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Hopkins Downtown: Bridging the Historic Mainstreet with the Future of Light Rail

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PROBLEM STATEMENT

The City of Hopkins seeks the tools necessary to maximize the potential of the downtown light rail transit (LRT) station on the proposed Southwest Transitway, especially in terms of:

- Redevelopment around the station and
- Connecting the station area to downtown/Mainstreet

The city intends the downtown station, and the planning efforts connected with it, to provide opportunities for redevelopment and the attraction of visitors, as well as to enhance the existing downtown experience.

INTRODUCTION

Hopkins, Minnesota is an incorporated city of roughly 18,000 people, and occupies an approximate area of four square miles in the southwestern portion of the Twin Cities metropolitan area. Unique within the inner-suburban areas of the metro, Hopkins developed long before being captured into the metropolitan orbit of the Twin Cities. A product of late-nineteenth century railroad building, Hopkins grew up along a major rail corridor as a traditional Midwestern small town along branches of the Minneapolis and Saint Louis Railroad and the Great Northern Railroad, as well as what would eventually become the Chicago, Milwaukee, Saint Paul, and Pacific Railroad's transcontinental mainline.[1] By 1905, high-speed electric, interurban streetcar service – part of Twin City Rapid Transit's line to Lake Minnetonka – had also reached Hopkins.[2] As a result of its initial development as a late-nineteenth century railroad town, rather than a mid-twentieth century suburb, Hopkins developed as a compact, full-service community, centered on a “Mainstreet” business district.

During the mid and late-twentieth century, much more automobile-oriented bedroom suburbs grew up around Hopkins and now surround the community on all sides. Hopkins' own transportation infrastructure is now primarily road based as well, with Trunk Highway 7 - north of downtown, US Highway 169 - immediately to the east of downtown, and Excelsior Boulevard - immediately to the south of downtown. These routes form the primary regional transportation infrastructure of Hopkins. Of the three railroads which once served Hopkins, only a truncated, single-track shadow of the Milwaukee Road main remains active as the Twin Cities and Western Railroad. (The Minneapolis & Saint Louis' and Great Northern's rights-of-way have been converted to

[1] Totten & Timken, ed. 1965.
[2] Isaacs, 2005.

regional multi-use trails.) The last streetcar ran to Hopkins in 1951,[1] though its route is largely duplicated by Metro Transit bus routes.[2]

Today, downtown Hopkins survives as a vibrant center of commerce and entertainment for the city. The relatively new Center for the Arts, featuring a 750-seat theatre, art gallery, and educational and meeting space, is a growing regional destination located right on Mainstreet. Unusual in having a well-preserved small town Mainstreet relatively close in to the heart of the metro, downtown Hopkins has become something of a unique regional entertainment destination. In addition to retaining its vibrancy and importance, downtown Hopkins retains much of its traditional built form, with classical Midwestern two- and three-storey storefronts built right up to the sidewalk. The residential areas immediately surrounding the downtown have a similarly traditional form, characterized by a fully-interconnected orthogonal street grid, short blocks, mid-block alleys, and two-storey houses built on relatively small lots.

[1] Ibid.

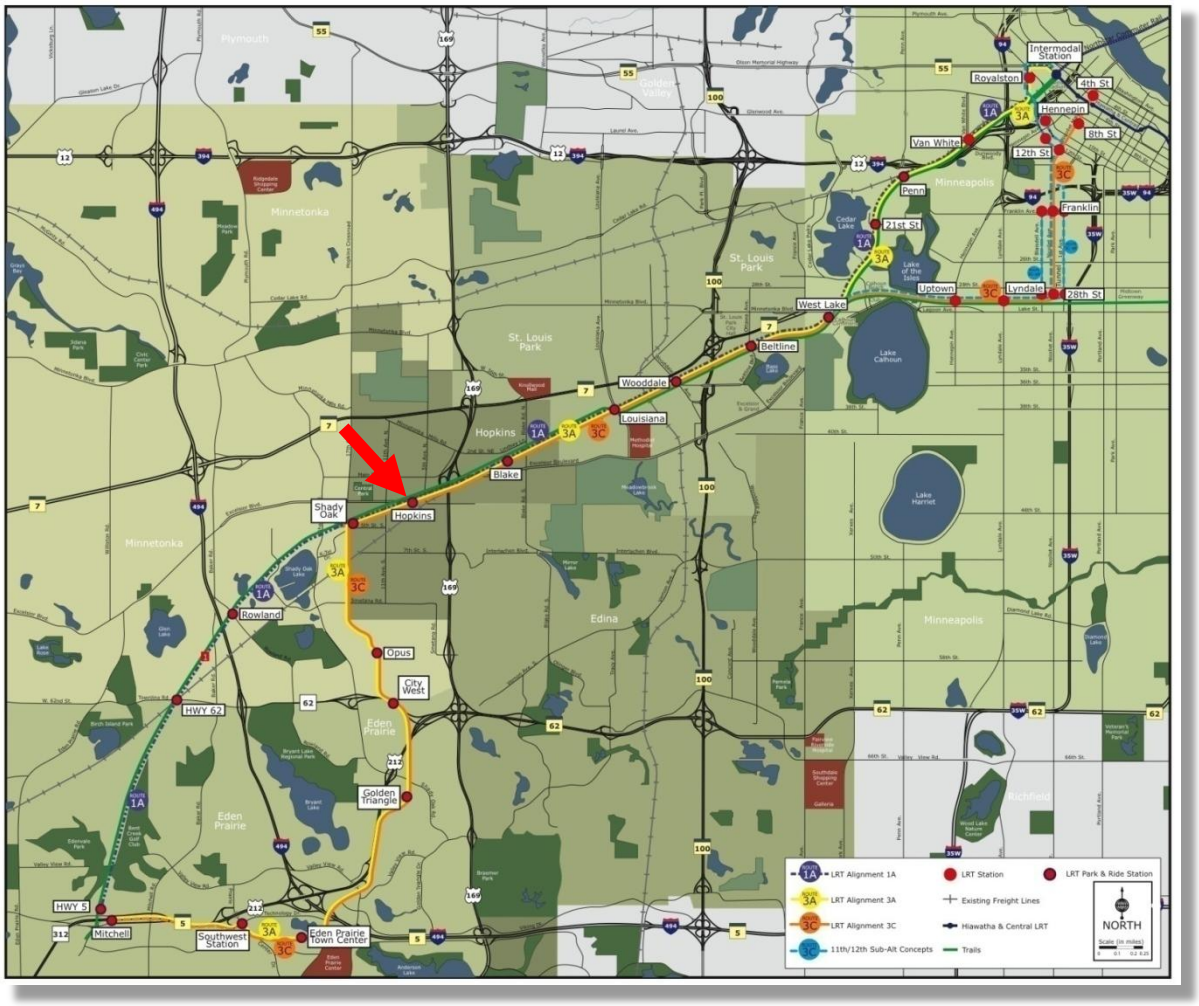
PROJECT DESCRIPTION

In terms of transportation, the City of Hopkins may soon come full circle, thanks to the proposed Southwest Transitway. Currently nearing the end of the Alternatives Analysis phase of the Federal Transit Administration (FTA) New Starts funding process, the options under consideration for the Transitway have been narrowed to four generally similar route options.[3] All of the remaining options feature LRT and all would run through Hopkins on the former Minneapolis & St. Louis right-of-way currently owned by the Hennepin County Regional Railroad Authority (HCRRA). Three stations are planned for Hopkins, one each at Blake Road, Downtown Hopkins, and Shady Oak Road. This project focuses on the Downtown Hopkins station, located at the intersection of Eighth Avenue and Excelsior Boulevard. Though plans call for some degree of transit-oriented development (TOD) around each of the three Hopkins stations, the Blake Road and Shady Oak Road stations are envisioned as largely park-and-ride oriented. The City of Hopkins intends the Downtown Hopkins station, on the other hand, as a focal point of transit- and pedestrian-oriented development, and as a catalyst to strengthen and maintain the viability of Mainstreet.

The primary challenge presented by the Downtown Hopkins station site is that the platform is not actually located in Downtown Hopkins. On the positive side, the station site lies well within reasonable walking distance of downtown; the intersection of Mainstreet and Eighth Avenue is slightly less than a quarter-mile away and the pedestrian environment along Mainstreet itself is of high quality.

[2] Anon. 2008.
[3] Southwest Transitway, 2009.

On the negative side, the inviting Mainstreet business district is not visible from the station site and Eighth Avenue itself does not present a particularly inviting environment to pedestrians. In addition, though Mainstreet is roughly a quarter-mile from the station site at its closest point, most of the downtown business district is some distance east/west along Mainstreet from its intersection with Eighth Avenue. The primary goal of the City of Hopkins is to redevelop Eighth Avenue so that it becomes "pedestrian seductive," such that even a single view of it from a briefly pausing train is sufficient to entice people down its length to Mainstreet.



Hopkins downtown station (red arrow) is located about halfway along the line between downtown Minneapolis and its southern terminus in Eden Prairie.

The station is one of three stations to be located in Hopkins. Previous planning efforts in Hopkins focused on a high-level analysis of potential around stations in the area and possible improvements needed to maximize that potential.

Current planning efforts by Hennepin County are addressing redevelopment potential and options at a more detailed level.

(Source: Hennepin Co.)

The first steps in the station area planning process have already been taken by the City of Hopkins and culminated in October 2007 with a report prepared by consulting firms IBI Group of Vancouver, BC and HKGI of Minneapolis. The report sets out general directions for planning around the three Hopkins stations and recommends primarily concentrating park-and-ride access at the Shady Oak Road and Blake Road stations. While the Downtown Hopkins station is the primary focus of redevelopment, the report's recommendations regarding the downtown station itself are quite general and call for further study.[1] Additionally, other plans and studies conducted by/for the City have analyzed the outer stations in considerable detail, while planning for the downtown station has yet to receive such close scrutiny. After consulting with the client, the consulting team has decided to focus on two of the directions for future study explicitly set out in the Station Area Plan Final Report, as well as on one implied by its recommendations and Hopkins' zoning ordinance.

