reliability of bus service as well as passenger comfort.
- When buses pull in and out of traffic less, it improves traffic flow for other vehicles on the street.
- Fewer stops will decrease maintenance and improvement costs at physical stops.

**Complementary Recommendations**

- 1.2. **Strategic Pedestrian Infrastructure Investments**
- 1.3. **Create Districtwide Wayfinding System**
- 3.1. **Enhance Higher Ridership Bus Stops**
- 3.4. **Explore Access To The East Busway From The Strip District**

3.3. Conduct Circulator Feasibility Study

- **Implementation time frame.** Short term (<3 years)
- **Responsible entity and/or potential partners.** DOMI

A circulator operated in the Strip District previously but was discontinued after low ridership levels and a limited amount of promotion. The time may have come to re-visit the concept of providing a circulator, especially as a means of promoting parking that is otherwise more than a 10-15 minute walk from the Core. A circulator shuttle could be particularly useful on weekends and during the holidays, when parking demand in the Core is especially high and underutilized surface lots and garages a bit farther away likely have availability.

Today robust transit service to and through the Strip District on Liberty and Penn avenues serves as a viable alternative to private vehicle use. However, transit does not directly serve Penn Avenue through most of the Strip District, so stops could be a 3 to 5 minute walk from destinations. As such, there is an opportunity to better connect existing parking and transit hubs with jobs, residences, shopping, and cultural destinations via a circulator.

A circulator route(s) would be identified through stakeholder and public engagement and should follow the principles outlined in Figure 38. It would be designed to connect the Core with existing transit service, remote parking areas, and employment and residential areas closer to the river not currently served by transit. The management and operation of the circulator is to be determined and could be managed through a Strip District TMA. This is not expected to be a PAAC service.

Depending on how the service is operated, there may be an opportunity to run routes with connections to the North Shore on baseball and football days, and an Uptown / Downtown trolley for holidays and special events. A circulator could be funded, in part or full depending on the revenue intake, by a Parking Enhancement District (PED) and/or Mobility Improvement Trust.
3.4. Explore Access To The East Busway From The Strip District

- Implementation time frame. Mid term (3-5 years)
- Responsible entity and/or potential partners. PAAC

The introduction of a Strip District station on the East Busway has the potential to significantly transform how residents, workers, and visitors travel to and from the neighborhood. A Strip District station on this dedicated transit corridor that serves neighborhoods across a wider coverage area than the local bus routes currently running along Penn and Liberty avenues would likely encourage more than a handful of users to shift from drive alone trips to transit, which would also reduce pressure on the transportation network.

Although a significant investment, this recommendation is to explore the feasibility of introducing a new station in the Strip District between 21st and 28th streets.

Benefits
- Access to premium transit service raises the profile of the Strip District as a destination easily accessible by transit.
- A connection to the East Busway increases travel options for those visiting or commuting to the Strip District and reduces the share of driving trips and parking demand.
- The East Busway provides a one-stop ride to areas east of the Strip District, such as East Liberty and Wilkinsburg.

Complementary Recommendations
- 1.2 Strategic Pedestrian Infrastructure Investments
- 1.3 Create Districtwide Wayfinding System
- 3.2 Consolidate Bus Stops to Make Service More Efficient
3.5. Other Mobility Possibilities

The location of the Strip District adjacent to Downtown and the Allegheny River and close to other neighborhoods presents numerous opportunities to (re)connect to other parts of Pittsburgh and the region. The following capital-intensive investments would likely require private investment and state and / or federal dollars to be advanced. However, if realized they have the potential to be transformational for travel to and through the Strip District.

Water Taxis

The Strip District has an existing private marina along the Allegheny River at 23rd Street. The 2016 Strip District Riverfront Park Vision Plan includes connections to this marina, which would make it more accessible to the public. Today, cruises operate from this marina but it could also support water taxi or even ferry service to Downtown, Hazelwood Green, and other destinations in the future. Such service was also identified in the 2020 Hazelwood Green Long Range Transportation Plan as a connection between the two neighborhoods. Other cities such as Boston and New York have seen a steady increase in demand for water borne commuter services in recent years.

Vertical Connector

The Strip District and the Hill District used to connect via the Penn Incline at 17th Street. This recommendation is to explore the feasibility of reintroducing a vertical connector between the Strip and Hill districts. This project would be costly and complex but could have significant benefits. A vertical connection between the Strip District, Hill District, Oakland, and beyond is also recommended in DOMI’s 2070 Mobility Vision Plan and PAAC’s NEXTransit, both of which were released in 2021.

High Capacity Transit

The 2013 Allegheny Riverfront Green Boulevard Plan recommended restoring transit service to the Allegheny River Railroad and constructing a system of trails connecting Downtown, the Strip District, and beyond. Continued freight railroad operations in the corridor (Allegheny Valley Railroad) as well as the owner’s reluctance to allow usage of the corridor for transit service will add to the complexity of implementing this project.

This Plan recommends that the feasibility of introducing high-capacity transit within the Allegheny Valley ROW be evaluated. This recommendation is also included in the recently completed DOMI’s 2070 Mobility Vision Plan and PAAC’s 25-year long-range transportation plan NEXTransit.

Benefits

• Significant transit investments can help raise the profile of the Strip District as a destination that is easily accessible by transit. This would likely encourage some users who might be hesitant to use transit to consider it as a truly viable alternative to driving alone.
• The potential addition of water taxis, a vertical connection, and / or high-capacity transit increases travel options for those visiting or commuting to the Strip District and reduces the share of driving trips and parking demand.

Complementary Recommendations

• 1.2 Strategic Pedestrian Infrastructure Investments
• 1.3 Create Districtwide Wayfinding System
• 6.1 Create a Strip District How-to-Travel Guide and Parking Map
• 8.2 Establish Strip District Mobility Improvement Trust
4. Vehicular Circulation

Many comments received throughout the planning process focused on circulation and access. The high number of visitors, whether first-time or semi-regular, coupled with an irregular street grid and little to no wayfinding translates to many users being confused as to where they want to be and how to get there.

Today a lack of visual cues, speeding vehicles, narrow or missing sidewalks, discontinuous bike lanes, and block-long curb cuts contribute to a sense of travel confusion, both in the Core and across the broader Strip District network. An analysis of future needs shows the potential for significantly more pedestrian, bicycle, and transit trips as well as increased congestion at pinch points in the vehicle network. This would be associated with both new development in the Strip District as well as through trips.

The following recommendations include changes to the vehicle circulation network that will make it easier and safer for all users, regardless of mode, to take trips to, through, and within the Strip District.

4.1. Upgrade Traffic Signals

- **Implementation time frame.** Short term (<3 years) and mid term (3-5 years)
- **Responsible entity and / or potential partners.** DOMI

Traffic signals on the east-west corridors, specifically Liberty and Penn avenues, are outdated. Technology now allows traffic signals to ‘talk’ to each other and coordinate their timing, which helps maintain traffic flows and provides increased safety for pedestrians and cyclists. As new development introduces additional trips and the potential for vehicular and non-vehicular conflicts increases, these upgrades can help keep traffic moving and people safe. Investments should be prioritized as listed below.

- Continue to advance coordinated signal upgrades along Liberty and Penn avenues and Smallman Street, as warranted. These upgrades will benefit vehicle / truck traffic by regulating traffic flows, which in turn will make it safer for people to cross the street. Ongoing or anticipated activities mentioned below are supported by the recommendations in this Plan.
  - DOMI is actively working to upgrade traffic signals in the Strip District through the Liberty Avenue HSIP. As part of this project, signal location will be evaluated and may determine that not all signals are warranted at this time. Signals that remain will be upgraded.
  - Signal upgrades on Penn Avenue in the Strip District are anticipated to begin in 2024.
  - Upgraded conduit on Smallman Street at 21st Street was installed as part of the recent roadway reconstruction activities should a signal be warranted in the future.
- A traffic signal may be warranted on Smallman and 26th streets as new development continues to come online.
- As signals are upgraded, timings should be adjusted and infrastructure should include pedestrian signals.
- Include leading pedestrian intervals (LPIs) in the pedestrian signal timing. This will not only facilitate safe crossing for pedestrians but will also give bicyclists a head start at intersections to make them more visible to people driving. This should be included in the projects on both Liberty and Penn avenues.

**Benefits**

- Signal upgrades mitigate traffic congestion.
- Signal upgrades improve pedestrian safety.

**Complementary Recommendations**

- **1.1 Pedestrian Emphasis Corridors**
4.2. Continue One-Way 17th Street

- **Implementation time frame.** Mid term (3-5 years)
- **Responsible entity and / or potential partners.** DOMI

Vehicular movements in the Core can be confusing, especially for those users unfamiliar with the area, because some streets are two-way, others are one-way, and there is no regular circulation pattern. Part of this confusion can be attributed to 17th Street, which is currently one-way northbound between Liberty and Penn avenues and two-way between Penn Avenue and Smallman Street. The narrow width of 17th Street between Penn Avenue and Smallman Street, its current two-way operation, and frequent loading often times makes the street and sometimes sidewalk difficult to use for drivers and pedestrians alike.

