



12. PRECEDENTS AND BEST PRACTICES

OVERVIEW

The Penn Avenue corridor project can benefit by examining precedents/models in corridor planning. The following is an evaluation of several local and national examples of comparable corridors, plans, policies, and best practices. Additionally, several local (Minneapolis and Saint Paul) intersections were analyzed to evaluate the characteristics and urban design elements that contribute to success and vitality for the neighborhoods and communities they are located within. Each precedent study provides key takeaways (lessons learned) that will provide valuable models for success for the Penn Avenue corridor planning process.

The precedents and best practices discussed in this chapter are grouped into five categories:

- Best Practice Examples
- Planning and Policy Examples
- Corridor Examples (National)
- Corridor Examples (Local)
- Intersection Examples (Local)



BEST PRACTICE EXAMPLES

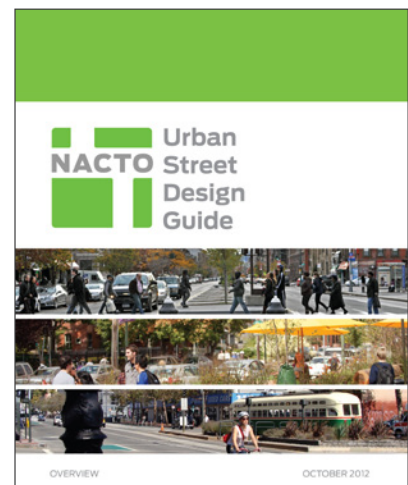
URBAN STREET DESIGN GUIDE, NATIONAL ASSOCIATION OF CITY TRANSPORTATION OFFICIALS (NACTO)

Context

- Includes design recommendations for crosswalks, curb extensions, bike lanes, and sidewalks
- Provides suggestions/considerations for design of compact intersections to increase driver visibility and facilitate safer intersections
- Design should account for existing and future land uses as well as projected and induced demand for all users

Key Takeaways

- In an urban context, street design should meet the needs of people walking, driving, cycling, and taking transit, all in a constrained space.
- Where major streets meet minor streets, define the transition in street type and context using “gateway” treatments.
- All legs of signalized intersections should have marked crosswalks unless pedestrians are prohibited from the roadway or section thereof, or if there is physically no pedestrian access on either corner and no likelihood that access can be provided.
- In urban settings, smaller corner radii are preferred and actual corner radii exceeding 15 feet should be the exception. A smaller curb radius expands the pedestrian area, allowing for better pedestrian ramp alignment.
- Compact intersections reduce pedestrian exposure, slow traffic near conflict points, and increase visibility for all users. Compact intersections place more activity within the sight triangle, giving all users better view of potential conflicts.
- Bus bulbs help buses move faster and more reliably by decreasing the amount of time lost when merging in and out of traffic.
- Length and width of bus bulbs vary based on street geometry, vehicle types, and urban context.
- Where possible, pedestrian crossings should be accommodated behind the departing transit vehicle.
- Lanes greater than 11 feet should not be used as they may cause unintended speeding and assume valuable right-of-way at the expense of other modes.



*Urban Street Design Guide,
National Association of City
Transportation Officials
(NACTO)*



*Minnesota's Best Practices
for Pedestrian/Bicycle Safety,
MNDOT*

MINNESOTA'S BEST PRACTICES FOR PEDESTRIAN/BICYCLE SAFETY, MINNESOTA DEPT. OF TRANSPORTATION (MNDOT)

Context

- Guide does not set requirements or mandates and does not supersede warrants or standards described in other publications.
- Provides recommendations to safely accommodate pedestrians/bicyclists on roadways.
- Includes typical costs, design features, best practices, and other related resources/materials.

Key Takeaways

- Introducing sidewalks has been proved to reduce 50-90 percent of pedestrian crashes when compared with “walking in the roadway.”
- Multiple studies have reviewed the use of crosswalks at uncontrolled intersections and found that it does not improve safety when used without other safety enhancements. Therefore, when considering how to provide safer conditions at pedestrian crossings, it is important to consider the use of a marked crosswalk along with other crosswalk enhancements.
- Curb extensions have shown to potentially reduce speeds providing for 39-46 percent overall crash reduction. Also eliminates the improper passing of vehicles near the intersection. Curb extensions are appropriate where there is an on-street parking lane.
- Emergency access is often improved through the use of curb extensions, as intersections are kept clear of parked cars. Drivers of fire engines and other emergency vehicles can climb a curb, whereas they would not be able to move around a parked car.
- Traffic signals by themselves are not proven safety devices for pedestrians due to a combination of lack of motorist attention and a lack of caution/signal compliance by pedestrians. More than one-half of pedestrian crashes in Minnesota occur at signalized intersections.
- Most bicycle crashes with motor vehicles occur at intersections and driveways. Adding bike lanes without full consideration of travel throughout the corridor may increase conflicts with turning vehicles.
- The presence of on-street parking increases the width needed in an adjacent bike lane and also increases the risk of bicyclists being hit by opening car doors.
- The presence of bus routes offers both advantages (buses typically travel at similar speeds as bicycles) and disadvantages (regular bus stopping requires more interaction between bicyclists and buses).
- Modifying local streets to encourage bicycle use mostly involves low cost treatments such as adding signs and pavement markings, which in many cases is less costly than adding bicycle lanes to the arterial.
- Bike boxes help improve visibility of cyclists around intersections helping, especially with left-turning cyclists. However, bike boxes do not address conflicts with right turns, and are easily weathered and scraped by plows. These boxes are unproven as effects have been based on limited research.

BUS RAPID TRANSIT AND TRANSIT ORIENTED DEVELOPMENT: Case Studies on Transit Oriented Development around Bus Rapid Transit Systems in North America and Australia

Context

This bus rapid transit (BRT)-based transit oriented development (TOD) case study research document was funded by the Hennepin County Department of Housing, Community Works, and Transit in Minneapolis, Minnesota and the Blue Moon Fund of Charlottesville, Virginia. The project was designed to complement a project by the National Bus Rapid Transit Institute at the University of South Florida's Center for Urban Transportation Research to develop a quantitative analysis of the economic impacts of bus rapid transit.

The purpose of this report was to provide examples of BRT-based TOD as a resource for policymakers, public agencies, and the development community. The report uses a case-based research methodology, examining four developed-country cities characterized by high private car usage and significant transit TOD around their BRT corridors:

- Brisbane, Australia
- Cleveland, Ohio
- Boston, Massachusetts
- Ottawa, Ontario

Key Takeaways

The case studies show that BRT can promote economic development and support high quality transit oriented development. The case studies also show that a range of BRT implementation strategies can be used to attract development. The research points to some general findings about successfully using BRT to promote transit-oriented development:

- The success of many projects was due in part to high level of cooperation among public agencies, non-profit development communities, and private developers.
- In a city where the real estate market is not already strong, an active transit agency TOD program and/or active community development organization is critical.
- Developers view permanence as an important factor for building around BRT.
- Even in the cities with a relatively low level of infrastructure, the BRT was viewed as permanent due to a clear long-term commitment by the transit agency.
- Many developers report that the BRT must have a prominent visual profile and be aesthetically appealing – particularly the stations.
- Frequency, speed, and convenience of the service also appeared to be important to many developers and property owners. These are features that the BRT service was able to offer over the local conventional bus service.
- For cities using BRT to revitalize a corridor, the accompanying streetscape improvements may be at least as important as the transit service.
- As with any transit, the transit corridor must be amenable to high-density development. Corridors placed in areas without major employment or housing destinations are not likely to attract development, regardless of mode.
- Overall, providing financial incentives for TOD does not appear to be important for attracting developer interest. Developers were much more interested in an expedited permitting or rezoning process, as time is a critical factor in making development projects financially viable.

Key Terminology:

Bicycle Lane: Bike lanes provide a dedicated space for bicyclists to operate alongside vehicle traffic. Bike lanes can be a low-cost option when adequate right-of-way is available, and often can be incorporated into roadway repaving or restriping projects.

Cycle Track: A cycle track is a high-priority protected bikeway that is often separated from adjacent motor vehicle travel lanes by a curb or other physical barrier. Cycle tracks typically include operational features to address conflicts at intersections, for example, by providing traffic signal phases that are exclusively for bicyclists.

Shared Bicycle-Bus Lane: A shared bicycle/bus lane is a traffic lane dedicated for exclusive use by buses, bicyclists, and, typically, right-turning vehicles. Such lanes have been implemented in places where right-of-way constraints do not allow for a bike lane or other dedicated bike facility.



Dunsmuir Street, Vancouver, Canada: Two-way cycletrack alongside a bus route and one-way auto traffic. Buses load in lane from a median located between the cycletrack and the bus lane.