STREETCAR/BUS CIRCULATOR SCOPING STUDY

The Station Area Plan Final Report recommends the study of several local transit circulator options to connect the Downtown Hopkins station with a broadened area of the traditional, pedestrian- and transit-supportive neighborhoods of Hopkins. The client also recommended the additional consideration of a local transit connection to the large Excelsior Crossing development currently under construction in East Hopkins. The team will develop a feasibility analysis of and potential alignment options for both a steel-wheel-on-steel-rail-streetcar and a rubber-tired circulator bus.

[1] Andrishak, 2007.

PEDESTRIAN AND BICYCLE CIRCULATION STUDY

An improved pedestrian environment along Eighth Avenue will be a pivotal component of any plan in order to take full advantage of the Downtown Hopkins station. The Station Area Plan Final Report recommends the creation of a "pedestrian promenade" along Eighth Avenue. Additionally, two important regional bicycle trails almost meet in downtown Hopkins. Eighth Avenue (not an especially friendly environment for cyclists) is the missing link between these two trails. The team will study options for improving conditions for pedestrians and cyclists between the station site, downtown Hopkins and the two trails, and will work to ensure that Mainstreet businesses benefit from the improvements to the greatest degree possible.

MIXED USE ZONING DISTRICT STUDY

Transit-oriented development thrives on a diverse mix of land uses. Mixed-use development allows a large variety of destinations and residences to be packed into a compact, walkable area. The Station Area Plan Final Report makes recommendations for mixed-use development, but Hopkins' zoning ordinance does not include any zoning district which permits mixed use development, either by right or with a conditional use permit. Though the city's Planned Unit Development (PUD) process does allow for mixed-use development, the complexity of the PUD permitting process generally does not encourage such development. The team will develop recommendations for a true mixed-use zoning district that best fits Hopkins' character.

These three aspects will be examined in more detail in the subsequent sections of this report and possible options and recommendations will be made to the City for further study or implementation.

STRENGTHS, WEAKNESSES, OPPORTUNITIES, AND THREATS

The Hopkins downtown station area has many unique characteristics. The focal points of current and future planning efforts will be aided by identifying areas of strength and weakness and recognizing possible opportunities and threats that go along with light rail transit, transit-oriented development, and further advancement of the small area planning effort around the station.

- Strengths are internal characteristics that help achieve an objective
- Weaknesses are internal characteristics that might inhibit achieving an objective
- Opportunities are external characteristics that could be capitalized on to achieve an objective
- Threats are external characteristics that could be harmful in achieving an objective

These strengths, weaknesses, opportunities, and threats are identified for the station area below and their applicability to this study and its three components will be further expanded upon in future sections.

STRENGTHS

Unique Suburban, Historic Downtown

Hopkins' historic downtown is a unique feature among suburban communities in the Minneapolis-St. Paul metropolitan region. The character of Mainstreet is an attractive draw for outsiders, and the retail and food establishments play an important role in Hopkins. The addition of light rail to the area could bring further demand for new retail and strengthen the downtown's potential as an attractive, walkable community center.

Developing Arts District

Hopkins' downtown is also strongly positioned in the arts culture. The Hopkins Center for the Arts, the Main Street School of Performing Arts, and the Hopkins school district all play an important role in arts within the region. Hopkins' downtown is emerging into a regional arts district and a destination for artists.

Well-Positioned Station in the Regional Context

Hopkins is between the bustling Minneapolis and affluent suburbs to the west and south. When the Southwest LRT line is completed, residents of

Hopkins will have convenient, quick access to the shopping and job centers in the southwest, downtown Minneapolis, the Mall of America, the airport, University Avenue in St. Paul, the State capitol, and the new Minnesota Twins' stadium and University of Minnesota Gopher football stadium. Not only will residents be able to access these sites, but residents of many of the largest communities in the region will have access to the unique community of Hopkins.

Redevelopment Potential near Downtown Station

The downtown station sits approximately one quarter-mile from Mainstreet along Eighth Avenue. Eighth Avenue already has some uses and sites that would have strong redevelopment potential in anticipation of and after completion of LRT. Over time, other sites in and around downtown could become strong candidates for redevelopment as Hopkins' downtown becomes an even stronger regional destination.

Base of Housing around the Station

Downtown Hopkins is surrounded by strong single family housing neighborhoods to the west, north, and east. However, within the downtown area there are numerous multi-family housing developments. This mix of housing in and around downtown provides a diverse mix of housing to support the various activities of downtown. As LRT becomes a reality, the market for more high-end housing near the station would bring additional income to the area to support a broader scale of retail developments as well as enhance revenue and tax base.

Confluence of Regional Trails

The Hopkins' downtown station is located along the Cedar Lake LRT Regional Trail coming out of Minneapolis and heading southwest toward Minnetonka and Eden Prairie. Near the intersection of Eighth Avenue and First Street North is the start of the Lake Minnetonka LRT Regional Trail, which heads northwest and west into Minnetonka toward the lake. These are two major regional trails that could potentially connect near the LRT station in downtown Hopkins. The intersection of two major routes, regardless of mode, is an attractive location for related retail activities and a potential tourist draw.

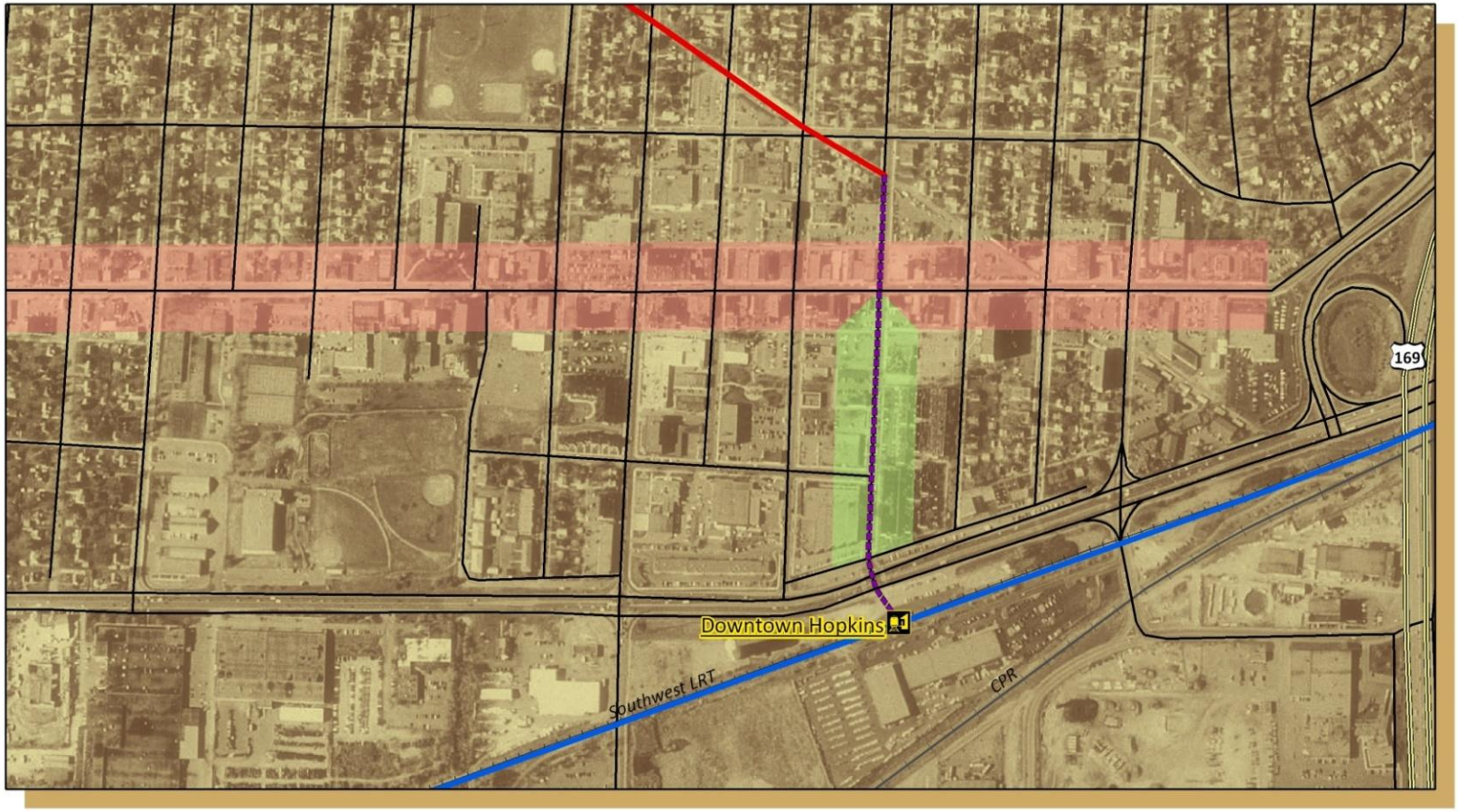
Regional Attractions

Hopkins is home to many unique regional attractions including the Hopkins Center for the Arts, Overpass Skate Park, Hopkins Cinema 6, and the Depot Coffee House. These attractions bring people into Hopkins from other areas of the region. Regional attractions also create an image for Hopkins and bring more visitors seeking a unique sense of place to the shops and restaurants in the community.

WEAKNESSES

Gap in Regional Trails

While two regional trails do theoretically intersect in Hopkins, there is a short gap between them in downtown Hopkins. The trail will have to be routed on a city street in order to complete the connection and this is not an ideal situation for a regional trail. In addition, the street routing may be confusing for trail users when the rest of the regional trails are separated from the street.



Missing Link:
Connecting Two Regional Trails

Legend

- Southwest LRT Trail
- Lake Minnetonka LRT Trail
- Missing Link
- Mainstreet
- 8th Avenue

Light Rail Station Location

The proposed LRT station at downtown Hopkins is on the south side of Excelsior Boulevard. Pedestrians will have to cross a busy four-lane through-street on their way to downtown Hopkins. The station is also separated from current redevelopment opportunities by Excelsior Boulevard as the redevelopment is likely to occur north of the street. There are obvious safety concerns associated with this potential crossing, but also visibility concerns for Hopkins to draw riders into downtown.