This recommendation is to convert the block of 17th Street between Penn Avenue and Smallman Street to continue one-way northbound movements with a designated loading zone and parking lane. This will rationalize travel patterns in the Core in that 17th and 20th streets will function as a one-way pair between Liberty Avenue and Smallman Street (18th and 19th streets do not connect to Liberty Avenue). Inbound travelers on Penn Avenue and those traveling either direction on Liberty Avenue will still have multiple options to get to Smallman Street in the Core.

This conversion will also create more space for parking and loading because one of the lanes that is currently being used for vehicle travel can instead be converted to support these uses. This will more safely meet the demand for these uses than what is happening today.

**BENEFITS**

- Extension of one-way street pattern will be easier for motorists to understand.
- Conversion to one-way offers opportunity to add formal parking and loading, which will help keep sidewalks clear.
- One-way 17th Street would act as a pair with 20th Street to make local circulation within the Core easier.
- Inbound travelers on Penn Avenue and Liberty Avenue would have multiple opportunities to get to Smallman Street.

**Complementary Recommendations**

- 1.1 Pedestrian Emphasis Corridors
- 5.1 Manage Curbside Loading

Figure 39. Existing and Proposed Circulation
5. Managing the Curb

Curbside space in the Strip District provides the most convenient, front door access to key destinations. It is also a finite resource. While parking a private vehicle is an important component of access, there are more efficient ways to use limited and valuable front door space at the curb. The recommendations in this section provide guidance for maximizing the use of curbside space to meet the diverse needs of the Strip District.

As Figure 40 demonstrates, over the course of a typical day the number of people who can use the curb on a given block varies widely depending on what kind of facility exists. If the curb is entirely devoted to parking, very few people can actually access a given location because a parked car takes up a lot of space and sits unused for large portions of time. In contrast, devoting the space to people walking to / through an area means that many more people have access to the curb and nearby destinations.

While most curbside space in the Strip District is devoted to driving and/or parking, employees, residents, and visitors report taking transit and rideshare services, biking, or walking to destinations. This variety of choice - together with the potential for increased efficiency - speaks to the need for re-thinking how sections of high-demand curb are managed. In some cases, this might be as simple as designating rideshare drop-off locations or creating more space for people to walk during events.

5.1. Manage Curbside Loading

- **Implementation time frame.** Short term (<3 years) and mid term (3-5 years)
- **Responsible entity and / or potential partners.** DOMI and PPA

Curbside loading is essential and sometimes chaotic in the Strip District today. Some delivery trucks will unload in the alley if not obstructed and vehicle size is not prohibitive. In other instances, trucks unload at the curbside if early enough in the day that parking is not occupied or double-park on Penn Avenue and side streets, which limits driver visibility and endangers people crossing the street.

This recommendation is to provide more consistency to separate loading areas from other curbside activity that is more oriented toward customer pickup / drop-off, people on foot, and people on bikes. Specifically, the City should:

**Benefits**

- A more organized approach to loading can maximize the safe use of street space for multiple user types and limit conflicts between truck traffic and pedestrians.
- Designated loading times and zones will make loading easier and more efficient, ultimately reducing costs for businesses.

**Complementary Recommendations**

- 2.5 Create Bicycle Link(s) to Riverfront Trail
- 4.2 Continue One-Way 17th Street
- 6.2 Develop Strip District Parking Zones
- 6.7 Develop Strip District Ambassador Element to Parking Enforcement

![Figure 40. Hourly curbside capacity by the block by mode type](image)
5.2. Designate Rideshare Pickup / Drop-off Zones

- **Implementation time frame.** Short term (<3 years).
- **Responsible entity and / or potential partners.** DOMI, PPA, and rideshare companies.

While a parking space typically serves just over one person per hour, a rideshare pickup / drop-off zone can serve over 30 people per hour. In addition, having a dedicated zone reduces rideshare vehicles idling in travel lanes and contributing to congestion by circling the block waiting to pick up passengers. The City can coordinate with rideshare companies so that the app directs and requires drivers and riders to meet at specific locations.

Many existing merchants and prospective developers have indicated an interest in pickup / drop-off zones for rideshare services. Zones should be located in areas where they can serve a high-volume of users and have districtwide utility. The City would need to work with rideshare operators to centralize these locations. Zones could be flexible, for example, only in place on busy days in the holiday season or game days.

This Plan recommends designated pickup / drop-off zones in two specific locations listed below, although others may be appropriate.

- Just outside the areas of highest customer parking demand on 22nd or 23rd streets between Penn Avenue and Mulberry Way.
- Another location could be 17th Street between Penn and Liberty avenues. This location would allow rideshare drivers originating in Downtown to pickup / drop-off and then circle back to Downtown without slowing traffic on Penn Avenue in the Core.

**Benefits**

- Creating designated space for rideshare vehicles to load / unload passengers will reduce congestion and ensure access at the curb as opposed to loading in the travel lane.
- Allocating some curb space for rideshare vehicles will maximize the number of people per hour that can access key destinations.

**Complementary Recommendations**

- 5.1 Manage Curbside Loading

5.3. Create Shared Customer Valet System

- **Implementation time frame.** Mid term (3-5 years) and long term (5+ years)
- **Responsible entity and / or potential partners.** DOMI and parking operators.

Partnering with a private vendor to create a valet pilot for the Strip District could make parking a quicker and less stressful experience for users. A valet program could also be beneficial for customers where front door access is preferred, such as bulk grocery pickup and restaurant patrons at night. The valet could have one or multiple designated drop-off / pickup location(s) and could potentially allow someone to pickup their car at a different location than where they dropped it off.

Potential areas for drop-off / pickup points include high-visibility curbside areas on the blocks between Penn Avenue, Smallman Street, and about 17th to 21st streets. Locations should be re-evaluated periodically and it may be appropriate to relocate some or introduce more designated areas, depending on new development that comes online and use.

A valet program could make use of parking lots that are underutilized on weekends, such as the lease-only lots in the western part of the Strip District. A potential Strip District TMA (see Recommendation 9.2) could ultimately administer this program, likely via a private operator.

**Benefits**

- A valet system can help increase the number of customers who have front door access to their preferred destination.
- Valet systems can help maximize the use of otherwise underutilized parking facilities.

**Complementary Recommendations**

- 5.2 Designate Rideshare Pickup / Drop-off Zones
- 6.2 Develop Strip District Parking Zones
- 6.7 Develop Strip District Ambassador Element to Parking Enforcement
- 6.9 Work With Private Property Owners To Add To Publicly Available Supply
- 9.2 Form a Strip District TMA
6. Districtwide Parking Management

Based on the analysis used to support the recommendations in this Plan, new development anticipated to come online in the Strip District will significantly increase both the demand for and supply of parking. However, continuing present practice of independent parking by development will exacerbate current perceptions of parking shortages at great cost to developers, users, and the Strip District overall.

The current perception of a parking shortage partially derives from the confusing mix of public and private entities operating parking facilities in the Strip District, an inconsistent approach to pricing and regulations, and piecemeal information about available resources. Motorists circle the block looking for available on-street parking because it is both the best and cheapest today, which causes congestion and other delays that could affect business activity.

While some have suggested building more public parking, it would be extremely costly and - if built in excess - would increase vehicle traffic. A strategic alternative is to use the existing and planned future parking supply more efficiently and cohesively, so that all the parking in the district serves all the uses in the district. Observed levels of parking utilization show that during the weekday peak, there are a few hundred spaces available within a short walk of key destinations in the Core. Across the entire Strip District, there are thousands of spaces available during the weekday peak or about half of the total supply.

Approaching parking management as a districtwide, shared system will encourage the most efficient use of available spaces. The following recommendations will meet the goals and objectives of the Plan by both improving the parking experience and maximizing the use of each parking space in the Strip District. Some of these recommendations will be easier and less costly to implement while others will be more complex and require extensive coordination between and among parties including stakeholders and property owners. Identifying an entity, existing or future, to help ensure the success of some of these recommendations will also be necessary.

6.1. Create a Strip District How-to-Travel Guide and Parking Map

- **Implementation time frame.** Short term (<3 years)
- **Responsible entity and/or potential partners.** DOMI, SDN, SDBA, PPA, and other providers of publicly available parking

To reduce the number of people who cruise looking for parking, increase efficiencies, and reduce disruptions to business as usual for Strip District merchants, this recommendation is to develop a ‘How-to-Travel’ guide and map. The guide would start with a simple map oriented towards visitors indicating parking prices and regulations. To support the districtwide approach, the map will show parking options across the entire district, so that the user sees the entire system in one place. The information would ideally include public and publicly available private parking as well as opportunities for multimodal trips such as bike routes and associated parking, Healthy Ride bike stations, mobility hubs, bus routes and stops, and walking distances to the Herron Avenue East Busway stop. While not inclusive of all these features, Figure 42 provides an example.