BIKEWAY PRECEDENTS

The following looks at precedents for incorporating bike facilities into a transit corridor (including not only BRT precedents, but also local bus, streetcar, and LRT) and highlights key considerations in the design of safe and efficient bike facilities. This is not intended to be an exhaustive inventory of precedents, but rather, a sampling of cases and best practices.

FACILITY TYPE: BIKE LANE OR CYCLE TRACK

Context:

Several BRT and streetcar projects have incorporated on-street **bike lanes** and in some cases, barrier-protected bike lanes (also known as **cycletracks**) alongside transit. However, the examples studied often are one-way streets, streets with limited or no on-street parking, or streets with wider right-of-ways than Penn Avenue.

Examples:

- Healthline BRT (Cleveland, OH) - Bike lanes run alongside dedicated BRT guideways.
- 1st and 2nd Avenue BRT (New York, NY) – A protected bike lane runs along left side of paired one-way streets; dedicated bus lane travels and loads along the right side of the street.
- Dunsmuir Street (Vancouver, Canada) - Two-way cycle track alongside local bus and car traffic; auto/bus traffic is one-way.
- Milwaukee Avenue (Chicago, IL) - Two-way street with buffered and protected bike lanes in both directions; local bus pulls over into **shared bicycle bus lane** to load.

Key Takeaways:

- While protected bike lanes are highly preferred by most bicyclists for riding on streets with higher traffic volumes, protected bike lanes may decrease the visibility of bicyclists, particularly when approaching an intersection. NACTO Urban Bikeway Design Guide presents recommendations and best practices for intersection design around bike lanes and cycle tracks, including mixing zones, bike boxes, intersection markings, and bicycle signal phasing.¹
- On a street with transit running along the right side, both bike lanes and cycle tracks have disadvantages: Bike lanes position the bicyclist between parked cars and the transit route, potentially placing bikes in the “door zone” of parked cars if the bike lane is not properly sized or placed or in conflict with bus boarding areas. In a cycle track, bicyclists are potentially less visible to drivers and may have more challenges with left-turning.²
- With bike lanes or cycle tracks, there is potential for bike/transit and bike/pedestrian conflicts around transit loading areas. Other cities have dealt with this issue in different ways, including:
 - › **Sidewalk detours:** Routing a bike lane to the outside of a transit station allows for buses (or streetcars) to load in-lane while reducing conflict/exposure for cyclists in the bike lane. One of the drawbacks of this design is the increased potential of conflicts with pedestrians crossing the bike path to access the station/boarding area.³

¹ NACTO, “Urban Bikeway Design Guide: Intersection Treatments,” accessed July 2014. <http://nacto.org/cities-for-cycling/design-guide/intersection-treatments/>.

² Alta Planning and Design, “Bicycle Interactions and Streetcars: Lessons Learned and Recommendations,” October 2008. http://www.altaplanning.com/wp-content/uploads/Bicycle_Streetcar_Memo_ALTA.pdf.

³ Alta Planning and Design, “Bicycle Interactions and Streetcars: Lessons Learned and Recommendations.”

- › Ramping up the bike lane to the height of the sidewalk/bus boarding area may help to slow bicyclists as they approach the station; additionally, signage and differentiated street markings can alert bicyclists to look out for pedestrians in the boarding area.
- › Far-side or midblock station locations may help to reduce bike/bus or bike/auto conflicts and visibility issues on the near side of an intersection.
- › In the example shown on the previous page from Dunsmuir Street in Vancouver, a two-way cycle track ramps up to sidewalk level through the bus boarding area, allowing bicyclists to slow for pedestrians without losing as much speed as they would maneuvering through a sidewalk detour. Bus passengers load from an island between the cycle track and the bus lane.



FACILITY TYPE: SHARED BICYCLE-BUS LANE ⁴

Context:

Shared bicycle-bus lanes, such as the configuration seen on Hennepin Avenue in downtown Minneapolis, have been installed along bus routes in various cities. This option has been considered particularly in cases where the street is too narrow to provide separate lanes for bicycles, buses, and other motor vehicles and where financial or other factors rule out widening the street. Various bikeway design guidelines recommend shared lanes for streets with moderate to long bus headways, but none of the built examples identified involve BRT specifically.

Examples:

- Hennepin Avenue (Minneapolis)
- Chestnut Street (Philadelphia, PA)
- 7th Street NW and 9th Street (Washington, D.C.)
- For other examples, refer to the shared bicycle-bus lane study

Key Takeways:

- The Hennepin Avenue shared lanes vary in width from 18.5 feet to 13.5 feet. Examples from other cities fall in a similar range. 16 feet, 7 inches is the minimum recommended width needed to allow passing within the lane.

In most of the built examples identified, no on-street parking is present adjacent to the bicycle-bus shared lane. In cases with parking lanes, the flow of traffic in the bicycle-bus lanes may be impeded by drivers searching for parking.

- While shared bicycle-bus lanes provide an option for integrating bike facilities with bus transit in constrained right-of-ways, several common issues arise in the case studies:
 - › Leap-frog effect: buses and bike repeatedly overtake each other within the shared lane, creating potential for crashes/conflicts.
 - › Perceptions on the part of bicyclists that shared lanes are unsafe/ not ideal, but better than just mixing with general traffic.
 - › Inadequate width in the shared lane for bikes to pass a stopped bus, requiring bikes to enter the general traffic lane.
 - › Confusion over where bikes should ride in the shared lane.



Examples of sidewalk detours around a transit (streetcar) stop in Portland, Oregon (top) and around a bus shelter/island in Copenhagen, Denmark (bottom).



The Hennepin Avenue shared bicycle-bus lane: Buses, bikes, and right-turning cars share the right-most lane of travel. The green -striped “advisory lane” shows bicyclists where to ride so they are more visible to motorists, but cyclists are not required to ride in this area.

⁴ Hillsman, Edward et al, “A Summary of Design, Policies and Operational Characteristics for Shared Bicycle/Bus Lanes,” July 2012. <http://www.nctr.usf.edu/wp-content/uploads/2012/11/77937.pdf>.

Key Terminology:

Bicycle Boulevard: A bicycle boulevard is a type of bikeway that is typically suited for a local street that is low-speed and low-volume. A bicycle boulevard prioritizes bicycle traffic using traffic calming features (i.e., bulb outs or traffic circles), vehicle diverters, enhanced signage for bicyclists and other means. They are intended to improve bicyclist's safety and comfort and provide an alternative to higher speed county roadways that may be more intimidating for bicyclists with less experience or confidence.

FACILITY TYPE: BIKE BOULEVARD ON LOW-VOLUME SIDE STREET

Context:

Bicycle boulevards (a type of enhanced shared roadway bike facility) are low motor vehicle-volume and low-speed streets that have been optimized for bicycle travel through treatments such as traffic calming and traffic reduction, signage and pavement markings, and intersection treatments. Bicycle boulevards have been implemented in a number of cities, and in some cases — such as the existing Bryant Avenue South bicycle boulevard in Minneapolis and the proposed Charles Avenue bike boulevard in St. Paul — this type of facility parallels a major transportation corridor where bike facilities may not be feasible due to right-of-way or funding constraints.

Examples:

- Minneapolis has six funded bike boulevard corridors:
 - › 5th Street NE and SE (including 26th Avenue NE)
 - › 22nd Avenue NE (including Arthur St NE)
 - › 40th Street E (RiverLake Greenway)
 - › Bryant Avenue S
 - › Fillmore/Polk/Tyler Streets NE (including 6th Avenue SE)
 - › Southern Bike Connection (17th Avenue S)
- Charles Avenue (St. Paul) – Planned facility
- A number of U.S. cities, including Minneapolis; Berkeley, CA; Portland, OR; and Tucson, AZ have planned for extensive bicycle boulevard networks.

Key Takeaways:⁶

- While the specific design elements of a bicycle boulevard must be tailored to the conditions of each corridor, key components of a bicycle boulevard may include:⁵
 - › Signing and pavement markings
 - › Intersection treatments
 - › Motor vehicle traffic calming
 - › Motor vehicle traffic reduction
 - › Prioritized bicycle travel on bicycle boulevard
 - › The Minneapolis Bicycle Facility Design Manual presents a range of treatments that may be appropriate for a bicycle boulevard design.
- Bicycle boulevards tend to attract less-experienced riders; bicycle lanes are critical for getting faster riders where they need to go and for overcoming major barriers. They should be used together to create a comprehensive, connected system for bicyclists.
- Bicycle boulevards may be a less expensive option compared to other bicycle facility improvements, particularly when the design builds upon existing traffic calming features.
- By locating bike facilities on parallel streets off a transit route, the chances of bicycle-bus conflicts are greatly reduced in comparison with options that include bike and bus facilities on the same street. Bicycle boulevards are not recommended for use directly on transit routes.