Parking in Downtown

Downtown Hopkins currently experiences times of high parking demand that stress the available supply. Increased development intensity will add to the demand for parking in downtown and there is potential that the additional supply with new developments may not meet the additional demand. While Metro Transit is stressing the importance of a park-and-ride facility near the proposed downtown station, there could also be additional hide-and-ride parking in and around downtown, furthering the stress on the available supply.

OPPORTUNITIES

Hopkins as a Destination

Hopkins has many unique characteristics, some of which were mentioned in the strengths section that could make it a regional destination hotspot. With the confluence of two regional trails, a good park system, and the location between Minneapolis and the areas to the southwest, Hopkins has an opportunity to blossom into a recreational destination.

Hopkins also has an emerging arts community with the Center for Arts and Mainstreet School of Performing Arts. These regional attractions together with the quaint small-town feel, many local artists, music in the park, and art shops provide a strong core for a Hopkins to become a regional arts destination.

Incorporation of Green Design/Active Living

Hopkins is on track for significant changes as the LRT planning gains full steam. The opening of three light rail stations in Hopkins will likely create additional demand for new development in the city. This puts a small town like Hopkins in a strong position to integrate green design into new developments. Coupled with Hopkins potential as a recreational center, the city could encourage active living lifestyles. Active living has the potential to promote healthier lifestyles and reduce the demand for services in the city.

THREATS

Evolving Retail Economic Environment

Hopkins downtown has transitioned to a specialty retail conglomeration. In today's retail market, specialty shops are serving a more limited clientele. As a result, the shops in downtown Hopkins are and will likely continue to face increased competition from national and regional chain retailers. The shops in downtown are situated in the historic "Mainstreet" style where goods were previously brought into downtown from centralized warehouses. In today's retail market, the warehouse and store functions are often combined to reduce costs and provide greater good access.

Successful specialty retail centers, such as Grand Avenue in St. Paul, Hennepin and Central Avenues in Minneapolis, Excelsior Boulevard in St. Louis Park, and downtown Stillwater, are successful because they are surrounded by dense housing, a mix of housing types (successful retail requires adjacent disposable income), and an evolving structural landscape.

Redevelopment Competing with Mainstreet

As new transit-oriented development moves into Hopkins, there will likely be demand for new retail shops and restaurants. These new businesses might choose to locate away from Mainstreet and closer to the proposed LRT stations. Individual establishments may not compete with Mainstreet businesses, but a *cluster* of new shops or restaurants could compete with Mainstreet as Hopkins' destination area. Hopkins has invested in their downtown and a shift in or competition for centrality in the City would hinder its development as a regional destination.

Parking Supplanting Redevelopment

Metro Transit has identified the need for at least a 100-space park-and-ride lot at the downtown Hopkins station. While the size and location has yet to be determined, the placement of a parking lot around the station will likely supplant any redevelopment potential at that particular site. Metro Transit does not have a strong history of incorporating park-and-rides into TOD developments.

Safety of Excelsior Boulevard Crossing

Excelsior Boulevard is a four-lane through street with turning lanes in each direction at its intersection with Eighth Avenue. The City of Hopkins recently reconstructed Excelsior and incorporated additional pedestrian safety tools, such as better crosswalk striping. However, the width of Excelsior, coupled with the adjacent service/parking road on the north, create an uninviting pedestrian environment and potential safety problems for the high pedestrian traffic that LRT brings.

STAKEHOLDER ANALYSIS

A stakeholder analysis was conducted to identify people and groups that should be involved in the planning process as various station area efforts move forward. The stakeholders were identified as:

- Those whose interests are affected by the issue
- Those who possess expertise, knowledge, and/or resources for the plan and implementation

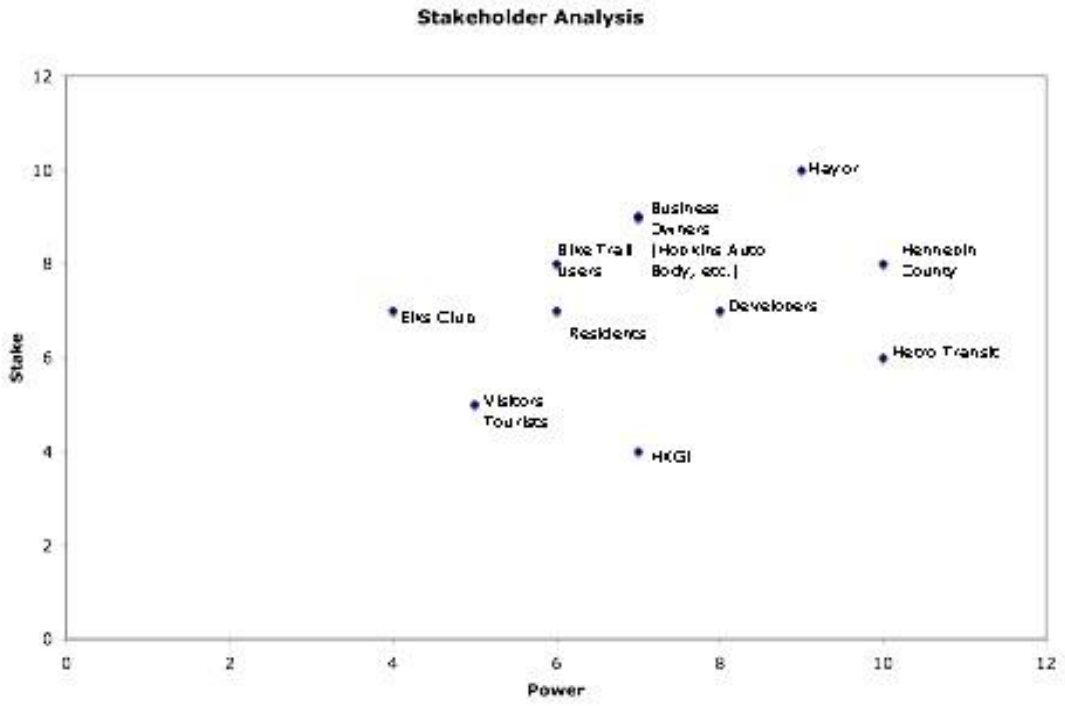
- Those with power to implement plans

The following list was generated from brainstorming with planners from the City of Hopkins.

- Businesses
  - Mainstreet business owners (and those nearby)
  - Excelsior business owners (and those nearby)
- Developers
- The City
- Residents
  - Single-family home owners
  - Multi-family home residents
- Metro Transit
- Hennepin County
- Visitors/Tourists
- Bicycle trail users

The stakeholder interviews provided some insight into what should be considered in future planning. For instance, many community members expressed a favorable opinion of the future of light rail for the City of Hopkins. A local automobile repair shop expressed excitement at the improvement of trail connections, the potential for more business from visitors, and the redevelopment potential that the LRT may bring to the area.[7]

Other stakeholders expressed concerns about more specific issues such as parking requirements or preference for development requirements which are discussed further later in the report.



[7] Ed Stiele, Hopkins Auto Body, interview February 2009.

EXISTING CONDITIONS - PEDESTRIAN

Along Eighth Avenue

The street network in downtown Hopkins follows a well-connected pattern. There are sidewalks and some small-scale businesses. Along Eighth Avenue, sidewalks are present but landscaping and character are lacking. Buildings abutting the sidewalks on Eighth Avenue are located fairly close to the street and the one existing surface lot is screened with fencing and shrubs. Street trees are present; however, the walkway lacks significant landscaping, street furniture, and sense of purpose or destination. The sidewalk near Marketplace Lofts does have street trees, grates, benches, and awnings but the rest of the stretch is sparse.

Street Crossing at Excelsior Boulevard and Eighth Avenue

The proposed LRT station is located on the south side of Excelsior Boulevard. Downtown Hopkins is located north of Excelsior Boulevard, so LRT riders must cross Excelsior Boulevard to access either destination.

The intersection at Excelsior Boulevard and Eighth Avenue is currently signalized for traffic and pedestrians, but poses a challenge for increasing pedestrian accessibility. Excelsior Boulevard is a four-lane road (two lanes in each direction) with vehicles traveling at an average speed of 40 miles per hour. There is currently no respite median.

BEST PRACTICES

SHARED SPACE

One of the greatest issues facing streets in vibrant, urban areas is the accommodation of a wide variety of transportation modes, with vastly different speed capabilities, space requirements, and accident vulnerabilities. In many instances, the creation of "complete streets," which are designed to safely and conveniently accommodate all modes, from pedestrians to cyclists to automobiles to transit, has focused on the provision of separate spaces for each individual mode. While this practice is quite effective along through transportation corridors, it limits the diverse, vibrant, almost chaotic nature of interactions on the best urban streets; it also generally leaves cyclists and pedestrians literally on the margins, confined to bike lanes and sidewalks at the edges of roads.

To allow non-motorized transportation and (often) transit to reclaim entire streets, many cities have also simply closed important downtown streets to pedestrian traffic. Often, however, the preservation of some level of automobile access—to residences especially—is either necessary or desirable. Out of the competing desires to take back streets, while still accommodating the automobile, the concept of shared space was born.

Arising from a series of progressive Dutch residential

neighborhood traffic calming practices known as Woonerf, the shared space concept has been applied to downtown business districts, as well as residential areas in numerous countries. According to an article by Colin Hand, its basic design elements and principles can be summed up as follows:

- All modes are accommodated in a single, unified street space, with no curbs or prescribed places for individual modes
- Distinctive gateways announcing a change in the traffic environment, and signaling to drivers that they no longer own the road
- A curved, irregular path of through traffic, forcing drivers to slow down and rely on attention to surroundings rather than rigid rules of the road
- Features—such as benches, plantings and outdoor café seating—that both slow traffic and create pedestrian amenities
- Intermittent on-street parking, to further calm traffic and support street-front businesses
- Control of traffic flow by human social norms and eye contact rather than inflexible rules and highway-style signs and signals[8]

Shared space has been found to significantly improve pedestrian safety (even compared with wide sidewalks and well-marked crosswalks), create living public spaces in the place of socially dead transportation infrastructure, improve property values, and stabilize communities.