A ‘How-to-Travel’ guide would show users the range of transportation options so they can determine which best meets their needs. The guide should be available both online and in print and include materials that are easy to distribute, such as business cards, postcards, table toppers, or coasters. The guide should include the features below.

- The map as well as costs and regulations for different parking options in the Strip District.
- Show short- and long-term parking options, including availability for persons with disabilities.
- Make available a separate map identifying parking options for weekdays and weekends or in the event of street closures for summer markets or special events.
- Be updated as necessary

**Benefits**

- Parking and multimodal information is presented as a unified, easy to understand system.
- The ‘How-to-Travel’ guide can be included with marketing materials and used by merchants, hotels, restaurants, and developers, among others instead of having to create their own materials. This will also help ensure consistency.

**Complementary Recommendations**

- 1.3 Create Districtwide Wayfinding System
- All other Section 6 recommendations
6.2. Develop Strip District Parking Zones

- **Implementation time frame.** Mid term (3-5 years)
- **Responsible entity and / or potential partners.** DOMI, PPA, and private parking facility owners

A critical step to more effectively manage parking in the Strip District is to develop districtwide parking zones. Identifying zones based on observed levels of demand and user needs will help establish a clear set of criteria for developing a new pricing plan. Ultimately, these zones will also make it easier for people to understand where they can park, for how long, and at what price. Parking zones should be incorporated in any marketing materials related to parking, including the ‘How-to-Travel’ guide and map, in the Strip District.

Much of the parking that is open to the public in the Strip District is privately owned, which could make it challenging to incorporate into this zonal system should owners not want to participate. The City could use incentives as described in Recommendation 6.9 to encourage private property owners to join the public system, including revenue sharing agreements, providing operations / maintenance support, and providing wayfinding / signage.

A description of each potential zone is below and presented in Figure 43. Identified zones are based on observed parking utilization counts, existing and proposed land use, and observed pedestrian traffic. It is further recommended that proposed zones be reevaluated closer to implementation to see if adjustments are necessary.
• **Primary Zone.** This zone prioritizes short customer visits and curbside pickup/dropoff. It is priced the highest as a disincentive to longer stays. Additional enforcement is likely necessary and information about other parking options should be distributed along with tickets. Specific strategies are listed below.
  o Offer lower parking rates on “off-hours” such as early morning, so users do not have to pay a higher price when demand is not as high.
  o Price the first 15 minutes as free for quick visits.
  o Eliminate time limits and use price to manage demand (Recommendation 6.4).
• **Secondary Zone.** This zone provides slightly less expensive parking because it is not as close to destinations in the Core. Specific strategies are listed below.
  o Offer lower rates during “off-hours” such as evenings, when restaurants are busier.
  o Eliminate time limits and use price to manage demand (see Recommendation 6.4).
• **Tertiary Zone.** The tertiary zone provides low-cost or free parking based on greater distance from destinations in the Core.
• **Hotel / Infill Zone.** This zone is located generally west of 14th Street and recognizes the different land use character and parking demands in this area, which functions as more of an overflow parking area for Downtown. Pricing and access may initially remain oriented towards transient and Downtown parkers. Specific strategies are listed below.
  o Offer daily parking as opposed to monthly passes for Downtown parkers.
  o Offer low-cost / free parking on weekends to serve the Core. This could be coordinated with a potential shuttle (see Recommendation 3.3).

**Benefits**
- Established parking zones create transparency around adjustments to parking pricing based on observed levels of demand for parking.
- Designating zones improves convenience for all users by making it easier to find parking that meets their needs.

**Complementary Recommendations**
- All other Section 6 recommendations
- 7.1 Upgrade Parking Technology
- 8.1 Create a Parking Enhancement District
6.3. Use Parking Pricing To Reduce Congestion In The Core

- **Implementation time frame.** Short term (<3 years)
- **Responsible entity and / or potential partners.** DOMI, PPA, and City Council

This recommendation is to incrementally increase the price of hourly on-street parking, which will help redistribute demand by encouraging vehicle turnover in optimal locations and increasing the utilization of longer-term and less expensive parking elsewhere. Industry standard assumes that on-street parking is appropriately priced if utilization is under 85%. This encourages turnover yet allows those willing to pay more for proximity to destinations to do so. Figure 44 demonstrates how to monitor on-street parking utilization.

It may be appropriate to incrementally increase pricing to allow stakeholders and the public to adjust to changes. Price changes should occur infrequently, such as once per quarter or twice a year, to allow time for this adjustment. Increases can be as low as $0.25 per hour but should be made in the same increment each time. New meter revenue could be captured and reinvested in the Strip District via a Strip District PED. As part of this, it is essential that users understand where cheaper and more long-term options might be available.

**Benefits**
- Appropriate pricing reduces congestion and encourages turnover in most convenient on-street parking spaces.
- Pricing that increases turnover improves customer access to local businesses.

**Complementary Recommendations**
- 1.2 Strategic Pedestrian Infrastructure Investments
- 1.3 Create Districtwide Wayfinding System
- All other Section 6 recommendations
- 8.1 Create a Parking Enhancement District

6.4. Adjust and / or Eliminate On-Street Time Limits

- **Implementation time frame.** Short term (<3 years)
- **Responsible entity and / or potential partners.** DOMI and PPA

In addition to establishing a new parking pricing structure, moving away from traditional time limits on parking spaces is recommended. The idea behind this approach is that if premium spaces are priced correctly, turnover will be high enough in busy areas to maintain the ideal occupancy of about one in every ten spaces being available for the next arrival. In contrast, lower-price areas can be available for longer-term parkers. In either location, if someone wants or needs to stay longer, there is not a time limit telling them to leave and they simply continue to pay for the space. In this way, visitors to the Strip District would be given greater flexibility, allowing them to purchase parking that best meets their needs.

This recommendation would need to be implemented in coordination with higher prices in the Core to prevent people, including those working Downtown and employees of Strip District shops, from using prime Penn Avenue spaces that could otherwise be used by local business patrons.

**Benefits**
- Eliminating time limits provides greater flexibility in that people can simply pay to stay longer if they wish.
- This strategy coupled with appropriate pricing discourages commuters and employees from using parking spaces that would better be used by customers.

**Complementary Recommendations**
- All other Section 6 recommendations
- 7.1 Upgrade Parking Technology
6.5. Add Hourly Parking Options in Off-Street Facilities to Expand Options Available to Public

- **Implementation time frame.** Short term (<3 years) and mid term (3-5 years)
- **Responsible entity and / or potential partners.** DOMI and private parking facility owners.

Very few of the off-street, publicly available private parking spaces are available for hourly use. These spaces typically require a minimum pre-payment of at least two to three hours, and are priced higher than on-street parking. This contributes to the perception that the Strip District suffers from a shortage of parking options even though there is availability in nearby surface lots and garages.

It is recommended that DOMI work with private operators to explore introducing hourly options to their offerings. This may include both those spaces currently available to the public and those that are currently private parking only.

**Benefits:**

- Hourly parking creates more choices for parkers.
- If more customers use hourly parking, there is a potential to increase revenue for parking facility owners as utilization in their facilities increases.
- Hourly parking options make more sense to customers.

**Complementary Recommendations**

- All other Section 6 recommendations

6.6. Expand Penn Avenue On-Street Metered Zone

- **Implementation time frame.** Mid term (3-5 years)
- **Responsible entity and / or potential partners.** DOMI, PPA, and City Council

Currently, Penn Avenue from Downtown to 25th Street is metered while east of 25th Street it is not. Field observations indicate that on-street parking east of 25th Street is frequently occupied all day by the same vehicles, likely people who work in the Strip District or Downtown. This recommendation is to work with City Council and PPA to install parking meters on Penn Avenue east of 25th Street. This will encourage more frequent vehicle turnover, which supports use by customers of local businesses and discourages all-day parking. Additional meters on some of the unregulated side streets (for example, 15th Street between Smallman Street and Waterfront Place or Spring Way between 20th and 21st streets) close to the Core may also help better manage the curb.

**Benefits**

- Revenue above and beyond the contributions that PPA is required to make to the City could be captured and reinvested in the Strip District via a Strip District PED.
- Expanding the metered and managed zone discourages longer-term parking in convenient on-street parking spaces on Penn Avenue.

**Complementary Recommendations**

- All other Section 6 recommendations
- 7.1 Upgrade Parking Technology
- 8.1 Create a Parking Enhancement District

6.7. Develop Strip District Ambassador Element to Parking Enforcement

- **Implementation time frame.** Short term (<3 years)
- **Responsible entity and / or potential partners.** PPA and future Strip District TMA

As a regional and tourist destination, the Strip District would benefit from a customer-first approach to enforcement. This would help first time and returning visitors by providing information about parking and transportation options in relation to key destinations instead of just focusing on fines for non-compliance. Key actions include designating a parking ambassador role. This could potentially live within the PPA and / or be a staff position funded via the future Strip District TMA or the PED.