*Bicycle Boulevard Design Guidelines - Minneapolis Bicycle Facility Design Manual*⁶

⁵ City of Minneapolis, "Minneapolis Bicycle Boulevard Design Guidelines," April 2011. http://www.minneapolismn.gov/www/groups/public/@publicworks/documents/webcontent/convert_274501.pdf.

⁶ Walker, Lindsay et al "Fundamentals of Bicycle Boulevard Planning and Design," July 2009. <http://nacto.org/wp-content/uploads/2012/06/Alta-and-IBPI-2009.pdf>.

PLANNING AND POLICY EXAMPLES

DETROIT FUTURE CITY: 2012 DETROIT STRATEGIC FRAMEWORK PLAN (DETROIT, MI)

Context

The *Detroit Strategic Framework* articulates a shared vision for Detroit's future and recommends specific actions for reaching that future. The vision resulted from a 24-month public process that drew upon interactions among Detroit residents and civic leaders from both the nonprofit and for-profit sectors, who together formed a broad-based group of community experts. From the results of this citywide public engagement effort, a team of technical experts crafted and refined the vision, rendered specific strategies for reaching it, shared their work publicly at key points, and shaped the work in response to evolving information and community feedback throughout the process.

Key Takeaways

The Detroit Strategic Framework establishes a set of policy directions and actions designed to achieve a more desirable and sustainable Detroit in the near term and for future generations. The Strategic Framework is organized into five Planning Elements. These Elements outline a detailed approach to addressing the realities and imperatives that will enable Detroit to move toward a more prosperous future. The following summarizes key recommendations for each Planning Element:

The Economic Growth Element: The Equitable City

Transformative Ideas

- A city of robust job growth
- A city of equitable economic growth
- A city of physically and strategically aligned economic assets
- A leader in urban industrial activity
- A city of regional and global economic assets
- A city that encourages minority business enterprises
- A city of immediate and long ranging strategies for resident prosperity

Implementation Strategies and Actions

- Support four key economic pillars
- Use a place-based strategy for growth
- Encourage local entrepreneurship and minority business participation
- Improve skills and improve education reform
- Land regulations, transactions and environmental actions

The Land Use Element: The Image of the City

Transformative Ideas

- A city of multiple employment districts
- A city connecting people to opportunity
- A green city where landscapes contribute to health
- A city of distinct, attractive neighborhoods



*Detroit Future City: 2012
Detroit Strategic Framework
Plan (Detroit, MI)*

Implementation Strategies and Actions

- Create a city-wide framework for growth and investment
- Support a network of new and existing neighborhood types
- Introduce new forms of development
- Create a new and diverse open space system for the city
- Redefine corridors and complete streets
- Enact innovative regulatory reform

The City Systems and Environment Element: The Sustainable CityTransformative Ideas

- Strategic infrastructure renewal
- Landscape as 21st Century infrastructure
- Diversified transportation for Detroit and the region

Implementation Strategies and Actions

- Reform delivery system
- Create landscapes that work
- Reconfigure transportation
- Enhance communication access
- Improve lighting efficiency
- Reduce waste and increase recycling
- Actively manage change

The Neighborhoods Element: The City of Distinct and Regionally Competitive NeighborhoodsTransformative Ideas

- A city of many key assets
- A city of neighborhood choices
- A city of different strategies for different neighborhoods
- A city of diverse housing types for diverse populations
- A city of residents who engage in their own futures

Implementation Strategies and Actions

- Address quality of life challenges that affect all Detroiters
- Create dense, walkable mixed-use neighborhoods
- Regenerate neighborhoods through fusion of art and industry
- Repurpose vacant land to create green neighborhoods
- Renew traditional neighborhoods
- Utilize productive landscapes as the basis for a sustainable city

The Land and Buildings Assets Element: A Strategic Approach to Public LandTransformative Ideas

- A city that shares a vision: coordinating the management of vacant land
- A city where everything is connected: viewing vacant and problem properties with one interrelated system

- A city of strategic approaches: recognizing the uniqueness of each property's value and challenges
- A new urban landscape: using land for infrastructure and innovation
- A city where public facility investments count: aligning public facilities with land use transformation

Implementation Strategies and Actions

- Target vacant land and buildings in employment districts for economic growth
- Use vacant land as a tool for neighborhood stabilization
- Transform largely vacant areas through blue and green infrastructure
- Link public facility and property decisions to larger strategies
- Make landscape interventions central to Detroit's renewal
- Use aggressive regulatory tools to reinforce land development, reuse, and management strategies

PROSPECT CORRIDOR INITIATIVE: STRATEGIC PLAN (KANSAS CITY, MO)

Context

- The Prospect Corridor Initiative (PCI): Strategic Plan details the beliefs, planning process, and implementation strategies summarized below.
- It is a passive and active community-driven process using hands-on planning to engage and empower residents and stakeholders to create a neighborhood-based plan.
- The PCI believes that for a community to survive and thrive there must be investment into what already exists (rebuild) and opportunities for positive change (build).
- The PCI partnership is made up of city staff, community anchors, residents, and businesses.
- Neighborhood and community residents partnered with PCI staff and others to identify issues, determine roles/responsibilities for community members, integrate new and existing information throughout the planning process, and review the final plan. The process focused on a holistic approach to create an implementation strategy that gives the neighborhood and community primary responsibility for problem-solving.

Key Takeaways

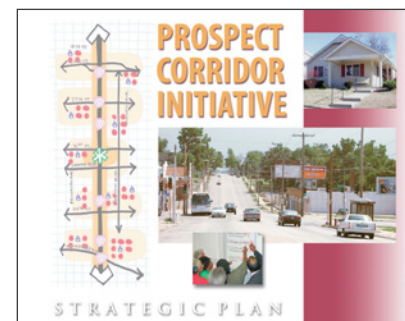
Cycle of Change:

- Prevent – what the neighborhood, community, City and agencies can do to avoid problems
- Deliver – collaboration between the community and City to maintain services and resolve problems
- Maintain – create a strategy to prevent problems from reoccurring.

Priorities of Prospect Corridor Initiative:

Business Development

- Develop and put into action: a strategy to retain existing desirable businesses, a coordinated marketing program infrastructure, a comprehensive customer service program including all businesses in the Merchants Association, and a job training/ internship program for area youth



Prospect Corridor Initiative: Strategic Plan (Kansas City, MO)

Infrastructure and Public Services

- Develop housing infill projects expanding out from areas of Corridor strength and redevelopment projects in areas of greatest need
- Based on a targeted selection of public services to improve, maintain, and strengthen the role of the community in reducing/preventing the need for those services
- Implement improvements regarding coordination, collaboration, and access to services

Healthy Community, Education, and Youth

- Reinvest in families: create educational opportunities on life skills, job skills
- Celebrate culture and create a stronger sense of neighborhood
- Implement KC Safe City strategies to reduce high visibility “disorder” issues along Prospect, such as prostitution and drug dealing
- Develop inter-generational programs to improve communication and collaboration between youth and elderly in the Corridor

STRATEGIC STORMWATER SOLUTIONS FOR TRANSIT-ORIENTED DEVELOPMENT - CENTRAL CORRIDOR (SAINT PAUL, MN)

Context

- The report study area is within a developed urban corridor that is undergoing redevelopment, partially due to construction of the Green Line LRT and its stations.
- The Green Line LRT corridor runs along many small, space-constrained, urban redevelopment parcels where numerous programmatic requirements are competing for valuable space.
- Study area has many engaged stakeholders with varying cultures and demographics.
- Shared, stacked-function green infrastructure (SSGI) was studied in the report as a stormwater treatment methodology that provides a “triple bottom line” benefit: economic, environmental, and social improvements that support livability.
- SSGI can be implemented through various approaches, including: new public parks/ open spaces, shared parking facilities, green alleys, and street right-of-way. These approaches can be integrated with other land uses including parks or boulevards to attain multiple functions, potentially including public art.
- SSGI can be applied to various site sizes.
- SSGI implementation tools including a SSGI assessment tool, decision-making flowcharts and matrices, and educational/outreach materials are provided in the report.