PEDESTRIAN DESIGN

While measuring walkability can be subjective, much research has been done to advise best practices in developing a walkable community. This section summarizes some of the key recommendations from literature that inform best practices for optimal pedestrian conditions.

PEDESTRIAN MAINSTREETS[9]

Pedestrianized commercial districts ("Main Streets") can be important for urban revitalization, although they must be carefully implemented to be effective. They can help create a lively and friendly environment that attracts residents and visitors. Some are closed to motor vehicle traffic altogether, or during some time periods, such as evenings or weekends, while others use traffic calming design strategies to control traffic speeds and volumes.

Business and residents should be involved in planning and managing pedestrian commercial streets. Often, a downtown business organization or Transportation Management Association will oversee streetscape development, as well as parking management and promotion activities.

[8] Anon. 2009.

[9] Litman, 2007.

- Pedestrian streets are only successful in areas that are attractive and lively. They should form a natural connection route for attractions and serve as both a destination and a thoroughfare of pedestrian activity.
- Develop a pleasant environment, with greenery, shade, and rain covers. Use brick, block pavement or textured cement instead of asphalt, if possible. Street-level building features and street furniture should be pedestrian scale and attractive. Avoid blank walls on buildings.
- Develop a variety of pedestrian-oriented retail shops and services that attract a broad range of customers and clients. If possible there should also be offices and residential apartments, preferably located over shops.
- Allow motor vehicles as required for access, with appropriate restrictions based on need, time and vehicle type. This may include unrestricted motor vehicle traffic during morning hours, transit and HOV vehicles, pick-up and drop-off for residents and hotels, service and emergency vehicles, or other categories deemed appropriate.
- Pedestrian streets should have good access to public transit and parking. They should be located in a pedestrian-friendly area. Mid-block walkways and buildings open to through public traffic should be developed and enhanced as much as possible.
- Security, cleanliness, and physical maintenance standards must be high.
- Provide a range of artistic, cultural, and recreational amenities (statues, fountains, playgrounds) and activities (concerts, fairs, markets). Highlight historical features.
- Pedestrian streets should generally be small and short, typically just a few blocks in length.
- Vehicle traffic on cross-streets should be slowed or restricted.

ACCESSIBILITY

When planning for any street improvement, accessible design is essential to create an inclusive and welcoming environment for all users. While this is important in all places, it is especially important to plan for universal design where there may be older residents with a higher rate of mobility issues. A place like Hopkins Downtown would benefit from incorporating the most accessible design possible. There are requirements from the American with Disabilities Act[10] as well as optional standards being developed by Mn/DOT that are best implemented as early as possible in a project.

The Access Board[11] is a U.S. federal agency that develops policies and recommendations for accessible design. Publications include Accessible Rights of Way: A Design Manual, 1999; ADA Accessibility Guidelines for Buildings and Facilities, 1998. Incorporating the most recent standards from the Access Board from the earliest part of the project avoids later costs of retrofitting. While not all aspects of the American Council of the Blind are required, incorporating standard for sidewalks and trails access is another way to enhance the experience and access for all users.

When connecting users between buildings, transportation, and public rights of way, it is also important to consider how people access public space. Parks, trails, and other outdoor recreation are part of the experience of a pedestrian-friendly community. A Design Guide for

[10] Americans with Disabilities Act, 1990.
[11] United States Access Board, 2009.

Universal Access to Outdoor Recreation provides guidance for this as well.

Finally, the Proposed Right-of-Way Accessibility Guidelines[12] has been in draft form for about ten years, but it's likely that Minnesota will be adopting almost all standards in the draft. While this will affect state roads primarily, municipalities are encouraged to follow the standards as well.

LANE REDUCTION

Often when redesigning a street to optimize the pedestrian experience, lane reduction is an effective way to achieve a friendlier and narrower street to traverse. Studies have shown that reducing a four- lane road to a three-lane road with a shared turn lane can maintain reasonable traffic flows, provide better sight distance, offer a pedestrian refuge, calm traffic, and assist pedestrians in judging speed of approaching traffic[13]. However, disadvantages include increased travel delay for vehicles and loss of passing opportunities for vehicles. Furthermore, in many cases the road of interest is outside of the jurisdiction of the municipality wishing to make improvements.

CASE STUDIES

PORTLAND, OREGON[14]

Portland, Oregon adopted the *Portland Pedestrian Design Guide* in 1998, which serves the goal of integrating design criteria and practices into a set of standards to promote an environment conducive to walking. The document is 94 pages long and focuses on sidewalks, corners, crosswalks, and pathways and stairs.

FEATURES OF A WALKABLE COMMUNITY

Dan Burden, a popular advocate of pedestrian design, says a walkable community has at least 6 of the 12 following:

1. Intact town center. Businesses open at least 8 hours a day, mix of uses, all within ¼ mile of center, library, and post office.
2. Residential densities, mixed income, mixed use. Mix of age and income housing.
3. Public Space.
4. Universal Design – including: ramps, medians, refuges, driveway crossing, benches, shade
5. Speed Control Key Streets – tree lining/speed limits
6. Streets and Trails well linked
7. Design is at 1/8, ¼, ½ scales
8. Design for people – minimize parking and driveways
9. Focus on small footprints like in off-street parking and square footage of buildings
10. There are people walking – determine why people aren't walking…
11. Vision
12. Decision makers are visionary

[12] United States Access Board, 2009.
[13] Welch, 2009.
[14] Portland Office of Transportation, 1998.

There are some key additional requirements that Portland has that go above and beyond the minimum requirements for sidewalk improvements. These include sidewalk enhancement when any frontage is redeveloped, widening of sidewalk, planting street trees, using a furnishing zone, use of grates. Certain elements are recommended in the right of way such as benches, bike lockers, bike racks, drinking fountains, planters, light poles, post office boxes, parking meters, signs, transit shelters, trash receptacles.

Portland has requirements for street corners which include adequate pedestrian area on the street corner, strategies for maximizing pedestrian corner area, ramp design, pedestrian call button locations, and curb size and design.

The requirements for crosswalks have high standards for curb extensions, minimizing pedestrian delay, refuge islands, grade separation for pedestrians, signal timing calculation, pedestrian-only signals which allow diagonal crossing, pavement markings, minimizing right slip lanes. Other key features include audible pedestrian traffic signals, curb extensions, curb ramps, grade-separated crossings, median refuge islands, midblock crosswalks, no pedestrian crossings, parking control, pavement markings, pedestrian signal indication and push buttons, and pork chop refuge islands.

PRINCIPLES FOR PEDESTRIAN DESIGN ACCORDING TO PORTLAND, OREGON

1. The pedestrian environment should be safe. Sidewalks, pathways, and crossings should be designed and built to be free of hazards and to minimize conflicts with external factors such as noise, vehicular traffic, and protruding architectural elements.
2. The pedestrian network should be accessible to all
   Sidewalks, pathways and, crosswalks should ensure the mobility of all users by accommodating the needs of people regardless of age or ability.
3. The pedestrian network should connect to places people want to go.
4. The pedestrian network should provide continuous direct routes and convenient connections between destinations, including homes, schools, shopping areas, public services, recreational opportunities, and transit.
5. The pedestrian environment should be easy to use.
   Sidewalks, pathways, and crossings should be designed so people can easily find a direct route to a destination and delays are minimized.
6. The pedestrian environment should provide good places.
   Good design should enhance the look and feel of the pedestrian environment. The pedestrian environment includes open spaces such as plazas, courtyards, and squares, as well as the building facades that give shape to the space of the street. Amenities such as street furniture, banners, art, plantings, and special paving, along with historical elements and cultural references, should promote a sense of place.
7. The pedestrian environment should be used for many things.
8. The pedestrian environment should be a place where public activities are encouraged. Commercial activities such as dining, vending, and advertising may be permitted when they do not interfere with safety and accessibility.
9. The pedestrian environment should be economical. Pedestrian improvements should be designed to achieve the maximum benefit for their cost, including initial cost and maintenance cost as well as reduced reliance on more expensive modes of transportation. Where possible, improvements in the right-of-way should stimulate, reinforce, and connect with adjacent private improvements.

GEORGIA DOT PEDESTRIAN AND STREETSCAPE GUIDE[15]

The Georgia DOT has composed a 212-page document to be used as a design toolkit that includes:

- General Design Guidelines
- Accessibility
- Children and School Zones
- Trail and Pathways
- Sidewalks and Walkways
- Intersections
- Crossings
- Traffic Calming
- Pedestrian Access to Transit
- Site Design for Pedestrians

The toolkit on pedestrian Access to Transit addresses standards for transit compatible design, improving transit facilities for pedestrians, transit stops and bus pullouts, high capacity right-of-way transit, transit centers, park-and-ride facilities, transit malls, transit-oriented development and coordination between agencies.

EXISTING CONDITIONS - BICYCLE

The Southwest Regional LRT trail - in the future alignment of the Southwest Transitway - connects Hopkins with Minnetonka, Saint Louis Park and Uptown Minneapolis, as well as with Midtown Minneapolis via the Midtown Greenway and Downtown Minneapolis via the Cedar Lake Trail.

Two major branches of the Southwest Regional LRT trail meet in Hopkins…*almost*. Eighth Avenue connects the two branches, but does not currently offer a terribly attractive cycling environment. However, Eighth Avenue is designated by the Hennepin County Bicycle Transportation System Plan as part of the county's planned primary system.

Though specific bicycle facilities are not prominent, downtown Hopkins' traditional built form and street network is generally highly compatible with cycling. Bicycle parking is available in downtown Hopkins, though it is sporadic.

Current plans call for the Southwest Regional LRT Trail to be maintained following implementation of the Southwest Transitway, but likely relocated within the Hennepin County Regional Railroad Authority right-of-way to eliminate grade crossings.