Initially, a parking ambassador role might be part-time focusing on the busiest times of the year such as the holidays and weekend markets. In order to help reduce parking non-compliance and let users know where additional publicly available parking might be available, the parking ambassador would place information on windshields and generally be present in the neighborhood should people have questions or need direction.

**Benefits**

- Using an ambassador approach establishes a customer-friendly environment.
- Having people available to answer questions helps to demystify parking options.

**Complementary Recommendations**

- 1.3 Create Districtwide Wayfinding System
- All other Section 6 recommendations
- 7.1 Upgrade Parking Technology
- 9.2 Form a Strip District TMA


6.8. Incorporate Public Parking In New Developments

- **Implementation time frame.** Short term (<3 years) and mid term (3-5 years)
- **Responsible entity and / or potential Partners.** DOMI, DCP, private developers, and future Strip District TMA

As development continues in the Strip District and demand for parking increases, it is recommended that the City explore the feasibility of coordinating with new developments to encourage construction of additional off-street parking supply.

Land in the Strip District is extremely valuable and surface parking is contributing little to area dynamism. These lots are also subject to the decision of individual property owners and could be sold at any time. Transferring parking demand from small surface parking lots to integrated parking facilities and structures supports new, more active uses on those lots. If public parking was made available in nearby privately operated parking structures, this could support new construction without the required expense of both dollars and land to provide even more new parking.

The City could encourage the creation of additional publicly available private parking through a number of ways. For example, the City could provide relief from parking maximums if parking provided over the maximum is shared. Additionally, the City could offer in-kind services, as described in Recommendation 6.9, which would lower the financial burden of operating public parking.

Any new structured or underground garage associated with a development that has publicly available parking should follow the guidelines listed below.

- Wrap with active uses at ground level.
- Price to fit into the larger Strip District system.
- Include mobility hub elements such as EV-charging, bikeshare, and transit information.
- Provide real-time parking availability signage.
- Be heavily advertised / integrated with the public parking supply to draw as many users as possible.
- Be located to intercept vehicle traffic before it gets to the Core so people looking for parking are not further contributing to congested conditions.

**Benefits**

- Developers would build publicly available parking that all user groups could access, including demand associated with other developments.
- As development increases, this option could provide an opportunity to consolidate parking and encourage redevelopment of surface parking lots.
- Developers contribute to the Strip District mobility system which supports existing land uses.

**Complementary Recommendations**

- All other Section 6 recommendations
- 7.1 Upgrade Parking Technology
- 8.1 Create a Parking Enhancement District

6.9. Work With Private Property Owners To Add To Publicly Available Supply

- **Implementation time frame.** Mid term (3-5 years)
- **Responsible entity and / or potential partners.** DOMI, PPA, private lot operators, and future Strip District TMA

As an alternative to building more parking, adding curb cuts, and requiring debt service on new garages, cities across the nation are working with property owners to make more private parking available for public use. Expanding the number of parking facilities that are open to the public increases the supply that is available to potential visitors, customers, employees, and residents, and also has other advantages. The more parking that is added to a centralized system and managed by one entity, the more that system can be structured to be rational and easy to understand. Specifically, the pricing of different parking options can reflect their proximity to key destinations, and consistent signage can help people find parking opportunities.

To encourage participation in a Strip District shared system, the City (in coordination with a future Strip District TMA) could offer a menu of options, including those listed below.

- **Signage / wayfinding.** Standardized public parking signage to help direct customers to where available parking may exist (see Recommendation 1.3)
- **Maintenance.** Using City resources such as an agreement for striping, snow removal, and potentially re-paving
- **Revenue sharing agreements.** This could take many forms. The City or PPA could take over operations, pay the operator their net revenue, and retain any additional income (such as from increased parking use and / or price changes).
- **Operational support.** This may include staffing, enforcement, and equipment, such as kiosks or payments made via the Go Mobile PGH parking app.
Benefits

- Owners will save money and time as a central entity takes over parking operations.
- Owners will see potential for increased revenue as more customers become aware of parking facilities.
- Management by a central entity will offer the eventual opportunity to create a system with a streamlined pricing structure and consistent signage.

Complementary Recommendations

- 1.3 Create Districtwide Wayfinding System
- All other Section 6 recommendations
- 7.1 Upgrade Parking Technology
- 9.2 Form a Strip District TMA

6.10. Re-Visit Commercial Parking Tax Rate

- **Implementation time frame.** Short term (<3 years) and mid term (3-5 years)
- **Responsible entity and / or potential partners.** DOMI, Finance Department, and City Council.

<table>
<thead>
<tr>
<th>City/State</th>
<th>Tax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tukwila, WA</td>
<td>5%</td>
</tr>
<tr>
<td>Illinois</td>
<td>6% - 9%</td>
</tr>
<tr>
<td>Santa Monica, CA</td>
<td>10%</td>
</tr>
<tr>
<td>Seattle, WA</td>
<td>13%</td>
</tr>
<tr>
<td>Newark, NJ</td>
<td>15%</td>
</tr>
<tr>
<td>Oakland, CA</td>
<td>19%</td>
</tr>
<tr>
<td>Philadelphia, PA</td>
<td>23%</td>
</tr>
<tr>
<td>Pittsburgh, PA</td>
<td>38%</td>
</tr>
</tbody>
</table>

Figure 46. Parking tax rates in other cities

In Pittsburgh, a 37.5% tax is applied to private parking that is made available for paid public parking. For example, if a parking garage has 100 parking spaces of which 40 are reserved for residents and the remaining 60 are made available to the public for a fee, the tax applies to income from those 60 spaces. Parking operations costs include maintenance, insurance, staff and / or technology, and security, and adding such a high tax to these costs is perceived as burdensome. This represents a disincentive to making private parking available to the public. Pittsburgh’s commercial parking tax is relatively high compared to similar taxes in other cities in the United States (see Figure 46).

It should be noted that this Plan does not include a detailed audit of the City’s existing parking tax revenues or tax codes. Further analysis that would provide a series of scenarios for updating the commercial parking tax is recommended. Any adjustments to parking taxes to reduce the burden on private property owners would result in a loss of revenue to the City. However, if lowering the tax prompted more property owners to make their parking publicly available, this could potentially make up for any potential loss in revenue. This needs to be weighed against the benefits of having greater private participation in solving demand in the Strip District and the resulting cost savings of not having to build new parking supply.

Benefits

- Adjusting parking tax rates may remove a barrier to making more parking publicly accessible.
- Greater availability of public parking may ultimately increase City revenue.

Complementary Recommendations

- 6.5 Add Hourly Parking Options in Off-Street Facilities to Expand Options Available to Public
- 6.8 Incorporate Public Parking In New Developments
- 6.9 Work With Private Property Owners To Add To Publicly Available Supply
7. Technology and Communications

Feedback throughout the planning process clearly indicated the desire for better communication about mobility in the Strip District, particularly as it relates to construction activities that may affect parking and sidewalk access. Mobility is an especially acute challenge during the holiday season and warmer months when customer visits peak and there is a perceived lack of coordination between construction projects and local businesses that may be impacted by parking loss.

In the future with more of a districtwide approach to managing parking and transportation, there is an opportunity to consolidate construction information and share relevant information with the community before disruption begins. Technology can also be leveraged to tackle some of the challenges that visitors experience when trying to find parking or travel information for the Strip District.

The following recommendations involve upgrading technology to centralize and streamline the distribution of information related to mobility in the Strip District. They draw upon the innovation industry located in the neighborhood that evaluate new technologies. Ultimately, technology and communications should be focused on helping the Strip District get closer to the goals and objectives of this Plan.

7.1. Upgrade Parking Technology

- **Implementation time frame.** Short term (<3 years)
- **Responsible entity and / or potential partners.** PPA, PDP, and publicly available private parking operators

Some cities have a single app that provides information about all on- and off-street parking facilities. This service does not currently exist in Pittsburgh.

ParkPGH, paid for by Downtown stakeholders, provides real-time parking availability primarily in Downtown and on the North Side (see Figure 47). This includes both public and publicly available private surface lots and garages.

Similar to many other neighborhoods across the City, parking meters in the Strip District are via kiosk or PPA’s Go Mobile PGH app, which allows users to pay for and extend parking meters by phone. It does not include PPA garages or privately owned facilities.

This recommendation is to explore the feasibility and cost associated with expanding either or both apps to include real-time parking information and signage for both on- and off-street facilities in the Strip District. A range of payment options should also be available. Payment stalls / gate entries may need to be upgraded so they can communicate the same information to whatever technology is used.