Strategic Stormwater Solutions for Transit-Oriented Development - Central Corridor (Saint Paul, MN)

Key Takeaways

- The project was successful in starting the conversation about SSGI along the Central Corridor. Despite barriers to actual implementation, the project’s site plans garnered the interest of people from political, development, and planning arenas in St. Paul and Minneapolis.
- The development of SSGI will likely require a public-private partnership led by the sponsoring city. The project’s Stakeholder Advisory Committee (SAC) was successful in bringing together a diverse group of people, including cities, watershed districts, and private entities.
- If elected/appointed officials choose to move beyond pilot studies into a long-term implementation mode of SSGI, it will likely require modification of existing stormwater rules and local ordinances.

- Institutionalization of SSGI into agency processes is critical to its implementation.
- Due to the range of possible development types, a “one-size-fits-all” approach for SSGI will not be beneficial.
- The project team is very interested in pursuing a pilot implementation of SSGI on a site using the framework developed in the study.

THE BIG PICTURE PROJECT: ALIGNING HOUSING PLANS ALONG THE CENTRAL CORRIDOR - TWIN CITIES AFFORDABLE HOUSING POLICY/STRATEGY (SAINT PAUL, MN)

Context

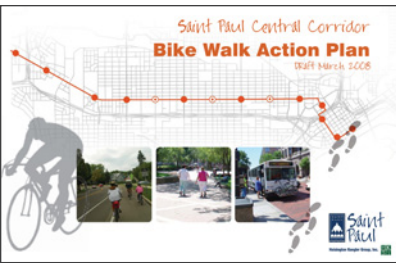
Affordable housing is critical to creating access to opportunities for those most in need. Investments in affordable housing must integrate anti-displacement and foreclosure prevention, market rate housing, small business opportunities and jobs, schools, green space, good design principles, and positive placemaking.

Key Takeaways

- Placemaking means different things to different, diverse communities along the corridor.
- Housing needs to both respond to current contexts and seed future opportunities. Families here need to be supported to stay and thrive, while drawing new residents into the community.
- Invest in the production and preservation of long-term affordable housing through additional TOD resources; value capture and tax incentive strategies; strengthening non-profit and public housing developers; and promoting non-traditional development models.
- Stabilize the neighborhood and invest in activities that help people stay in their homes such as mortgage foreclosure prevention, home improvement programs, and reuse of vacant and foreclosed properties.
- Strengthen families through coordinated efforts by creating jobs, small business opportunities, cultural institutions, public art, green space, and connectivity
- Top action priorities for success include:
 - › Financial tools that best respond to critical housing gaps and clarity around limitations of different financial resources
 - › Investment tools that provide a vehicles for private investment
 - › Innovative solutions that reduce housing costs for people with low incomes
 - › Connection between local community place-making/priorities and regional efforts to strengthen affordable housing options and equitable TOD



The Big Picture Project: Aligning Housing Plans along the Central Corridor - Twin Cities Affordable Housing Policy/Strategy (Saint Paul, MN)



Bike Walk Central Corridor Action Plan (Saint Paul, MN)

BIKE WALK CENTRAL CORRIDOR ACTION PLAN (SAINT PAUL, MN)

Context

This Bike Walk Action Plan was prepared to maximize biking and walking within Saint Paul’s Central Corridor and to enhance access to the Central Corridor light rail transit (LRT) line. The Central Corridor LRT line (Green Line) has greatly expand mobility options and changed the environment of University Avenue, the State Capitol area and downtown Saint Paul. The bicycle and pedestrian improvements recommended in this Plan, coupled with LRT access and bus system changes, will create tremendous new non-vehicular transportation options. This Plan contains an evaluation of existing pedestrian and bicycling conditions, bikeway and walkway framework plans, and recommended priority actions to improve biking and walking.

Key Takeaways

Key Elements of the Bikeway Plan

- Create a network of bikeways on lower volume streets (regional, commuter and local bikeways)
- Create a regional bikeway loop around the Central Corridor
- Add commuter bike routes along secondary streets (E–W and N–S). Use existing pedestrian/bike bridges over I-94
- Improve bike connections in and out of downtown
- Calm vehicular traffic downtown and on local bike boulevards
- Create landscaped bike and pedestrian friendly streets connecting to University Avenue and in downtown
- Install a comprehensive bike route way-finding system and secure bike parking
- Create a new off-road multi-use trail (Midtown Greenway) along the railroad corridor

Key Elements of the Walk Plan

- Make walkways along major streets and in downtown more pedestrian-friendly by implementing wider sidewalks with high quality landscaping, and adding decorative pavement, street furnishings and pedestrian scale overhead lighting
- Make crossing streets safer and more convenient by adding more traffic signals, adjusting walk time at signals, installing pedestrian refuge islands, heightening traffic law enforcement, using pedestrian-oriented intersection design, and installing traffic-calming strategies such as narrowing streets and travel lanes, expanding visual corridors, and reducing speed limits
- Fill key sidewalks gaps, particularly west of Fairview
- Create more pedestrian-friendly destinations near LRT stations
- Improve the look and feel of pedestrian/bike bridges across I-94
- Install a comprehensive pedestrian-scale way-finding system

CORRIDOR EXAMPLES (NATIONAL)

TROOST CORRIDOR ACTION PLAN (KANSAS CITY, MO)

Context

Kansas City's Southtown Council initiated the Troost Avenue Corridor Action Plan. The plan is intended to guide corridor improvements, long-range development activity, design parameters, and implementation strategies.

Key Takeaways

The Troost Corridor Action Plan supports redevelopment initiatives that promote a diverse environment. The following plan elements guide future improvements and redevelopment:

Guiding Principles

- Preserve and enhance the corridor's diverse character; promote mixed-use structures with ground level retail
- Preserve "gems" and seek infill opportunities; promote the redevelopment of vacant parcels; the preferred strategy is to infuse the corridor with additional medium-density residential units
- Promote the preservation of the established neighborhood framework through redevelopment of parcels that face Troost Avenue
- Promote private property enhancements – landscaping, building façade treatment, and signage systems
- Cluster mixed-use and commercial development at key nodes along the corridor
- Promote a distinctive image or "sense of place" along the corridor; incorporate a thematic approach into streetscape amenities through icons and gateway features
- Create a diverse, 24-hour, mixed-use corridor by promoting development practices that reestablish neighborhood centers at key intersections
- Seek and market development and businesses that are conducive to a neighborhood-oriented environment; seek quality destination enterprises that provide goods and services which have a greater attraction and market outside of the Troost Corridor

Urban Design

- Focus on gateway improvements; gateways reinforce a sense of place and identity
- Streetscape improvements should be designed to promote a pedestrian-friendly environment
- Enhance street lighting to create a sense of identity and a safe environment
- Provide street trees to create a continuous canopy, color, comfort and seasonal variety
- Signage should direct users and reinforce identity

Design Guidelines

Design guidelines provide a framework for future improvements and development on the corridor. They address the following:

- Streetscape and Public Right-of-Way
- Development and Architectural Character
- Signage and Wayfinding
- Landscaping
- Lighting



*Troost Corridor Action Plan
(Kansas City, MO)*

Implementation

The plan provides a list of implementation tools, including:

- Special Review District (SRD) – A SRD designation is an overlay zoning category that does not change the use of property, but addresses physical and visual qualities of initiatives in the area
- Community Improvement Districts (CID), Neighborhood Improvement Districts (NID), and Special Assessment Districts (SAD) – These tools can help fund improvements and maintenance of investments within the district
- Tax Increment Financing (TIF)
- Tax Abatement
- Planned Industrial Expansion Authority (PIEA) – The PIEA was established to encourage commercial and industrial development in specifically designated redevelopment areas
- Design and Technical Assistance
- Revolving Loan Funds – These can be utilized to provide assistance for revitalization of properties

HULL STREET CORRIDOR REVITALIZATION PLAN (CITY OF RICHMOND AND CHESTERFIELD COUNTY, VA)

Context

The Hull Street Corridor Revitalization Plan provides a comprehensive, implementation-oriented strategy for creating sound, economically sustainable quality of life enhancements along a 4.7 mile stretch of the Hull Street Road, a culturally diverse corridor, extending through the City of Richmond and Chesterfield County, Virginia. The improvements include strong and safe multi-modal connections, transportation infrastructure upgrades, visual and physical enhancements, improved housing options, expanded job opportunities, and critical recreational and environmental investments needed to transform the Hull Street corridor from an unsafe and rundown corridor, dotted with vacant properties, into a vital, vibrant place where people from both the area and the region want to live, shop, work, and be entertained.