BEST PRACTICES

Though bicycles have played a limited role in the transportation picture of the United States over the last century, there are a number of reasons to believe bicycles have the potential to take on a much greater role, and, in doing so, significantly improve the sustainability, health, and quality of life of the nation. In a study of the potential benefits of increased investment in bicycling and walking, Gotschi and Mills found that nearly half of all trips taken by Americans could be accomplished by

[15] Otak, 2003.

a bicycle ride of less than twenty minutes, and though a large percentage of Americans own bicycles, few use them for daily transportation due to heavy traffic and inhospitable environments.[16]

Several European cities offer excellent examples of comprehensive, mature cycling infrastructure capable of attracting very high mode shares even in affluent, democratic countries with high rates of automobile ownership. In case studies of stand-out bicycle cities in the Netherlands, Denmark and Germany, Pucher and Buehler found that smaller cities were often able to achieve the highest bicycle mode shares, due to compact sizes compared to metropolises on the scales of Amsterdam or Berlin. Though bicycle planning differs from city to city, some common threads appear.[17]

- True bicycle-oriented cities strive to make bicycle use an integral part of their transportation systems, and to accommodate them on all streets.
- That said, bicycle paths and lanes are important for accommodating cyclists on busy through streets.
- Lower speed limits and traffic calming measures in downtown areas can greatly improve cycling conditions on all streets, whether or not separate bicycle facilities are provided.
- Education and enforcement efforts targeted primarily at motorists, but at cyclists as well, have a strong positive effect on safety.
- High rates of bicycle use lead to safer conditions.
- Intersection priority for cyclists—through "bike boxes" and/or special signal phases—can significantly increase the utility of bicycle travel.
- Coordination between transit services and bicycle facilities greatly extends the line-haul range of the bicycle and greatly improves the local circulation capabilities of transit.
- Adequate, high-quality bicycle parking is an integral component of a bicycle city.

This last point is especially pertinent in the older, more traditional neighborhoods of American cities. Though urban forms and street networks are often reasonably well adapted for bicycle use, it may often be difficult for cyclists wishing to use their bicycles for transportation to find a legal, secure place to lock their bikes. The Association of Pedestrian and Bicycle Professionals recommends that cities adopt minimum bicycle rack space standards—in the same vein as minimum off-street parking standards for automobiles, pointing to a Cambridge, MA ordinance requiring the provision of at least 10% as many bicycle rack spaces as off-street parking spaces wherever off-street automobile parking is provided.

STREETCAR/BUS CIRCULATOR SCOPING STUDY

EXISTING CONDITIONS

Downtown Hopkins is currently served primarily by the Metro Transit Route 12. The downtown area is also served by Metro Transit Routes 664 and 665 and Metropolitan Council Routes 612 and 615. It is important to note that route 612 is a demonstration route that currently is funded

[16] Gotschi & Mills, 2008.
[17] Pucher & Buehler, 2008.

through September of 2009 and may be discontinued if it is not adequately used[18]. Route 664 is also a relatively new route that will have to be further analyzed as it matures. The important consideration here is that transit routes in Hopkins could potential change now and in the future prior to LRT opening.

ROUTE 12

Route 12 runs east to west out of downtown Minneapolis and through the popular Uptown shopping district along Hennepin Avenue. The route then meanders through the Lake Calhoun area until reaching Excelsior Boulevard on the western edge of Minneapolis, which is also the location of Market Plaza shops. The route takes Excelsior Boulevard through St. Louis Park, past Park Nicollet and Methodist Hospital, into Hopkins. The route currently turns on 5th Avenue in Hopkins to Mainstreet, which it follows until at least 11th Avenue. The remaining portions of the route have different branches that go to transit destinations and high-density housing developments in Minnetonka. The route operates at about a 20-minute frequency during the peak hour and about a 30-minute frequency during evenings and early mornings. It runs every hour past 10 PM until the last trip, whose westbound stop in downtown Hopkins arrives at 12:49 AM.

ROUTES 664 AND 665

Routes 664 and 665 are express bus routes with only a limited number of inbound and outbound trips during rush hour. The 664 serves Excelsior Boulevard out to Minnetonka, County Road 101. It runs through Hopkins on Mainstreet before returning to Excelsior and running through St. Louis Park to Highway 100 and downtown Minneapolis. There are approximately 3 to 6 one-way trips each rush hour. Route 664 serves roughly the same apartment complexes in Minnetonka as the Route 12. It then takes Excelsior Boulevard through Hopkins to Highway 169 and on to downtown Minneapolis. There are only 3 one-way trips each rush hour.

ROUTES 612 AND 615

Routes 612 and 615 are contracted routes managed by the Metropolitan Council. The route 612 terminates in downtown Hopkins on Mainstreet. It runs west along Excelsior and County Road 3 in Minnetonka to connect with the Minnetonka SuperTarget, Hi-7 shopping center, and other residential areas of Minnetonka. There are hourly trips during the midday and two late trips in the evening to match retail employment shifts. Route 615 circulates through Minnetonka, Hopkins, and St. Louis Park. It connects Park Nicollet Medical Center and Knollwood Mall in St. Louis Park to downtown Hopkins along Mainstreet. It then runs along County Road 73 in Minnetonka to the Ridgedale Center. The route operates primarily mornings, afternoons, and early evenings on an hourly schedule.

TRANSIT FACILITIES

There is currently no bus service along Eighth Avenue, which is where the proposed downtown LRT station would be located. There is a 56-space park-and-ride facility located at Eighth Avenue and Excelsior Boulevard that is served by route 665. It has a waiting area and station at the park-and-ride. There are also shelters in downtown at the following locations:

- 7th Avenue and Mainstreet (Eastbound)

[18] Steve Mahowald, Metro Transit Service Development interview, Feb 2009.

- 13th Avenue and Mainstreet (Eastbound)
- 15th Avenue and Mainstreet (Eastbound)
- 17th Avenue and Mainstreet (Eastbound)

OTHER TRANSIT SERVICES

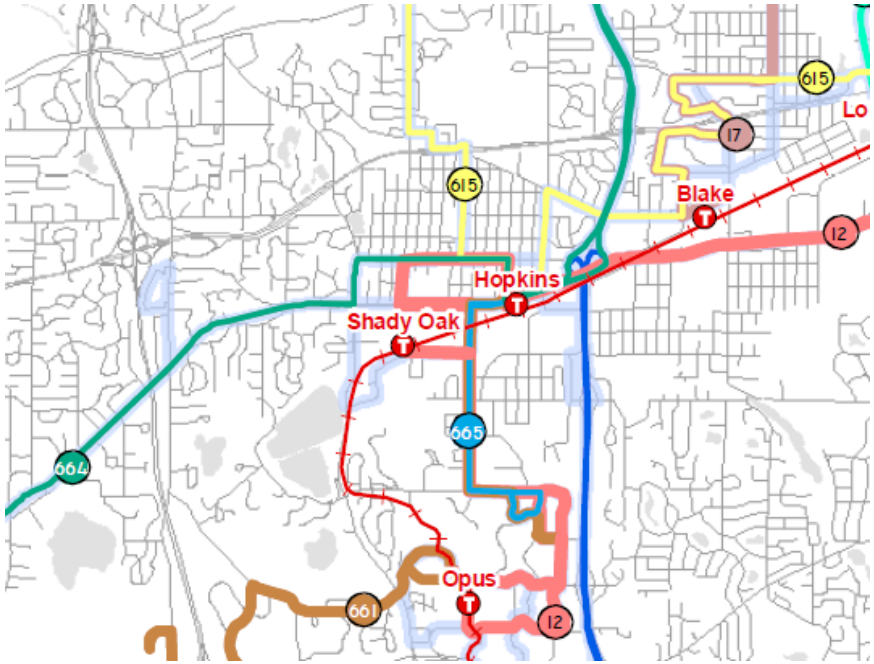
Hopkins is also served with demand-responsive transit by Hopkins Hop-A-Ride and paratransit by Metro Mobility. However, the Metropolitan Council recently approved a plan to restructure dial-a-ride service funding in the region and such a change could put the Hop-A-Ride service in jeopardy due to lack of funding[19]. Dial-a-ride services will continue to be available in the region but in a reduced sense.

TRANSIT USAGE

As of the 2000 U.S. Census, there were 9,501 workers over the age of 16 in Hopkins and 5.6% of them took public transit to work. However, 11.2% of them carpooled to work and another 7.4% took another means or worked from home.[20]

SOUTHWEST LRT CHANGES

Metro Transit has done some initial screening for changes to the bus system in response to the opening of LRT in Hopkins. This was done as part of the alternative analysis (AA) conducted by Hennepin County. While these changes do not represent what will actually happen, they do



represent potential changes to the system. The only probably change to the routing of buses would involve rerouting the 12 and 664 from 5th Avenue to Eighth Avenue so they could interline with LRT at the downtown station.

The primary changes around Hopkins downtown would relate to frequency of service. The route 12 would have a proposed frequency of 15 minutes, all-day on the trunk service of the route, which would then terminate at a light rail station near Lake Calhoun.

Route 615 would have increased frequency to 30 minutes during the peak and 60 minutes during the off-peak, but the route would also run later into the evening, possibly midnight. The route 664 would terminate at the Hopkins downtown station for passengers to transfer to LRT to continue their trip downtown. The route 665 would have increased

[19] John Harper, Metropolitan Council interview, Apr 2009.
[20] U.S. Census Bureau. *Profile of selected social characteristics: Hopkins, MN.* 2000. Retrieved Feb 15, 2009, from http://factfinder.census.gov/home/saff/main.html?_lang=en&_ts=

frequency during the peak and add some reverse commute trips during each peak period. What this amounts to is increased circulation through downtown using the existing bus network by simply increasing frequencies and capitalizing on LRT.[21]

BEST PRACTICES

Regardless of the mode, circulator routes are becoming more popular within transit systems across the United States. The primary focus of circulator routes being proposed in recent years has been to serve downtown core businesses connecting to mainline transit services such as light rail and commuter rail. Developers and downtown business associations have been supportive of downtown circulators because they provide increased access to their businesses and, in the case of rail, the access can be trusted to be permanent. Planners and smart growth advocates are supportive of downtown circulators because they can be used as economic growth catalysts in core areas. Under their ideology, streetcars and historic trolleys foster "smart growth" in existing urban cores and shift growth away from suburban fringe areas. In a study of downtown circulator plans, the State of Florida Department of Transportation (FDOT) found a variety of reasons for studying or implementing downtown circulators in their document *Strategies for an Intra-urban Circulator System*[22]:

- In Washington D.C., an intra-urban circulator was studied to provide a linkage between downtown and the larger transit system. The value of doing so was assumed to be better overall connectivity within the system and improved accessibility to jobs and residents.
- In Boise, Idaho, a similar study was conducted to test a circulator system prior to the establishment of commuter rail in the region. Planners in Boise viewed the circulator as an important linkage in the commuter rail system.
- In Milwaukee, Wisconsin, a downtown circulator was studied as a possible tool for economic development and increased interaction at the street level. The circulator would still provide the benefit of increased connectivity within the transit system, as the aforementioned studies identified.