**Benefits**

- Real-time information about parking availability and numerous ways to pay would improve the experience for those looking to park and reduce cruising.
- Updated parking technology could allow comprehensive reporting on parking utilization for all on- and off-street publicly available facilities in the Strip District.

**Complementary Recommendations**

- 6.3 Use Parking Pricing To Reduce Congestion In The Core
- 6.6 Expand Penn Avenue On-Street Metered Zone
- 6.9 Work With Private Property Owners To Add To Publicly Available Supply

7.2. Centralize Construction Communications

- **Implementation time frame.** Short term (<3 years)
- **Responsible entity and / or potential partners.** DOMI, SDN, and future Strip District TMA

PDP has assembled a Construction Coordination Task Force to coordinate upcoming construction, anticipated schedules, and disruptions to reduce potential impacts. Projects in the Strip District are included in this coordination. DOMI staff, representatives from SDN, PAAC, PennDOT, Allegheny County, and utility providers are among the many parties that have been part of these conversations.

This Plan recommends that stakeholder representation for the Strip District, in the form of either SDN or a future Strip District TMA (or both), continue to participate in these meetings. This person or group will be able to disseminate relevant information to business owners, merchants, employers, developers, and the public as it becomes available.
A standardized approach to communication that people can become accustomed to and expect should be developed. Information should include at minimum anticipated start and completion of the disruption, detours, and mitigation measures.

Benefits
- Regular participation in ongoing coordination meetings will help ensure that community concerns regarding construction are recognized prior to any disruption and appropriate mitigation identified.
- A communication program will provide more advance notice to Strip District merchants regarding construction impacts that affect parking, customer access, and sidewalk closures.
- Alternative routing and parking options can be communicated via a communications program.
- A standardized approach will establish baseline levels of communication with regards to construction projects so stakeholders and the public know what to expect.

Complementary Recommendations
- 9.2 Form a Strip District TMA
- 9.3 Document, Monitor and Report TDM plans

7.3. Pilot Transportation and Technology Innovations and Demonstration Projects

- **Implementation time frame.** Short term (<3 years) and mid term (3-5 years)
- **Responsible entity and / or potential partners.** DOMI, PPA, and private mobility-oriented companies

The Strip District is home to numerous mobility innovators. It is recommended that the City explore opportunities to partner with these companies to pilot transportation technologies that will help address challenges and opportunities identified in this Plan, such as improving mobility for short trips or efficiency at the curb. Potential pilots might include those listed below.

- Deployment of delivery robots in a dedicated lane, using temporary markings or traffic cones.
- A hackathon to design a pilot / demonstration project to maximize curb usage for different modes across different times of day, for example loading compared to private vehicle parking.
- A test of autonomous vehicle (AV) operations to determine issues with operations on "real-world" streets (in accordance with the City's Self-Driving Vehicle Testing and Operations Executive Order guidelines).
- Real-time curbside occupancy reporting technology (such as overhead signage and / or an app) that would help customers and delivery drivers find available curbside space and allow the City to understand occupancy patterns (see Figure 48).

Benefits
- This recommendation is to capitalize on the presence of a growing tech sector in the neighborhood to test new approaches to curbside management.
- Technology companies could pay a fee to utilize curb space, which in turn could fund other desired transportation improvements in the Strip District.

Complementary Recommendations
- 4.1 Upgrade Traffic Signals
- 5.1 Manage Curbside Loading
- 9.2 Form a Strip District TMA

Figure 48. Parking technology companies are developing concepts for real-time on-street availability that is more accurate because it is based on sensor information instead of algorithms or payment information.39
8. Establish Strip District Funding Mechanism

As described earlier in this document and well known to anyone who lives in, works in, or frequents the Strip District, the neighborhood has experienced rapid growth and investment in recent years. This trend is expected to continue. Infill and higher-density mixed-use development provides numerous benefits, including contributing to or creating neighborhoods that are more pedestrian-oriented. However, they will also induce additional demand on the existing transportation network. In response to existing and anticipated demand, there are numerous large-scale transportation improvements planned for the Strip District in the near term (see Chapter 1). However, there are needs beyond those investments to meet DOMI’s goals and the objectives of this Plan.

With the age and complexity of the transportation network in Pittsburgh, there simply are not enough existing resources to support the outsized demand for transportation investment as it currently exists within the city limits. Without a dedicated funding stream, transportation and other streetscape improvements in the Strip District will compete for scarce funding from city, state, and federal resources. This approach will not yield improvements at the pace the Strip District is developing. Additionally, without changes, many people will continue to choose to drive rather than use uncomfortable transit stops, a disconnected bicycle network, and a fragmented sidewalk network. This, in turn, will contribute to slower vehicular travel and higher parking demand than experienced today.

The following recommendations should be explored further as means to generate additional revenue that would be earmarked specifically for the Strip District. A designated Strip District-based stakeholder group would receive, distribute, and generally oversee this revenue; however, at the time of this report, this entity has not been determined. As a designated 501(c)(3), SDN could potentially serve this function. Alternatively, a separate Strip District TMA could be established to serve this function (see Recommendation 9.2). By nature, the TMA would also serve as an additional revenue stream for similar improvements.

8.1. Create a Parking Enhancement District

- **Implementation time frame.** Short term (<3 years)
- **Responsible entity and / or potential partners.** DOMI, PPA, City Council, and community sponsor

A PED uses parking meter revenue to support streetscape and other transportation-related enhancements. The implementation of a PED would require an increase in the hourly price of Strip District parking meters; the amount of this increase has not been determined at this time. Revenue generated by this increase would be earmarked specifically for use in the Strip District. Additional revenue could also be generated by extending active meter hours, and / or extending meters on Penn Avenue east of 25th Street and in other currently unmetered locations in the Strip District (see Recommendation 6.2 and Recommendation 6.6).

Despite having some of the lowest parking meter prices per hour in the City, Strip District parking meters produced nearly $1,000,000 in revenue in both 2018 and 2019. Assuming parking meter revenue returns to close to pre-pandemic levels, even a portion of the additional revenue generated by an increase in hourly pricing, extension of active meter hours, or installation of new meters, has the potential to generate a sizable amount of money for use specifically in the Strip District. It is important to note that revenue forecasts have not been prepared at this time.

Currently the South Side, specifically Carson Street, has the only PED in Pittsburgh. The PED expanded active meter hours from 6:00 pm to midnight on Fridays and Saturdays. In 2018, this generated approximately $200,000 for dedicated streetscape and other improvements (after additional enforcement and other services). A self-selected community group meets regularly to determine where and how to administer the funds and receives progress updates on implemented programs. Additional revenue has been used for streetscape improvements, including additional trash pick-up, a shuttle to off-site parking on weekend evenings, and additional enforcement.

Based on the way the current municipal code is written, the Strip District is not eligible for a PED (see § 546.03). As a result, a code update would need to be prepared and approved by City Council in order to advance this recommendation. New parking revenues could also be combined with other revenue streams, such as the ones identified below, to further increase dedicated funds to be reinvested in the neighborhood. Part of the PED application process requires that an entity overseeing the receiving and distribution of funds be determined.
Benefits

• Adjusting pricing increases rate of turn-over of on-street parking spaces which can reduce “cruising for parking” trips and allows for more visitors to park closer to their destination.
• Creating a PED creates a dedicated funding stream for neighborhood improvements.
• Customers paying at meters understand that their payments contribute to direct improvements in the Strip District.

Complementary Recommendations

• 6.3 Use Parking Pricing To Reduce Congestion In The Core
• 6.6 Expand Penn Avenue On-Street Metered Zone
• 6.7 Develop Strip District Ambassador Element to Parking Enforcement

8.2. Establish Strip District Mobility Improvement Trust

• Implementation time frame. Short term (<3 years) and mid-term (3-5 years)
• Responsible entity and / or potential partners. DOMI and future Strip District TMA

The Strip District Mobility Improvement Trust will be a stand-alone fund holding mobility trust payments from Strip District developers that would be used to support mobility improvements in the Strip District area. Much of the Strip District north of 21st Street is zoned Riverfront Industrial Mixed Use (RIV-IMU). The RIV zoning is intended to support high-quality, sustainable development and preservation of the diverse character of the City’s riverfronts. One tool that this zoning enables is allowing developers proposing new developments the option of contributions to a “mobility improvement trust” in lieu of providing parking at the required minimum levels. The RIV also outlines temporary surface lot conditions that would require a contribution to the mobility improvement trust.

It is recommended that DOMI work with local stakeholders to determine the appropriate framework for the establishment of the trust as well as identification of projects and initiatives that might be eligible to receive funds. Similar to a PED, a portion of this revenue could be used to start a Strip District TMA or expand the jurisdiction of an existing one such as the PDP. It could also be used for infrastructure improvements, ranging from contributions to develop publicly available parking to signal improvements.