Key Takeaways

- The planning process emphasized the value of active and frequent community engagement in order to define a vision for the Hull Street corridor that is responsive to the needs of residents and businesses within and near the study area.
- Investment in the corridor focused on helping existing businesses and local entrepreneurs succeed and expand, and improving the physical setting of the corridor — its aesthetics and its pedestrian, bicycle and transit accommodations — so that the community could begin marketing to outside companies.
- The transformation of the Hull Street “image” began with identifying areas with the greatest potential for initiating significant change – vacant, underutilized and rundown properties located at key nodes.
- Workforce development and job accessibility were priorities for initiating revitalization.
- The market/economic strategy for the corridor’s future included both improved aesthetics and the creation of exciting new mixed-use clusters at key intersections to attract prospective customers, residents and businesses.
- Concentrating retail activity at major intersections improved the corridor’s appearance and ability to compete for customers.



Hull Street Corridor Revitalization Plan (City of Richmond and Chesterfield County, VA)

- The guiding principles for this transformation, drawn from Federal sustainability and livability criteria, were:
 - › Create “places” not just shopping centers by locating a mix of compatible uses within walking distance of each other
 - › Make the street a comfortable place to walk
 - › Provide road networks that offer viable “walk and ride” options
 - › Attract an economically diverse range of people to the corridor to support a broad range of new and better uses
 - › Protect existing residential communities while creating new housing for a range of income levels
 - › Provide easy access to parks and other green spaces



Sidewalk seating, vibrant streetwall



Housing that addresses the street



Mixed use with attractive storefront

CORRIDOR EXAMPLES (LOCAL)

SELBY AVENUE (SAINT PAUL, MN)

Context

- Primarily residential corridor
- Several successful, vibrant mixed-use nodes
- Connects several neighborhoods
- Varying cultures and demographics along the corridor
- Multi-modal: provisions for bus, vehicle, and pedestrian movement
- District identity elements reinforce neighborhood identity
- Community pride is evident
- Corridor transformation/revitalization – overcoming crime and safety issues
- Vacant properties
- Rich African American history
- Many non-profits located in the corridor
- Scale of street right-of-way Similar to Penn Avenue

Key Takeaways

- Small, independent businesses have an opportunity to thrive
- The community organized around the central goal of creating a vibrant, family and culture-centered neighborhood
- Short-term actions:
 - › Joint marketing/communications
 - › Centralize organization
 - › Leverage transportation connections
- Medium-term actions:
 - › Business recruitment
 - › Build entrepreneurial capacity
- Long-term actions:
 - › Implement selected economic development strategies
- Selby Avenue Business Association and the Selby Avenue Action Coalition have played significant roles in the revitalization of Selby over the past 30 years.
- Neighborhood “champions” have been critical to success of the revitalization
- Streetscape improvements have made key nodes attractive and safe for pedestrians
- Planning policies encourage mixed-use nodes

GRAND AVENUE (SAINT PAUL, MN)

Context

- Primarily residential corridor
- Several successful, vibrant mixed-use nodes
- Several public/private institutions along corridor
- Connects several neighborhoods
- Multi-modal: provisions for bus, vehicle, and pedestrian movement
- District identity elements reinforce neighborhood identity
- Several places of worship
- Scale of street right-of-way similar to Penn Avenue

Key Takeaways

- Streetscape improvements have made key nodes attractive and safe for pedestrians
- Grand Avenue Business Association has played a key role in the success of business development
- Planning policies encourage mixed-use nodes
- Several successful nodes exist along the corridor
- Key node characteristics/elements include:
 - › Mixed-use
 - › Neighborhood serving retail, shops, and services
 - › Dining, arts and entertainment
 - › Housing density
 - › Compact development patterns
 - › Vibrant public realm – streetscape, pocket parks
 - › Public institutions play an important role at several nodes
 - › Multi-modal facilities
 - › Walkable, pedestrian scaled built environment
 - › Continuous street wall – building facades
 - › Healthcare facilities (clinics/office) are increasingly being integrated
 - › Grocery stores/markets
 - › Public parking
 - › Reuse of single-family residential buildings for retail spaces



Comfortable and inviting sidewalk character



A mix of housing types along the street edge



Housing density with strong street presence



Streetscape amenities serving transit stop



Street furniture and amenities



Streetscape amenities in high activity areas

LAKE STREET (MINNEAPOLIS, MN)

Context

- Hennepin County State-Aid Highway within the city of Minneapolis
- Connects 10 neighborhoods
- Engaged stakeholders with varying cultures and demographics
- Addressed multi-modal provisions with bus, vehicle, bicycle and pedestrian movement
- Provided image/identify elements to reinforce neighborhoods
- Provided continuous streetscape
- Extensive public involvement process that engaged each of the neighborhoods, residential and commercial properties, multiple ethnic communities
- Required the approval of the neighborhoods, the City Council and the County Board

Key Takeaways

- State-aid design standards are important to be addressed commencing with project initiation
- City and County policies for funding need to be clearly understood by all stakeholders
- Defined neighborhood groups must take ownership of establishing their image and identity needs
- Accommodation of a multi-modal approach within a set right-of-way requires compromise
- Project success will frequently require multiple funding sources, each with their respective requirements
- Streetscape projects in Minneapolis will normally require special service districts
- It is imperative that representatives to formal planning committees serve as active and able liaison with their respective neighborhood groups or communities
- Special outreach methods may be required to realize effective input from ethnic communities
- Impact of special assessments on property owners – many businesses struggled and closed due to assessments.
- Lake Street Council played an active role in shaping the Lake Street Corridor improvements.

INTERSECTION EXAMPLES (LOCAL)

As noted earlier, the majority of the potential redevelopment sites along Penn Avenue exist at major intersections. Comparable intersections in Minneapolis and Saint Paul were analyzed to identify characteristics and land uses common to creating successful, vibrant places.

The following is a summary of characteristics, elements and land uses identified at these precedent intersections.

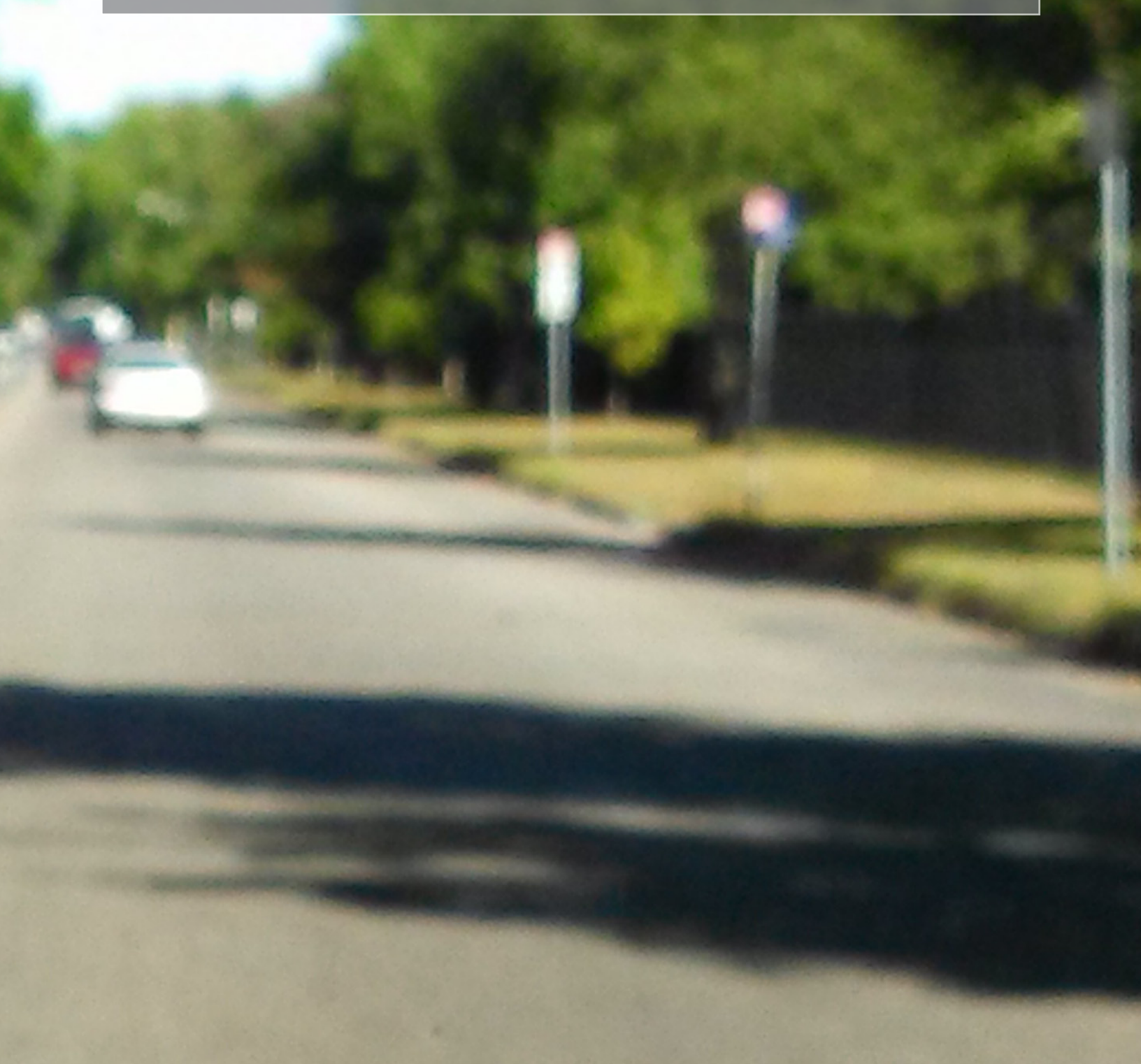


FIGURE 12-1: SELBY AVENUE AND DALE STREET (SAINT PAUL, MN)