Numerous studies, including Milwaukee and Boise above, identified the benefit of increased pedestrian mobility in the core. This would have the possible benefit of reduced single-occupancy vehicle travel as well.

Studies of circulators in Salem and Seattle, Washington identified a need for increased circulation to complement the radial nature of most bus routes coming into downtowns. Both studies recognized the benefits of increased pedestrian traffic in retail storefront areas, increased demand for mixed-use development, and more convenient access to transportation.

The FDOT also identified what characteristics make a downtown or urban circulator service successful. These characteristics can be categorized in the following manner:

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[21] Mahowald 2009.

[22] Bartee, Tara, et al. *Strategies for an Intra-Urban Circulator System*. State of Florida Department of Transportation. November 2005. 17 Feb 2009. www.dot.state.fl.us/research-Center/Completed_Proj/Summary_PTO/FDOT_BD549_11_rpt.pdf

GEOGRAPHIC CONTEXT

Several studies were used to identify the need for development density around a successful circulator system. The land uses should be mixed such that the system serves origins and destinations along the entire route. This will also foster pedestrian, street-level activity that makes frequent transit service attractive and feasible.

SOCIOECONOMIC CONTEXT

The socioeconomic base of transit riders will typically include a mix of students, seniors, low-income residents and workers, and renters. These are historically the "transit-dependent" populations. However, many circulator routes being proposed are in higher-income municipalities where there is tax base to support a circulator investment and discretionary income to support the purported economic benefits.

SYSTEM ELEMENTS

The review of studies indicated a strong need for interconnectivity to the existing transit system. Any circulator should have connections to heavily used commuter transit routes and neighborhood connector routes. Circulators should also emphasize ease of transfer, since trips are usually short and boardings and alightings are frequent.

VEHICLE APPEARANCE AND MARKETING

Circulator service should take advantage of unique marketing or branding. Successful circulators use innovative or unique vehicles, such as vintage trolleys or hybrid buses, and vehicles should be designed to allow for maximum visibility (similar to the storefronts they serve). The report from FDOT identifies a study of Miami that found the best mode for circulators was electric minibuses. Every mode has its drawbacks and advantages and each proposal should consider the merits of each reasonable mode.

PUBLIC INFORMATION

An important aspect of downtown circulators is getting information to the user. Since many downtowns are destinations for visitors, it is important to provide easily visible information that clearly defines the circulator service and how to ride.

FUNDING AND ORGANIZATIONAL STRUCTURE

The report iterates the need for adaptive resource pooling when discussing funding and resources for circulator routes. Circulators, because of their geographic characteristics and service need, are a unique opportunity to pool public and private resources in an effort to improve accessibility for all parties. Regardless of who is involved, the circulator should have a lead agency (sponsor or not) to facilitate the discussions between stakeholders of the service. Agencies should research innovative funding sources within the community and the research in an attempt to develop long partnerships (perhaps though marketing initiatives) that will make the service more sustainable. Partnerships also have the benefit of increasing ridership, since vested interest will likely attempt to best utilize their stake in the project through internal marketing.

CORAL GABLES, FLORIDA[23]

Coral Gables is a city just outside of Miami, Florida of about 42,000 people. It is unique in that it has an established central business district (CBD) and is considered a pedestrian friendly city. Coral Gables is served by a heavy-rail line (Metrorail) coming out of downtown Miami. In 2001, the city began planning for a local circulator route in hopes of relieving traffic congestion, increasing transit ridership, offsetting parking shortages, and improving the pedestrian environment in and around the CBD.

The primary reason Coral Gables wanted to study a circulator route was because of the mismatch between Metrorail service and local bus service provided by Metrobus. Rail service was frequent, at about a train every 6 minutes during the peak hours, but bus service operated only every 15-30 minutes. Coral Gables officials lobbied with Miami-Dade County officials for a circulator service. The lobbying paid off and the County bought five new buses for the service, which began operations in 2003.

The buses were unique in that they were both historic in nature and hybrid electric (from a company called E-Bus). They operated on rubber tires and were extremely quiet and had a low level of emissions. They are also low-floor vehicles, which facilitates faster boarding. The interior was designed in a manner reflective of the short trips patrons would be taking. Seats were limited to lining the interior walls of the bus with the majority of the space inside reserved for standing.

There were two routes and the initial service operated at 15-minute intervals from 7 AM to 7PM Monday – Thursday and until 10 PM on Friday. There was initially a mid-day express service that connected major employer locations to retail shops and restaurants from 11 AM to 2 PM. The variation in service was confusing for riders and thus the midday service was dropped and the overall frequency was adapted to 10-minute intervals. As the service increased in popularity, the City shifted the operations to a more demand-based schedule with more trips focused during peak hours and fewer trips during off-peak hours. This allowed for a larger span of service, from 6 AM to 8:30 PM, which better matched the schedules of workers in the CBD.

The service was marketed with unique stops and signage that identified the style or bus on the sign. Schedules and information were included on rotating plastic tubes, which allowed for easily visible route information and provided more space for the information to be presented.

[23] Bartee, et al 2005.

The City of Coral Gables chose to manage the circulator service themselves, but contract out the operation to a private provider. In fact, the City has an employee whose sole responsibility is the success of the circulator service. Separate contractors were hired to drive and maintain the buses and the City housed them at a local public works facility. The benefit of this arrangement, from the City's perspective, was an increased awareness of the needs of the service without having to manage more personnel. The circulator manager oversees both maintenance and operations, to ensure that both functions are working in harmony despite having two separate contractors. The service was also fare free, which meant there was less oversight required for financial transactions and fare collection.

The City cited several reasons for the success of the circulator service:

- Short headways
- Interconnectivity between other transit services, especially a mainline rail service like the Metrorail
- Fare free
- Connections to major activity centers

The service was initially funded by a state DOT service development grant, but the success of it allowed the City to explore other funds from the larger transit agency in Miami.

SCOTTSDALE, ARIZONA[24]

Scottsdale, AZ is a city of about 240,000 located northwest of Phoenix. Scottsdale has an old, historic downtown district adjacent to a popular arts district. The City is large and significantly built up, but much of the City is experiencing sprawl-like development that is difficult to serve with transit. However, old town and the arts district are surrounded by some of the more dense housing in Scottsdale.

Public transit in Scottsdale is primarily provided by Valley Metro, the largest transit provider in the Phoenix metropolitan area. Scottsdale provides two local circulator routes to connect to mainline bus services and facilitate better access for area residents. The two routes are known individually as the Downtown

[24] *Scottsdale Trolleys.* City of Scottsdale. 2008. 30 Apr 2009. http://www.scottsdaleaz.gov/trolley.asp

Trolley and Neighborhood Trolley.

The Downtown Trolley operates every 10 minutes for seven days a week from 11:00 AM to 9:00 PM. The service is free to ride and connects to most Valley Metro bus routes serving Scottsdale at the Loloma Transit Station. The Neighborhood Trolley operates every 20 minutes for seven days a week from 7:00 AM to 9:00 PM. This service is also free to ride and also connects to other routes at the Loloma Transit Station

The circulator services utilize historic-looking, 22-passenger buses that are ADA-accessible. They feature vintage wooden highlights, wooden seats, and tinted-glass windows to replicate old-world elements. The City of Scottsdale funds and contracts the service, which is operated by a private provider. Combined, the two trolley services provided about 260,000 rides in FY 2006-2007, or about 700 rides per day.[25]

CASE STUDY—STEEL WHEEL ON STEEL RAIL

Kenosha, Wisconsin

Kenosha, Wisconsin is a city of roughly 90,000 at the Northern edge of the Chicago metropolitan area. In 2000, the city opened its first streetcar line since the 1930's with a one route-mile loop through its downtown, connecting the METRA commuter rail station with the city's historic downtown and the new Harborpark brownfield-redevelopment project. The line operates restored ex-Toronto, Ontario PCC streetcars, with each

car painted in the colors of a city which operated PCC's in the 1940's and 50's. The line is part of a major redevelopment of a former heavily industrial downtown long dominated, rather ironically from a streetcar perspective, by automobile and auto-parts factories. As part of the pedestrian-oriented nature of the redevelopment plans, the streetcar line is heavily landscaped, with much of its length featuring a grassy boulevard running with only the rails visible; wire is simple, direct-suspension, single wire—barely noticeable in most cases. In spite of the relative shortness of the line, the fleet includes five cars, a significantly larger number than would seem necessary to operate it; normal daily operations require one car in service to provide roughly 10-minute headways. However, there are plans to extend the streetcar line to serve a new major brownfield redevelopment nearby, and the fleet's size should permit such an expansion without the need to find, purchase and refurbish additional equipment.