Benefits

• The Mobility Improvement Trust is a dedicated funding stream for local improvements that is tied to future developments and their impacts.
• This funding mechanism offers flexibility and ability to pool funds from multiple developments to support larger transportation programs and capital investments.
• Paying into the Mobility Improvement Trust may provide a cheaper alternative to building parking for some developers, which in turn will discourage building inefficient parking supply, and allow investment in improvements that will benefit the entire Strip District.

Complementary Recommendations

• 9.2 Form a Strip District TMA
9. Transportation Demand Management (TDM) and Districtwide Organization

Districtwide organization will be key to meeting the goals outlined in this Plan at a pace matching Strip District growth and change. As described in Section 8, without a dedicated funding stream and coordinating entity, the Strip District will compete for constrained funding from city, state, and federal budgets. Both development proposals and tenants in the Strip District change regularly and it is challenging for a broader entity like the City to keep up with these diverse needs. A districtwide organizing entity, however, can stay in tune with these changes while coordinating communications, prioritizing projects and programs, and otherwise ensuring that the mobility needs of the Strip District community are met.

In particular, this organizing entity can coordinate programs and investments that support travel by modes other than driving; also known as TDM. Any comprehensive mobility strategy such as this Plan should run parallel and in concert with a robust TDM program or risk focusing purely on supply-side challenges while ignoring the underlying motivations behind the choice people make to drive or use other modes. TDM refers to a suite of programs and incentives intended to reduce SOV trips, particularly during peak hours. Today, in a Strip District with millions of square feet of development proposed and a parking system that is already perceived to be inadequate to meet demand, TDM is essential to reduce congested roadways and parking lots.

Currently, DOMI requires that new developments over a particular size or generating a certain number of trips each day or during peak hours prepare a TDM plan. This is an appropriate first step to reduce SOV trips.

The recommendations set forth in this section take this a step further and focus on a districtwide program that supports all users and would be required in addition to the existing TDM plan requirement. The success of such a program is rooted in having a dedicated entity to manage and monitor the process and report on progress. This entity can help developers and employers identify a series of tools that are likely to have the greatest success based on an understating of travel preferences of their employees, residents, and visitors.

Some examples of TDM programs and incentives include those listed below.

- **Adjust parking pricing** to help redistribute demand between areas of high parking congestion and areas of availability. Pricing should be daily to avoid people choosing to drive due to the "sunk cost" of a monthly or annual pass.
- **Provide free or discounted transit passes** to make riding public transit more competitive with driving. This would be provided by employers or developers.
- **Offer ride matching services** that help match participants who might be interested in carpool programs.
- **Allow flextime, compressed work weeks, and teleworking**.
- **Introduce pedestrian and bicycle improvements** such as bike parking, lockers, and on-site showers as well as DOMI-coordinated enhancements within the ROW such bike lanes, curb extensions, and new crosswalks.
- **Adopt a Guaranteed Ride Home Program**, which provides non-SOV users with a certain number of free taxi / rideshare rides each quarter (or some other designated time frame) in case of emergency. This can encourage commuters who might otherwise drive to explore other modes.
- **Introduce incentive programs** that include financial incentives or prizes for non-SOV trips.
- **Provide general promotion and support regarding offerings**.

Additional information can be found in Appendix C. Best Practices.

Ultimately, districtwide organization in support of TDM will be key to support both DOMI’s goals and the objectives of this Plan.

9.1. Create a Strip District Trip Reduction Ordinance

- **Implementation time frame.** Mid term (3-5 years) and long term (5+ years)
- **Responsible entity and / or potential partners.** DOMI, DCP, and City Council

A trip reduction ordinance (TRO) would require developers, employers, and / or building managers to not only implement TDM measures, but also to meet certain goals related to reducing driving trips. TROs are used to address congestion and parking issues and also to improve air quality, support growth and development, and encourage improvements related to other modes such as walking, biking, and transit.

Goals can be tied to SOV trips, vehicle miles traveled, or average vehicle ridership. Goals may shift over time as technology advances and / or
municipal objectives change. A key element of success is the evaluation, either via annual survey or follow up meetings. While many TROs include a fine for non-compliance, municipalities often focus on working on compliance issues rather than stringently enforcing the fine.

The TRO should apply specifically to the Strip District and have mandatory participation for developments above a certain threshold. The TRO may be mapped across the district and incorporate existing TDM Guidelines, with consideration to add specific requirements related to the following items:

- Mandatory filing of trip reduction plans
- Monitoring and reporting
- Identifying targets and goals specific to mode shift and trip reduction
- Establishing fines for falling short of targets

Best practice examples include the cities of Somerville and Cambridge in Massachusetts. The former requires developers file a Mobility Management Plan for a proposed project before a public hearing can be scheduled. Cities such as San Francisco, Vancouver (BC), and Boston are actively working with developers to improve monitoring and reporting requirements that assess progress against goals. See Appendix C. Best Practices for additional information.

Benefits

- TROs encourage a reduction in auto-trips and associated greenhouse gas emissions and congestion.
- TROs encourage diverting new vehicle trips for developments over a certain size to more efficient modes to avoid introducing additional demand on an already over congested network.
- The process of enforcing the TRO creates the ability for City to monitor TDM effectiveness and progress towards mobility goals.

Complementary Recommendations

- 9.3 Document, Monitor and Report TDM plans

9.2. Form a Strip District TMA

- **Implementation time frame.** Short term (<3 years)
- **Responsible entity and / or potential partners.** DOMI, SDN, and SDBA

A Strip District TMA would help support the community to meet the goals of the TRO. Specifically, a TMA can coordinate and advocate for mobility upgrades and changes on behalf of the Strip District. It can also operate and implement its own programming, including providing information and running shuttles, among others.

A TMA is typically a member-controlled organization that coordinates transportation needs in a defined geographic area. SDN, which is already a 501(c)(3), may be a good candidate to perform a TMA function. The responsibilities of a TMA could also be performed by a Business Improvement District (BID) or a jurisdictional expansion of PDP. The structure of the TMA would need to be defined prior to formation as well as the necessary funding to retain staff to oversee the program. Figure 49 provides an overview of revenue used to support the Oakland TMA.

The Strip District TMA could take the lead on several initiatives, many of which are outlined in this chapter and include the efforts below.

- Disseminate construction-related information to stakeholders and the public.
- Coordinate with private property owners to integrate their parking supply and price within the overall publicly available parking system.
- Assist private property owners, developers, and employers with preparing TDM plans.

![FY 2016-2017 Revenue by Category](image)

Figure 49. Oakland transportation Management Association (OTMA) funding sources*
• Advocate for transportation investments and funding, including grants.
• Help direct funds from the PED and / or membership dues to transportation improvements as determined by members.

The steps to form a Strip District TMA include but are not limited to the following.

Short Term
• Identify a City and neighborhood partner to establish program.
• Meet with current and potential new strategic partners such as new developments and larger employers to clarify mission and potential programs.
• Identify potential founding members, possibly expanding the role of SDN or PDP.

Mid Term
• Define service area, primary services, and funding options.
• Set up Strip District TMA by establishing 501(c)(3).
• Hire staff using parking funds from the PED and / or membership dues.
• Develop a list of TDM programs and incentives for members to better understand the program, offerings, and how success will be defined.

Benefits
• A TMA is a single entity that can speak on behalf of Strip District transportation needs, advocate for capital investment, and coordinate with the City and other partners.
• The TMA can oversee the TDM program and help developers, building managers, and employers meet TRO requirements.
• New developments can take advantage of multiple modal options instead of introducing more SOV trips.

Complementary Recommendations
• 1.3 Create Districtwide Wayfinding System
• 6.7 Develop Strip District Ambassador Element to Parking Enforcement
• 7.2 Centralize Construction Communications
• 9.3 Document, Monitor and Report TDM plans

9.3. Document, Monitor and Report TDM plans

• Implementation time frame. Short term (<3 years) and mid term (3-5 years)
• Responsible entity and / or potential partners. DOMI and future Strip District TMA

DOMI is working with developers and large employers to prepare TDM plans. As part of this effort, reporting will be required annually and adjustments may be necessary depending on the success of reducing site-specific SOV trips.

As the first step in this recommendation, the future Strip District TMA can work with DOMI, developers, and large employers to develop and compile TDM plans. Staff may have recommendations on site-specific improvements and would be able to assist with annual reporting, both of which would help advance districtwide goals to reduce SOV trips.

Benefits
• Monitoring TDM programs helps track effectiveness of TDM measures in the Strip District at reducing demand for driving and parking and associated congestion.
• Documenting, monitoring, and reporting holds developers, landlords, and ultimately tenants accountable for implementing TDM plans and meeting requirements of the TRO.

Complementary Recommendations
• 9.1 Create a Strip District Trip Reduction Ordinance
• 9.2 Form a Strip District TMA
Implementation Plan
The Strip District Mobility Plan envisions a transportation system that supports existing businesses and sustains growth by maximizing the use of limited space for safe, enjoyable multimodal travel. The following section outlines an implementation plan for achieving this vision.