SELBY AVENUE AND DALE STREET (SAINT PAUL, MN)

Characteristics/Elements

- Mixed-use buildings
- Compact development pattern
- Housing density
- Sidewalk cafes
- Bicycle parking
- Nice Ride facilities
- Building signage
- Awnings/canopies
- Graphic banners w/district identity
- Tree canopy (street trees)
- Potted plants
- Outdoor seating/benches
- Pedestrian scaled lighting
- Parking to rear of buildings
- Buildings front the street
- On-street parking

- Bumpouts occur at residential intersections
- Special sidewalk paving materials
- Signalized intersection
- Bus stop/shelter provided

Land Uses

- Residential (SF/MF)
- Restaurants and bars
- Grocery store
- Kitchen/bath remodeling (office/showroom)
- Salon/Beauty
- Coffee shop
- Bakery
- Clothing stores
- African hair braiding
- Neighborhood Energy Connection
- Dry cleaners
- Home remodeling studio
- Auto repair shop



Sidewalks scaled to landuse and pedestrian activity

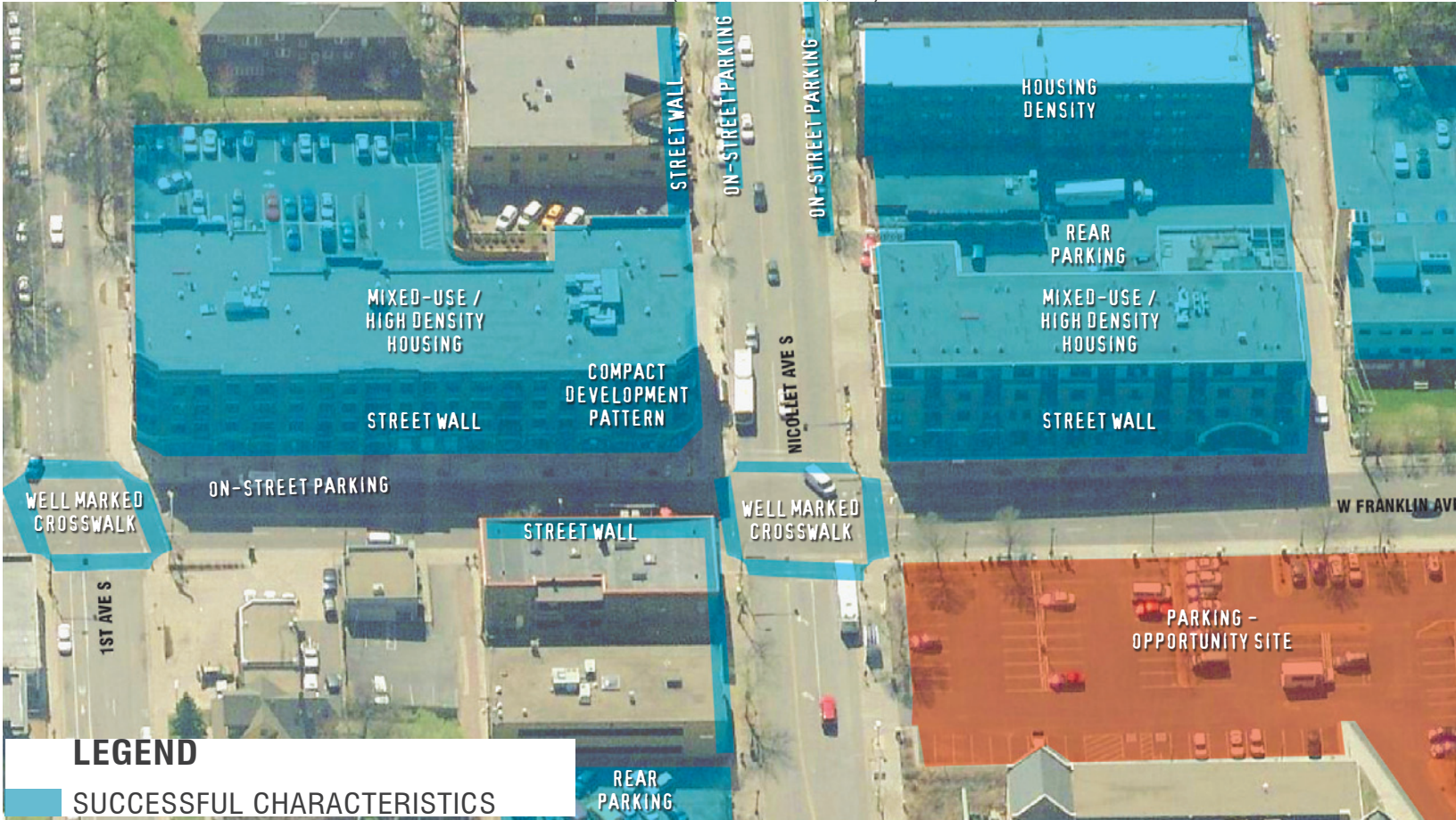


Bike sharing station



Store fronts with good visibility (large windows that address the street) and pedestrian scale lighting

FIGURE 12-2: NICOLLET AVENUE AND FRANKLIN AVENUE (MINNEAPOLIS, MN)



NICOLLET AVENUE AND FRANKLIN AVENUE (MINNEAPOLIS, MN)

Characteristics/Elements

- Mixed-use buildings
- Compact development pattern
- Housing density
- Bicycle parking
- Building signage
- Awnings/canopies
- Tree canopy (street trees)
- Potted plants
- Outdoor seating/benches
- Pedestrian scaled lighting
- Parking to rear of buildings
- Buildings front the street
- On-street parking
- Signalized intersection
- ADA ramps/truncated domes
- Bus stop/shelter provided

Land Uses

- Residential (MF)
- Restaurants and bars
- Coffee shop
- Pharmacy
- Realty agency
- Fast food
- Liquor store
- Florist
- Child care
- Pet clinic
- Healthcare clinics
- Church
- Emergency food shelf
- Money exchange
- Dental office