Total construction costs including all five streetcars and the line's newly built maintenance facility were under $4-Million in year-2000 dollars, though as is often the case in such projects, it is unclear how much - if any - of the costs of streetscape reconstruction and pedestrian improvements are included in that figure. The line is owned and operated by the city's transit system, though it seems to function more as a downtown pedestrian circulator than as an integrated component of the transit system. Currently, the line also operates a limited service

[25] HDR & S.R. Beard and Associates. *Scottsdale Transportation Master Plan.* City of Scottsdale. 8 Jan 2008. Pg. 11. 30 Apr 2009. http://www.scottsdaleaz.gov/Assets/documents/traffic/Adopted+Transportation+Master+Plan/Transit+Element.pdf

level; though it does operate seven days a week, service hours are mostly mid-day and afternoon, effectively cutting it off from commuter traffic, despite its convenient connection with METRA. Service hours are longer in summer, when Lake Michigan is not a frigid disincentive to pedestrians. Ridership is not high compared to LRT services, with daily trips averaging in the hundreds, not thousands, though the line's much shorter length than most urban bus routes must be kept in mind. It should also be noticed that the line comes close to a 30% farebox recovery rate in summer even with a 25-cent fare. In any case, the line seems to be intended much more as a redevelopment tool - and a down payment of sorts on a larger system - than an overnight revolution of Kenosha's transportation picture, and the city council considered it successful enough in 2005 to vote for an expansion study and the beginning of preliminary engineering work for the proposed expansion, which could likely be built at a much lower per-mile cost than the original starter line, due to the oversized fleet and maintenance facility.[26]

SUMMARY

The report from FDOT provides some existing case study research to identify the characteristics of successful circulator systems.[27]

DEFINITION

This does not mean setting hours of service, frequencies of operation, or fares (although those are important considerations). Defining the service means identifying what purpose the circulator will serve within the broader transit system. It also means identifying the targeted users and stakeholders for the service before the planning hits full steam. If the purpose of the circulator is increased transit accessibility, then high ridership might be a goal. If the purpose of the circulator is serving the transit dependent, than geographical coverage and ease of access might be a goal. While ideas from other successful implementations might be useful, each possible circulator will require unique circumstances and a tailoring of service design to meet the goals for the circulator.

IDENTIFICATION

Circulator routes should be easily identifiable, with clearly defined routes, signage, and schedules. Unique identifiers (especially signage and vehicles) should help users find the service. This is especially important in tourist areas where users may not be familiar with the transit system or the area in general.

CHARACTER

In addition to defining a service and identifying it, a circulator route's character should match its surroundings and purpose. Historic neighborhoods will benefit from a historic trolley. However, a commuter-oriented circulator may need to appear part of the regular transit system and use vehicles that maximize the capacity of the route. In either case, the identity of the circulator as a "circulator" is an important message for users to be able to understand and see (see marketing below).

FARES

Like most transit, a low-cost fare must be balanced with the operating funding required for the service. Also like most transit, the best way to attract riders and create an easy to use route is by charging no fare for

[26] Anon. 2005.
[27] Bartee et al. 2005.

rides. Circulator routes should generally cost less per trip than mainline services since trips are usually shorter. Commonly charged fares for downtown circulators are $0.25 and $0.50, in addition to many being free. There are significant advantages to a fare-free system including faster boarding times, less fare equipment to buy, and convenience for the riders. The primary disadvantage is loss of potential revenue. Services have been able to operate while accepting donations in order to create some revenue. Another disadvantage to a fare-free system is the potential competition with existing service. This will likely be mitigated if the circulator is serving a transit-connectivity purpose, where a transfer would be required anyway.

TIMING

Since circulator trips are relatively short in general, a high frequency of service should be a key characteristic of the service. Like other transit services, it is valuable to time the service with regular clock-face times, such as every 10 minutes (1:10, 1:20, 1:30, …). When providing connectivity to the existing transit system, timed transfers should be utilized to the maximum extent to minimize standing wait time. Circulator routes should also be serving the times of day when users will need them. This may include morning and evening rush hours, lunch hours, late evening shifts, and so on. The stakeholders should identify when the service would be useful.

CONNECTIVITY

A good circulator should interact with the existing transit network in a way that provides added connectivity or convenience for the user. A circulator should also be interconnected with other pedestrian traffic in a safe and convenient manner. The need for circulators to connect to bicycle and automobile modes will depend on local conditions.

OPERATIONS

A significant dilemma in circulator service is determining the operating entity for the route. There are a number of options, including transit agencies, municipalities, regional governments, business associations, and visitors bureaus. The use of private contractors is possible, but the project should have an accountable local sponsor that will ensure the service is truly “public” transit. The local sponsor should also ensure that the goals of the circulator (defined prior to implementation) are being adhered to.

MARKETING

Circulator routes may require a different marketing scheme than other transit services in a region. This is especially true for tourist areas or areas that frequently have unfamiliar visitors. Circulators can often reflect the characteristics of their surroundings in a manner that integrates them into the experience of a place. A historic neighborhood might run a historic trolley bus with an old-fashioned steam whistle horn and uniquely dressed drivers. Branding the circulator with a unique name is another way to separate it from other services. Circulators may also benefit from unique signage and schedules. Many of these factors depend on the definition of the service, but the most appropriate marketing targets the defined user groups yet present an attractive and easy-to-use service for all.

PARTNERSHIPS

One of the most beneficial aspects of a circulator is the potential for partnerships with local organizations. Since circulators are often most successful in business districts, where many people come in and travel internally, there are opportunities for public-private partnerships in the

both the planning and operation of the service. These opportunities can include funding support, political support, and visibility support. Stakeholders should be brought into the discussion early on to identify the best possible relationship between them and continually build support while the service is being developed.

FUNDING

As mentioned earlier, funding should be explored across all possible options, including federal, state, local, private, non-profit, and other means. The following sources are examples of possible circulator route funding:

Public Funds

- Farebox revenue
- Transit agency operating funds
- Federal Transit Administration
- State DOTs
- Parking fees
- Downtown property tax
- Sales tax
- City funds

Private Funds

- Business improvement districts (BID)
- Develop impact fees
- Cultural attractions
- Advertising revenue
- Convention and visitors bureau
- Shopping malls and casinos
- Corporate Partnership

MIXED-USE ZONING SCOPING STUDY

EXISTING CONDITIONS

Currently, the City of Hopkins does not have a mixed-use zone in its city code. The City does, however, have language allowing for PUDs (planned unit development) in Section 565.

PUDs are left to the discretion of the City Council with the following considerations:

- Variety - mixture of land uses, housing types and density
- Efficiency
- Density transfer - requirements may be put in place
- District integration - uses may be clustered together where they normally would not be otherwise
- Only uses allowed in other areas may be allowed in the PUDs
- Standards such as: location, compatibility with surrounding area, parking areas, landscaping, design, parking screening, and natural environment interaction

The most recent development to build in Hopkins was the Marketplace Lofts project. The development is a four-story, 48-unit condominium project with 17,000 square feet of ground-floor retail along Mainstreet. The project was assisted along the development process by the Hopkins Housing and Redevelopment Authority using Tax Increment Financing funding to purchase the land, the Metropolitan Council with a Livable Communities grant for demolition and site preparation, and several other organizations with an interest in downtown Hopkins. This

development took advantage of the PUD process, which allowed the City to review the development as it was proposed and incorporate the considerations listed above. The City entered into a PUD agreement that required the developer to make various improvements in conformance with streetscape standards along Mainstreet, including benches, trash receptacles, and signage. The City also required approval of such features as lighting and utility replacement. The PUD process can be a valuable tool to provide flexibility for developers and a thorough review process for the City.

In talking with developers and land owners who have worked or have proposed projects in Hopkins, several important perspectives were provided that are important for the City to consider:

- Flexibility is valuable to developers. The current PUD process, although cumbersome, is helpful for developers looking to satisfy both their desires and the City's desires. A mixed-use zoning code should provide similar flexibility.
- Downtown Hopkins has potential to become a destination, but it might not be there yet. The downtown area needs to add residents with disposable income to support retail and a diversity of uses.
- The City should work with developers to establish a relationship and be proactive in attracting developers when businesses or employers show interest. St. Louis Park has provided a good example of partnerships between the City, developers, the Metropolitan Council, and the community. The City of St. Louis Park was proactive in gathering input from developers and the community on ways in which they could improve the development opportunities through targeted investments. They compromised on what developers viewed as important while not compromising on their core values identified in the planning process. The City of Hopkins should work with its neighborhoods to share ideas and best practices.

BEST PRACTICES

As mixed-use zoning has become more commonplace in communities throughout the United States, much literature has been produced to guide planners in the best practices for implementing the zoning codes. The Metropolitan Council and the American Planning Association have useful guides for general mixed-use zoning. Form-Based Code (FBC) has also been effective in communities focused on their character and identity.

MIXED USE ZONING: A PLANNER'S GUIDE. METROPOLITAN AREA PLANNING COUNCIL[28]

This publication has a guide to many aspects of mixed-use zoning which include:

- Reasons to do mixed use (20 reasons or so)
- Visual preference poll - get idea of what residents want to see in design
- Overlay district vs. underlying code changes
- Selecting boundaries
- Achieving design
- Outreach to public

[28] Metropolitan Area Planning Council, 2009.

APA MODEL MIXED USE ZONING ORDINANCE[29]

In the American Planning Association model zoning ordinance, the stated purpose of a mixed-use zoning ordinance is to accommodate mixed-use buildings with neighborhood-serving retail, service, and other uses on the ground floor and residential units above the nonresidential space; encourage development that exhibits the physical design characteristics of pedestrian-oriented, storefront-style shopping streets; and promote the health and well-being of residents by encouraging physical activity, alternative transportation, and greater social interaction.

The key components of a mixed-use ordinance are to establish commercial establishment size limits, setbacks, building height, off-street parking, transparency, doors and entrances, vehicle and driveway access. This resource may be valuable for writing a general zoning ordinance.

FORM BASED CODE[30]

Form Based Code (FBC) has become a valuable planning tool when accomplishing aspects of design standards for a community. When the goal is to cultivate a unique identity for the community while providing a safe and active streetscape, keeping development within a certain standard can be accomplished by using a zoning code that not only guides what developments are allowed in an area, but also what form the building, frontage, and streetscape take. For a smaller community or a smaller district, FBC may be the most applicable.