For each Recommendation identified in Chapter 4, the following table includes the following:

- Steps by time frame, including short term (<3 years), mid term (3-5 years), and long term (5+ years). Milestone achievements that mark significant progress are shown in **bold**.
- A comparison of the recommendation to the project objectives.
- A planning-level assessment of relative cost.
- Potential partners to help ensure success.

All recommendations are planning-level, and require further community process, design, and funding for implementation.
<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Short term (&lt;3 years)</th>
<th>Mid term (3-5 years)</th>
<th>Long term (5+ years)</th>
<th>Cost</th>
<th>Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pedestrian Emphasis Corridors</td>
<td>• As signals are replaced, add pedestrian signal heads, ramps, ADA-compliant signals  • Install and maintain high-visibility crosswalks  • Other small infrastructure improvements (bollards, low-cost pop-up pedestrian island, etc.)</td>
<td>• Install pedestrian-level lighting  • Upgrade crossings and curb ramps to meet ADA guidelines</td>
<td>• Expand walk network improvements outside core</td>
<td>$$$</td>
<td>DOMI, Property owners</td>
</tr>
<tr>
<td>1.2 Strategic Pedestrian Infrastructure Investments</td>
<td>• Meet with HSIP program administrator for Liberty Avenue and PAAC to discuss sidewalks on Liberty  • Crosswalk additions, particularly on Liberty Avenue at bus stops</td>
<td>• Sidewalk additions  • Ramp upgrades</td>
<td></td>
<td>$$</td>
<td>DOMI, Property owners</td>
</tr>
<tr>
<td>1.3 Create Districtwide Wayfinding System</td>
<td>• Intercept signage for people driving directing them to (1) the Core and other destinations (2) nearby parking facilities  • Consider completing a districtwide wayfinding plan</td>
<td>• Procure and install signage for: Core destinations, large residences, bicycle links/bikeshare stations/parking  • Update as necessary</td>
<td></td>
<td>$</td>
<td>DOMI, SDN, SDBA, future Strip District TMA</td>
</tr>
<tr>
<td>1.4 Add Pedestrian / Bike Connections under the 16th Street / David McCullough Bridge</td>
<td>• Review ownership of sidewalk area under 16th Street bridge</td>
<td>• Use paint and bollards to create walking connection. Meet with any affected property owners.  • Upgrade to permanent connection</td>
<td></td>
<td>$$</td>
<td>DOMI, potentially PennDOT</td>
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<tr>
<td>2.1 Implement 15th Street Bicycle Connection</td>
<td>• Implement 15th Street redesign</td>
<td></td>
<td></td>
<td>$$</td>
<td>DOMI, Private property owners</td>
</tr>
<tr>
<td>2.2 Implement an East-West Bicycle Connection</td>
<td>• Implement the project through a community driven design process.</td>
<td>• Implement long-term design</td>
<td></td>
<td>$$</td>
<td>DOMI, community organizations</td>
</tr>
<tr>
<td>2.3 Implement Bicycle Connection at 31st or 32nd Street from Liberty Avenue</td>
<td>• Coordinate with Liberty Avenue HSIP to determine if 31st or 32nd will align with Liberty Avenue facility  • Use wayfinding/signage to dedicate 31st Street and/or 32nd Street as bicycle link  • Install short-term improvements</td>
<td>• Consider converting 32nd Street to two-way between Liberty and Penn avenues and adding a traditional bicycle lane on either side</td>
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<td>DOMI</td>
</tr>
<tr>
<td>2.4 Complete Riverfront Trail between 27th Street and 36th Street</td>
<td>• Use wayfinding to direct people on bikes to Riverfront Trail from Penn Avenue (from Downtown) or Smallman Street (Lower Lawrenceville)  • Install bicycle counter</td>
<td>• Consider upgrading path to wider, more established facility with lighting to create true “8-80” route  • Upgrade and expand path as feasible.</td>
<td></td>
<td>$$</td>
<td>DOMI, DPW, Adjacent property owners</td>
</tr>
<tr>
<td>Recommendation</td>
<td>Short term (&lt;3 years)</td>
<td>Mid term (3-5 years)</td>
<td>Long term (5+ years)</td>
<td>Progress to Project Objectives</td>
<td>Cost</td>
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<tr>
<td>2.5 Create Bicycle Link(s) to Riverfront Trail</td>
<td>• Use wayfinding/signage to indicate 26th and/or 28th streets are designated bicycle facility. • Install 26th street connection</td>
<td>• Consider additional links to Riverfront, such as 28th Street</td>
<td></td>
<td></td>
<td>$$</td>
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<tr>
<td>2.6 Add Healthy Ride Stations and Mobility Hubs</td>
<td>• Review existing Healthy Ride stations • Coordinate with developments to include Healthy Rides expansions • Work with Healthy Ride to move stations if close to but not adjacent to bicycle infrastructure</td>
<td>• Expand Healthy Ride stations and mobility hubs • Monitor use and adjust</td>
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<tr>
<td>3.1 Enhance Higher Ridership Bus Stops</td>
<td>• Add signage, benches, trash cans, etc. to stops, near the Core on Liberty Avenue. Brand these as “Strip District” stops.</td>
<td>• Additional stop upgrades such as real-time arrival information • Maintain access to bus stops through Liberty Avenue construction • Create high-quality, weather-protected bus stops as Liberty Avenue is reconstructed</td>
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<tr>
<td>3.2 Consolidate Bus Stops to Make Service More Efficient</td>
<td>• Additional study, community review • Coordinate with Liberty Avenue HSIP</td>
<td>• Stop and route consolidation</td>
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<tr>
<td>3.3 Conduct Circulator Feasibility Study</td>
<td>• Meet with PPA, PAAC, SDN, and SDBA to discuss potential shuttle service • Conduct circulator feasibility study</td>
<td>• Pilot shuttle on weekends in summer • Explore potential partnerships for autonomous/electric circulator • Use TMA to fund additional shuttle service • Evaluate and adjust</td>
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<tr>
<td>3.4 Explore Access To The East Busway From The Strip District</td>
<td>• Meet with PAAC to coordinate</td>
<td>• Begin planning process for creating Strip District station on East Busway • Complete other necessary regional PAAC planning, as well as potential TRID study for Herron Avenue/additional Strip District station as necessary</td>
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<td>3.5 Other Mobility Possibilities</td>
<td></td>
<td>• Explore funding options</td>
<td>• Continue coordination with PAAC and other relevant stakeholders</td>
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<tr>
<td>Recommendation</td>
<td>Short term (&lt;3 years)</td>
<td>Mid term (3-5 years)</td>
<td>Long term (5+ years)</td>
<td>Progress to Project Objectives</td>
<td>Cost</td>
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<td>4.1 Upgrade Traffic Signals</td>
<td>• Include signal upgrades in funding requests, such as the regional Transportation Improvement Plan, Congestion Mitigation and Air Quality (CMAQ) Program, and Automated Red Light Enforcement Transportation Enhancements Grant Program (ARLE) • Design Liberty Avenue HSIP, which will include signal upgrades</td>
<td>• Upgrade existing signal equipment on Penn and Liberty avenues and install on Smallman Street as warranted</td>
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<td>$$$</td>
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<tr>
<td>4.2 Continue One-Way 17th Street</td>
<td>• Meet with local stakeholders to discuss operations and loading</td>
<td>• Pilot implementation of 1-way (6 mos) w/evaluation</td>
<td>• Make permanent or revert to two-way operation</td>
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<td>5.1 Manage Curbside Loading</td>
<td>• Conduct a full day loading audit • Install new loading zones on 21st Street between Penn and Liberty avenues and 17th Street between Penn Avenue and Smallman Street</td>
<td>• Create time-restricted loading zones</td>
<td>• Consider, as technology allows, charging to access curb • Reallocate zones as necessary</td>
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<tr>
<td>5.2 Designate Rideshare Pickup / Drop-off Zones</td>
<td>• Implement Uber/Lyft drop-off zones on-street in key locations (near large developments, 1-2 in core, etc.)</td>
<td>• Monitor and adjust</td>
<td>• Monitor and adjust</td>
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<tr>
<td>5.3 Create Shared Customer Valet System</td>
<td>• Talk with vendors re: universal valet for Strip District • Partner with merchants to market this to potential customers who need front-door access</td>
<td>• Implement (or pilot) universal valet pilot in key locations such as adjacent to Penn Ave</td>
<td>• Monitor and adjust</td>
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<tr>
<td>6.1 Create a Strip District How-to-Travel Guide and Parking Map</td>
<td>• Create paper/digital map for weekday and for weekends • Work with Strip District Neighbors and merchants to distribute • Develop interactive map with pricing</td>
<td>• Monitor and adjust</td>
<td>• Monitor and adjust</td>
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<tr>
<td>6.2 Develop Strip District Parking Zones</td>
<td>• Meet with PPA and private parking facility owners to discuss and review proposed zones</td>
<td>• Work with PPA to adopt parking zones • Conduct additional utilization counts in primary and secondary areas</td>
<td>• As demand changes, monitor and adjust zones</td>
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<tr>
<td>Recommendation</td>
<td>Short term (&lt;3 years)</td>
<td>Mid term (3-5 years)</td>
<td>Long term (5+ years)</td>
<td>Progress to Project Objectives</td>
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<tr>
<td>6.3 Use Parking Pricing To Reduce Congestion In The Core</td>
<td>- Additional parking counts Develop price update proposal for Core Meet with Strip District Neighbors and/or merchants to review pricing updates</td>
<td>- Adjust parking price in Core</td>
<td></td>
<td>Develop an efficient and inclusive mobility network that accommodates movement for all users, abilities, and modes</td>
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<td>6.4 Adjust and / or Eliminate On-Street Time Limits</td>
<td></td>
<td>- Adjust prices to manage demand</td>
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<td>6.5 Add Hourly Parking Options in Off-Street Facilities to Expand Options Available to Public</td>
<td>- Discuss and review with PPA Meet with owners of publicly available garages to discuss off-peak price adjustments via in-kind or revenue sharing agreements</td>
<td>- Price adjustments at publicly available garages</td>
<td>- Explore the possibility of PPA to take over parking management in publicly available garages</td>
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<tr>
<td>6.6 Expand Penn Avenue On-Street Metered Zone</td>
<td></td>
<td>- Begin meter procurement</td>
<td>- Expand metered zone on Penn Avenue</td>
<td>- Monitor and adjust</td>
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<tr>
<td>6.7 Develop Strip District Ambassador Element to Parking Enforcement</td>
<td>- Parking Control Officers (PCOs) distribute parking map with tickets</td>
<td>- PCOs can work with TMA to serve as &quot;Strip District Ambassadors&quot;</td>
<td>- Expand Ambassador program to meet demand, using TMA funds</td>
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<td>6.8 Incorporate Public Parking In New Developments</td>
<td>- As necessary and possible, work with developers to add additional publicly available supply in Core of the Strip</td>
<td>- As necessary and possible, work with developers to add additional publicly available supply in Core of the Strip</td>
<td>- Continue program, monitor and adjust as necessary</td>
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<tr>
<td>6.9 Work With Private Property Owners To Add To Publicly Available Supply</td>
<td>- Meet with private property owners and document publicly available supply on map Consider installing standardized signage at publicly available parking supply locations</td>
<td>- Implement revenue/service sharing agreements to create a seamless system of publicly available parking Work with additional property owners as new parking supply comes online.</td>
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<td>6.10 Re-Visit Commercial Parking Tax Rate</td>
<td>- Study commercial parking tax rate</td>
<td>- Study commercial parking tax rate</td>
<td>- If relevant, implement changes to commercial tax rate</td>
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<tr>
<td>7.1 Upgrade Parking Technology</td>
<td>- Pursue expanding parking app to publicly available but privately held spaces Extend parking app to Strip District</td>
<td>- Update technology/add locations as necessary Integrate privately owned facilities</td>
<td>- Pursue real-time availability for on-street parking through PPA app</td>
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<td>Recommendation</td>
<td>Short term (&lt;3 years)</td>
<td>Mid term (3-5 years)</td>
<td>Long term (5+ years)</td>
<td>Cost</td>
<td>Partners</td>
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<td>7.2 Centralize Construction Communications</td>
<td>• Continue to meet with Strip District Neighbors, merchants, and others regarding</td>
<td>• Coordination communications through Strip District TMA</td>
<td>• Continue coordination</td>
<td></td>
<td>Domi, SDN, Future Strip District TMA</td>
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<td></td>
<td>infrastructure projects in Strip District</td>
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<td>• Continue stakeholder representation for the Strip District in PDP’s</td>
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<tr>
<td>7.3 Pilot Transportation and Technology Innovations and Demonstration Projects</td>
<td>• Meet with local mobility innovators, brainstorm issues/challenges</td>
<td>• Work with local vendors to select test sites in Strip, run pilots</td>
<td>• Continue, monitor, adjust, publish findings</td>
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<td>Domi, PPA, Private mobility-oriented companies</td>
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<td></td>
<td>• Coordination communications through Strip District TMA</td>
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<td>• Meet with local legislators</td>
<td>• Use fund to support Capital Improvement Program</td>
<td>• Use fund to support Capital Improvement Program</td>
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<td>Domi, PPA, City Council, Community sponsor</td>
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<td></td>
<td>• Review South Side model for lessons learned</td>
<td>• Establish district</td>
<td>• Coordinate as necessary with Parking Enhancement District funds and/or other changes to zoning</td>
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<td>• New revenue from Penn Ave meters into district</td>
<td>• Identify overseeing entity</td>
<td>• Coordinate as necessary with Parking Enhancement District funds and/or other changes to zoning</td>
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<td></td>
<td>• Identify overseeing entity</td>
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<tr>
<td>8.1 Create a Parking Enhancement District</td>
<td>• Create trust in accordance with Pittsburgh municipal code</td>
<td>• Coordinate as necessary with Parking Enhancement District funds and/or other changes to zoning</td>
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<td>Domi, Future Strip District TMA</td>
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<td>• Review comparable ordinances from other cities, meet with developers</td>
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<td>8.2 Establish Strip District Mobility Improvement Trust</td>
<td>• Identify a city and neighborhood partner to establish program.</td>
<td>• Draft and implement ordinance</td>
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<td>Domi, DCR, City Council</td>
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<td>• Meet with current and potential new strategic partners such as new developments and larger employers to clarify mission and potential programs.</td>
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<td>• Identify potential founding members, possibly expanding the role of SDN or PDP.</td>
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<tr>
<td>9.1 Create a Strip District Trip Reduction Ordinance</td>
<td>• Review developments that have filed TDM or mobility management plans in the Strip, place in central location</td>
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<td>Domi, Future Strip District TMA</td>
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<tr>
<td>9.2 Form a Strip District TMA</td>
<td>• Hire staff using parking funds from the PED and/or membership dues.</td>
<td>• Develop a website and integrate parking / multimodal map.</td>
<td>• Develop a list of TDM programs and incentives for members to better understand the program, offerings, and how success will be defined.</td>
<td></td>
<td>Domi, SDN, SDBA</td>
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<td>9.3 Document, Monitor and Report TDM plans</td>
<td>• Continue to gather and publish information, and eventually mode shift data.</td>
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<td>Domi, Future Strip District TMA</td>
</tr>
</tbody>
</table>
Endnotes