Pedestrian environment reinforced with trees, plantings and strong street wall

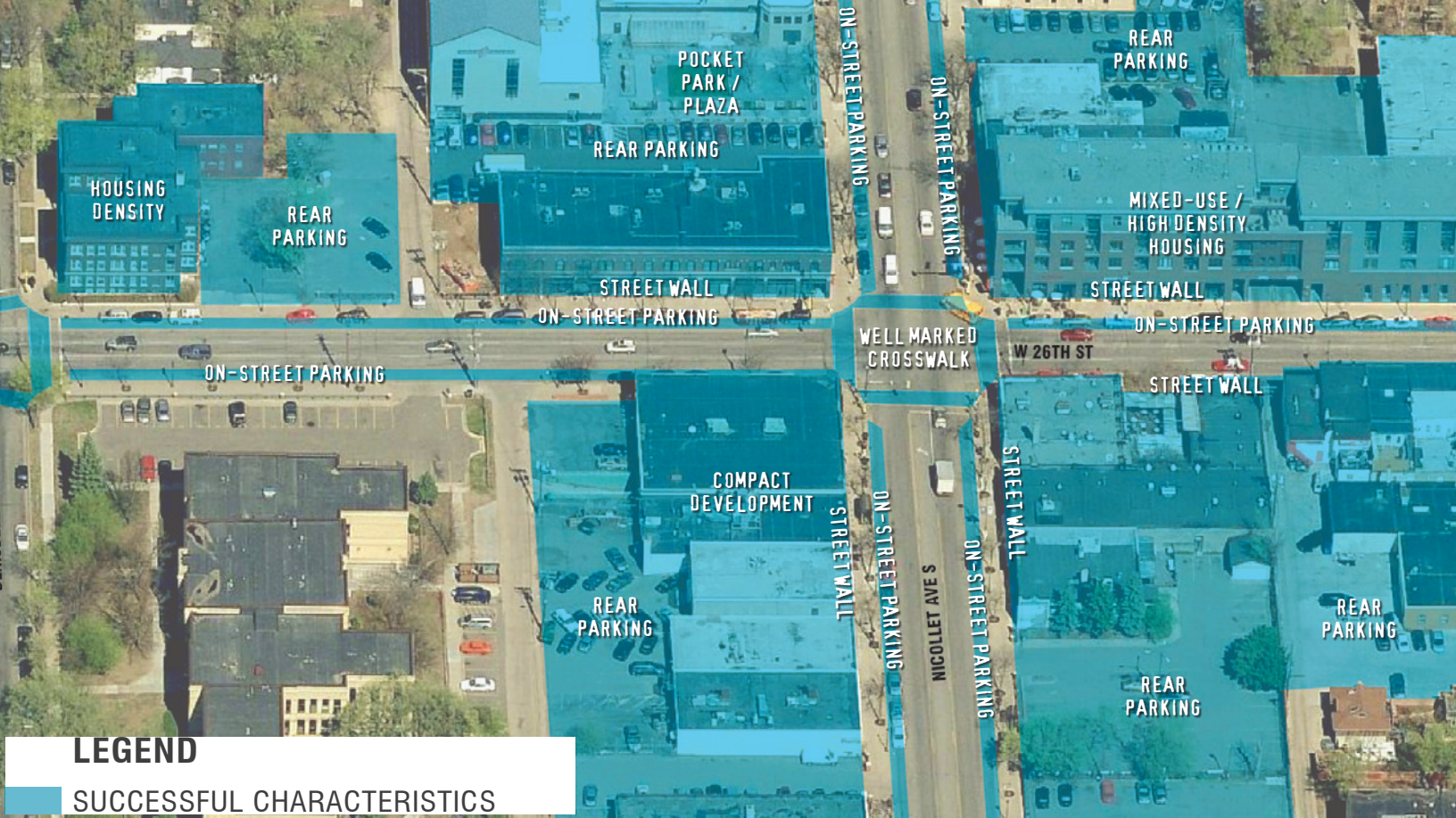


Mixed use and strong street wall



Intersection anchored by mixed use and strong street wall and quality architecture

FIGURE 12-3: NICOLLET AVENUE AND 26TH STREET (MINNEAPOLIS, MN)



NICOLLET AVENUE AND 26TH STREET (MINNEAPOLIS, MN)

Characteristics/Elements

- Mixed-use buildings
- Dining destination – “Eat Street”
- Compact development pattern
- Housing density
- Sidewalk cafes
- Pocket parks/plazas
- Bicycle parking
- Nice Ride facilities
- Building signage
- Awnings/canopies
- Graphic banners w/district identity
- Tree canopy (street trees)
- Potted plants
- Outdoor seating/benches
- Pedestrian scaled lighting
- Parking to rear of buildings

- Buildings front the street
- On-street parking
- Special sidewalk paving materials
- Signalized intersection
- Bus stop/shelter provided

Land Uses

- Residential (MF)
- Restaurants and bars (multi-cultural food)
- Deli
- Coffee shops
- Catering
- Vertical Endeavors – rock climbing facility
- Boutique clothing stores
- Vintage clothing stores
- Professional offices
- Card/gift shop
- Asian food market
- Yoga studio
- African American Family Services
- Payday America – Loans
- Music recording studio
- Elementary school (Whittier)
- Community organization offices (Whittier)



Intersection anchored by mixed use and strong street wall and quality architecture

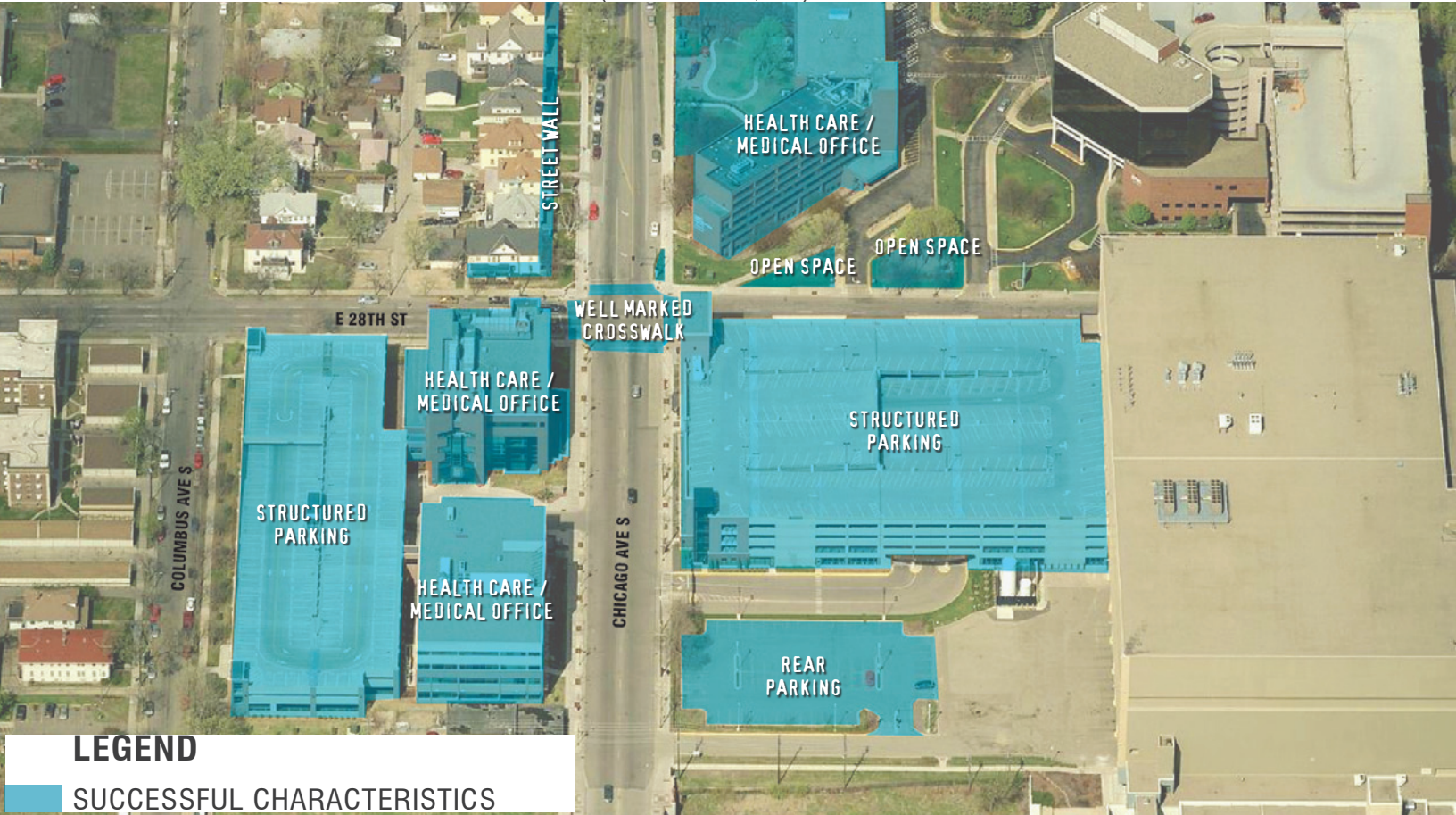


Plaza with seating, shade, and art in support of local business



Quality building façade with large windows, tasteful signage and architectural interest

FIGURE 12-4: CHICAGO AVENUE AND 28TH STREET (MINNEAPOLIS, MN)



CHICAGO AVENUE AND 28TH STREET (MINNEAPOLIS, MN)

Characteristics/Elements

- Health and wellness district
- Compact development pattern
- Housing density
- Structured parking
- Bicycle parking
- Nice Ride facilities
- Building signage
- Tree canopy (street trees)
- Outdoor seating/benches
- Pedestrian scaled lighting
- Buildings front the street
- On-street parking
- ADA ramps/truncated domes
- Signalized intersection
- Bus stop/shelters
- Graphic banners with district identity

Land Uses

- Hospital
- Clinics
- Medical Office
- Medical research institutions
- Residential
- Child care
- Florist
- Bike shop/repair
- Midtown Greenway



Health and wellness related business

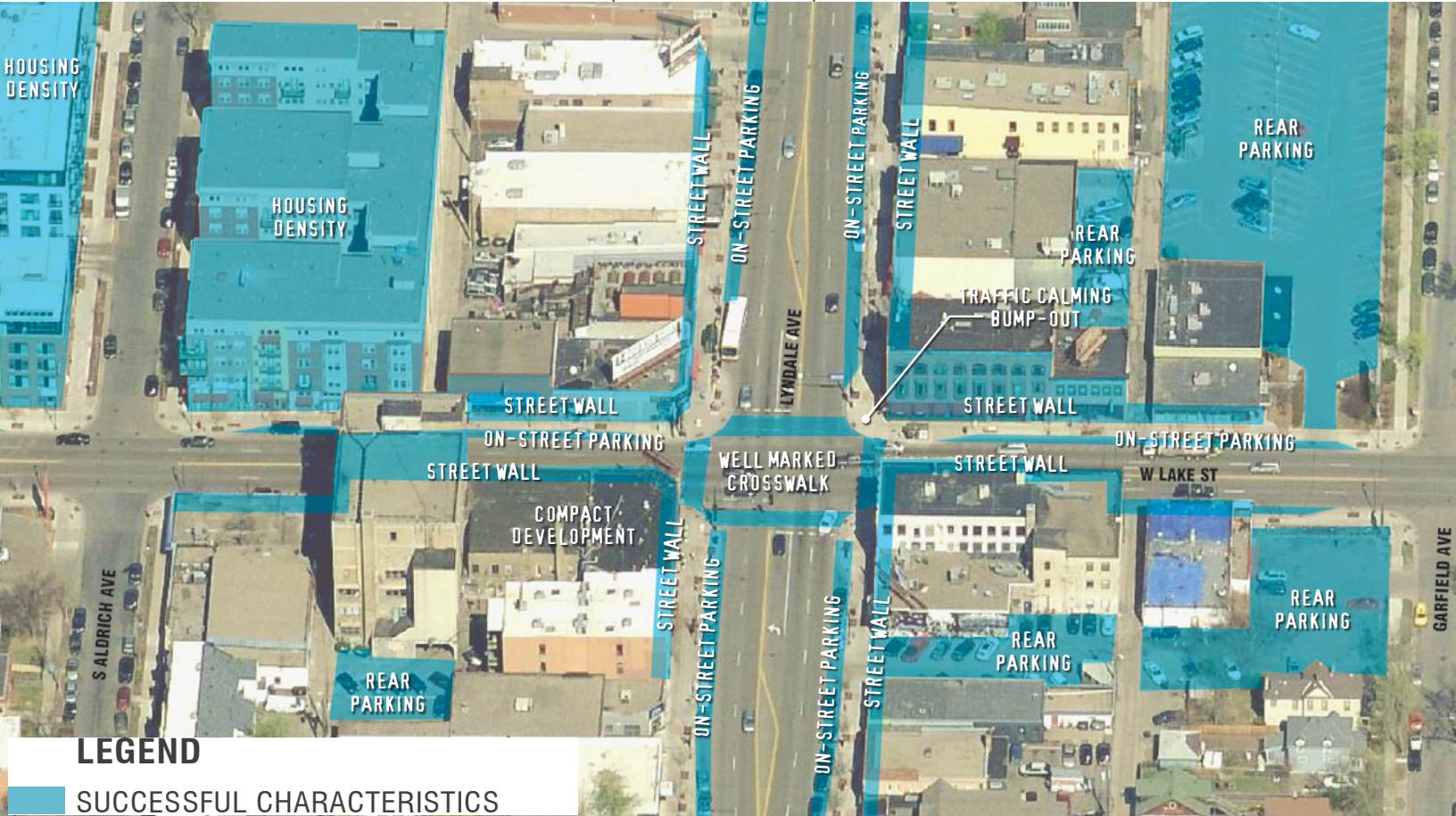


Building with strong streetwall and well articulated entrance



Streetscape with adequate width for pedestrian movement and streetscape amenities (trees, lighting, bike parking, etc)

FIGURE 12-5: LAKE STREET AND LYNDALE AVENUE (MINNEAPOLIS, MN)



LAKE STREET AND LYNDALE AVENUE (MINNEAPOLIS, MN)

Characteristics/Elements

- Mixed-use buildings
- Compact development pattern
- Arts/entertainment node
- Housing density
- Access to the Midtown Greenway
- Sidewalk cafes
- Bicycle parking
- Nice Ride facilities
- Strong architectural features
- Significant historic architecture
- Building signage
- Banner graphics w/district identity
- Awnings/canopies
- Tree canopy (street trees)
- Potted plants
- Outdoor seating/benches

- Pedestrian scaled lighting
- Parking to rear of buildings
- Buildings front the street
- On-street parking
- Signalized intersection
- Bumpouts
- ADA ramps/truncated domes
- Bus stop/shelter provided
- Building murals

Land Uses

- Residential (MF)
- Restaurants and bars (multi-cultural food)
- Theaters (Jungle Theater/Bryant Lake Bowl)
- Bowling
- Bike shops
- Boutique shops
- Tattoo parlor
- Food markets
- Professional offices
- Mobile phone store
- Tobacco shop
- Clothing stores
- Brewpubs
- Coffee shops
- Beauty/salon
- Jewelry store
- Martial arts center
- Gas station
- Pet shop



Attractive storefront serviced by streetscape amenities



Mixed use buildings which address the street



Mixed use supporting special event

FIGURE 12-6: UNIVERSITY AND 13TH AVENUE (MINNEAPOLIS, MN)



UNIVERSITY AND 13TH AVENUE (MINNEAPOLIS, MN)

Characteristics/Elements

- Arts district
- Neighborhood scaled dining node
- Mixed-use buildings
- Compact development pattern
- Sidewalk cafes
- Graphic banners w/district identity
- Pocket parks
- Bicycle parking
- Nice Ride facilities
- Building signage
- Awnings/canopies
- Potted plants
- Outdoor seating/benches
- Pedestrian scaled lighting
- Parking to rear of buildings
- Buildings front the street

- On-street parking
- Signalized intersection
- ADA ramps/truncated domes
- Well-marked pedestrian crossings
- Building murals

Land Uses

- Residential (SF/MF)
- Restaurants and bars
- Postal Workers Union
- Art galleries
- Theater
- Tattoo Parlor
- Health Clinic
- Early Learning Center
- Salon/Beauty



Mixed use adjacent to housing density



Vertical and horizontal mixed use



Outdoor seating with shading and planting, pedestrian travel lane retained

FIGURE 12-7: LAKE STREET AND WEST RIVER PARKWAY (MINNEAPOLIS, MN)



LAKE STREET AND WEST RIVER PARKWAY (MINNEAPOLIS, MN)

Characteristics/Elements

- Mixed-use buildings
- Compact development pattern
- Housing density
- Public art
- Public plaza
- Buildings front parkway – separated from parkway with public plaza
- Structured parking/parking to rear of buildings
- Building signage
- Bike parking
- Nice Ride facilities
- Bus stop/shelter
- Pedestrian-scaled lighting
- Outdoor dining
- Tree canopy/street trees
- Outdoor seating/benches
- Planted boulevards

- Private plantings
- Potted plants
- Front stoops
- Public parking
- Events in plaza – music, etc.
- Strong architectural features

Land Uses

- Residential (SF/MF)
- Restaurant/bar
- Coffee shop
- Pizza shop
- Paper shop/gift store
- Graphic s company
- Park/Parkway



Mixed use development with clearly articulated entrance, public art and plaza space



Public art and planter



Bike share station in high activity area

KEY TAKEAWAYS

Similar to the intersections that exist along Penn Avenue, each local precedent intersection studied is composed of various land uses and urban design elements — built form, density, streetscape features, transportation options, etc. Each intersection plays a different role in the context of the community it's located within and each may include a greater concentration of particular uses than others. In some instances, an intersection may include a concentration of restaurants and food markets, such as Nicollet Avenue and 26th Street (aka "Eat Street"). In another instance, the intersection may include a concentration of health and wellness uses, such as Chicago Avenue and 28th Street. The concentration of a set of uses may create a sense of identity (theme) for that intersection. However, the real value in this examination is to identify the characteristics and urban design elements common to each that contribute to the success and vibrancy of that intersection. The following is a list of characteristics and elements common to the local precedent intersections:

Common Characteristics/Elements

- Compact development patterns
- Mixed-use buildings
- Housing density
- Sidewalk cafes
- Pocket parks/plazas
- Bicycle parking
- Nice Ride facilities
- Attractive building signage
- Awnings/canopies
- Graphic banners w/district identity
- Tree canopy (street trees)
- Potted plants
- Outdoor seating/benches
- Pedestrian scaled lighting
- Parking to rear of buildings
- Buildings that front the street
- On-street parking
- Signalized intersections
- Transit options
- Bus stop/shelter

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