1 American Community Survey 5-year data, census tract 203, 2010 to 2018
2 American Community Survey 5-year data, 2018
3 American Community Survey 5-year data, 2010-2018
5 Longitudinal Employer Household Dynamic Data for 2017, via OnTheMap
11 Sidewalk data from Open Street Map, winter 2020. Crash data from the Western Pennsylvania Regional Data Center. Contains locations and information for every crash with one or more injury and/or fatality reported to the police in Allegheny County from 2013-2017. Other data observed by study team.
13 Healthy Ride data, Western Pennsylvania Regional Data Center, 2019
14 Transit data from Western Pennsylvania Regional Data Center, 2018
15 Transit data from Western Pennsylvania Regional Data Center, 2018
16 Transit data from Western Pennsylvania Regional Data Center, 2018
17 Estimate via Streetlight data, 2018
19 10% of jobs are hotel and food service, and another 10% wholesale trade. Longitudinal Employer Household Dynamic Data for 2017, via onthemap
20 Longitudinal Employer Household Dynamic Data for 2017, via onthemap
21 Crash data from the Western Pennsylvania Regional Data Center. Contains locations and information for every crash with one or more injury and/or fatality reported to the police in Allegheny County from 2013-2017.
22 Crash data from the Western Pennsylvania Regional Data Center. Contains locations and information for every crash with one or more injury and/or fatality reported to the police in Allegheny County from 2013-2017.
23 Longitudinal Employer Household Dynamic Data for 2017, via onthemap
24 Longitudinal Employer Household Dynamic Data for 2017, via onthemap
25 Pittsburgh Make My Trip Count survey data, 2018. Respondents asked to rank their top three modes of transportation to work.
26 American Community Survey 5-year data, 2010-2018
27 Intercept survey data collected Spring-Summer 2019
28 Intercept survey data collected Spring-Summer 2019
29 Make My Trip Count Citywide Survey, 2018, for people who identified the Strip District as their commute destination.
30 Trends from American Community Survey 5-year data, 2009 to 2017
32 American Community Survey 5-year data, 2018
33 Transit data from Western Pennsylvania Regional Data Center, 2018
34 Image source: Source: https://www.planning.org/planning/2019/jun/curbcontrol/
35 Image source: https://ggwash.org/view/71113/everything-you-wanted-to-