Through recent studies of FBC implementation, a number of common mistakes have been identified and should be avoided. These include:

- Confusing, overly detailed, or insufficiently detailed land-use tables: While encouraging compatible adjacent land-uses is important, using performance-criteria to land uses is more effective. For instance, hours that a business can operate, the size of a business, and whether the business has a drive-through.
- Using density to regulate development: This does not produce predictable results so should be avoided because it can be reached through a variety of forms. It is better to regulate the physical form rather than the density. Educating the public and officials as early as possible is en important strategy. Often people need to see a well-designed building of a density that they wouldn't expect to be satisfied with.
- Not calibrating parking to the area: Often "normal" suburban parking requirements are applied to commercial developments within mixed-use neighborhoods when the high off-street parking requirements should not be used. Too much parking is a detriment to walkable neighborhoods by increasing walking distance, creating gaps in the street/building edge. Design of structures or wrapping parking with retail is one way to combat this problem as well as implementing a maximum store size to minimize parking requirements.
- Not calibrating open space requirements to the area: Too large a requirement for open space may deter development on small lots or infill development. This may lead to lot consolidation and bigger developments and deter smaller projects from locating there.
- Building placement: The key is to make development predictable so that the intent of the code is clear. The community should

[29] APA, 2009.
[30] Parolek, Parolek, and Crawford, 2008.

know what to expect of an incoming development based on its adherence to the FBC. Otherwise suburban-style developments sneak in, or developers become discouraged if the requirements are not transparent from the beginning of the process.

- Using lot coverage percentage: This is not commonly done in FBC and can lead to prevention of revitalization of existing neighborhoods or creating new neighborhoods with a character similar to the old ones. Occasionally lot coverage percentages are used because there is political push, but in this case the percentages must be carefully calibrated.
- Using floor-area ratio: FBCs generally do not include FAR as it often leads to developments with maxed-out FARs and boxy building with little variation. Instead, regulation parameters wit more predictable results should be used such as height, maximum building depth, distance between buildings, size, and other ”building type standards.”
- Not addressing frontages: This is important because frontages determine the interaction between the public and private realms. The recommendation here is to hire a consultant that knows what frontages are and considers them important.
- Not using administrative review: The purpose of undergoing the FBC process (which includes a visioning process) is to establish community and political support for a vision that the FBC regulates for predictable results. Therefore plans should be approved administratively to provide incentive for developers to meet the requirements of the FBC.

CASE STUDIES

BLUE SPRINGS, MISSOURI: EFFICIENT REVIEW PROCESS AND PUBLIC INVOLVEMENT[31]

Blue Springs, MO adopted its FBC in April 2007 with the intention of revitalizing its downtown core as well as a few of its surrounding streets. During the planning process, an intense public involvement process took place. This included a weeklong design charrette, multiple meetings with public and special interest groups. The outreach intended to involve elected officials, staff, and public to garner support for a plan for approaching the city’s development differently. Without the support from the public process, there would be a high risk of the plan not being implemented.

[31] Parolek, Parolek, and Crawford, 2008.

Because the FBC is a product of the plan and a tool for implementing the community's vision, implementation of the plan could be done efficiently. In Blue Springs, an appointed board (consisting of city staff, city council, planning commission, and property-owners) reviews and approves projects within two weeks without a public hearing. Because the FBC code was written with a high degree of predictability as to what the community wanted, the process for approval or denial could be expedited The rules were highly specific in terms of setbacks, parking, height requirements, while leaving some flexibility in design and use.

This example demonstrates an effective and specific FBC used in a fairly small area. The applicability of this code is questionable for the city at large and should be applied more as an overlay district than a general mixed-use zone.

SAINT PAUL, MINNESOTA: A HIERARCHY OF FORM-BASED CODES[32]

Saint Paul, MN has a fairly new zoning district called Traditional Neighborhood that has fairly flexible density and FARs but includes design guidelines. The code's purpose is to foster the development and growth of compact, pedestrian-oriented urban villages and are intended to encourage a compatible mix of commercial and residential uses within buildings, sites and blocks; new development in proximity to major transit streets and corridors; and additional choices in housing.

The TN code is divided into three categories of varying degrees: TN1, TN2, and TN3. TN1 is meant to primarily serve neighborhood needs as well as act as a transition zone between residential areas and main thoroughfares. TN2 is meant to foster compact residential and

Traditional Neighborhood Guidelines

1. Land use diversity
2. Similar facing buildings
3. Transitions to lower-density neighborhoods
4. Block length
5. Compatible rehabilitation and reuse
6. Use established building facade line
7. Buildings anchor the corner
8. Front yard landscaping
9. Building facade continuity
10. Building facade articulation - base, middle and top
11. Building facade articulation - vertical
12. Building height - treatment of 1-story building
13. Definition of residential entries
14. Door and window openings - minimum and character
15. Materials and detailing
16. Screening of equipment and service areas
17. Interconnected street and alley network
18. Parking both sides of streets
19. Parking location and entrance design
20. Residential garage location
21. Parking lot lighting
22. Entrance location for transit access
23. Street trees
24. Sidewalks

[32] City of Saint Paul, 2009.

pedestrian-oriented development and promote transit use. TN3 is meant to act similarly but at higher densities and can be used at larger “urban village” sites.

The three categories have varying requirements. TN3 is the most rigid and requires specific components such as a plaza and other features. The design features for each of the three categories are slightly different but include similar aspects. TN1 requires some, but not all of the following, while TN2 requires more, and TN3 requires all.

Saint Paul’s FBC is an example of a code that has varying degrees of similar requirements so that it may be applied to multiple areas throughout the city. There are other cities that have multiple mixed use codes that are less in a hierarchy and divided more by primary use such as residential or commercial. There are still others that use overlay districts for unique areas such as downtowns or an area with a large nature preserve or historic site. This is one example of how a general code may have multiple categories so that it may be applied to diverse areas throughout a city.

A VISION FOR HOPKINS

The vision for the downtown Hopkins light rail transit station is one that invites users to:

> Cross Excelsior to walk along Eighth Avenue;
> Connect to the regional and local bikeways; and
> Enjoy the well-designed development in the historic downtown.

Activity will be focused on active windows and outdoor seating, spurring an increase in street-level activity. By focusing efforts on three specific aspects, the vision will tie in the objectives of non-motorized mobility, vibrant streetscape, and unique community transit connections to harness the energy that the light rail will ignite in downtown Hopkins.

PICTURE THIS: A NARRATIVE OF THE FUTURE

Imagine stepping onto a platform after riding on a clean, quiet train. In front of you is a beautiful brick square with large colorful traffic lights and signs. Pedestrian signals boldly stand so large; it reminds you of using your grandparents' telephone with the magnified numbers. In other words, there is no way you can miss it: this stretch of road is designed for pedestrians.

The jingle of a bicycle bell sings in your ear. When you turn your head, you see a mother and son on a tandem bicycle crossing the tracks, coasting across Excelsior Boulevard and down Eighth Avenue. They lock up the bike in front of a bike shop/café with outdoor seating. The mother points out a sign to her son showing him the arrow that will direct them to the Minnetonka trail that connects further downtown.

"THE WAY-FINDING IS WELL MARKED IN RASPBERRY RED"

You smell food gently riding on the breeze as you begin strolling north across Excelsior Boulevard, nodding to the drivers stopped at a safe distance outside the brick square and flashing lights. As you reach the other side, you know you've stepped into a healthy small town. A historic trolley or historic bus coasts by delivering workers to the light rail after a day at the office. You see flags hanging from the historic lamp posts welcoming you to Downtown Hopkins. Each one has a different tag line: home of the Raspberry festival, a center for artists, livable community for all ages, etc. You are enjoying the stroll down Eighth Avenue, so decide not to stop and chat to the friendly older gentlemen happily resting his feet on one of the benches, cane in hand.

Instead, you're interested in the sign inviting you to Mainstreet, the Center for the Arts, and unique shopping and dining spots. The way-finding is well marked in Raspberry Red, so when you see the color farther up the road, you know there will be more signage to guide you to many destinations. You smile as your finger glides over the brail on the sign and continue your walk. You reach Mainstreet sooner than expected (you suppose it is only ¼ mile), and follow the signs to a local restaurant discovering the vibrant and historic treasures along the way.

BICYCLE & PEDESTRIAN

Smoothly, almost silently, your train glides to a halt at the Downtown Hopkins station. Every day on your way home from work, you've noticed the inviting, cheerfully lit street leading north from the station with

tantalizing shop windows just out of reach from the light rail line, and a seemingly endless supply of people strolling, milling around, even (apparently) walking right out in the street! Even tired in your coveted seat on a crowded train, you've almost been pulled closer to the window every time you've sat on the right-hand side of the car going home from Minneapolis. Each evening, you've had just enough time to think "I need to get off and explore here sometime" before the hum of the motors and the gentle push back in your seat has yanked the vision away. Tonight, though, you made it to the train you always just miss downtown. Tonight, you decide you have a few extra minutes. Tonight, you're getting off.

Tonight, you decide you have a few extra minutes. Tonight, you're getting off (the train).

Once you step out into the cool night air, a young couple walks by you, wheeling bicycles along the platform. A striking, raspberry-red signpost points you towards "Mainstreet," the "Center for the Arts" and other things out of view from the rail line. A large red button quickly brings you a walk signal, and you start into a wide, well-lit crosswalk. The blocks that pave it seem to set you apart from the wide road you're walking across and the flower-planted refuge island and goal you're moving towards leave you realizing the width of Excelsior Boulevard only after you're safely across.

On the other side, you step onto a street unlike any other you've walked down before. Though you're greeted by a series of signs saying "Walkers Okay, Bikes Okay, Cars Okay," the signage and other trappings of an urban road die out immediately after. Actually, it hardly looks like a road at all, with a single open stretch of luxurious brick pavement stretching from building front to building front. It's broken up by planters, bushes, outdoor seating for a café; in spite of the wide, open space, with no point so narrow you wouldn't be at ease walking, biking, or driving through it, you can't see a straight line through from one end to the other. The young couple you saw on the light rail platform seem to chase each other, playfully weaving between the obstacles on their bikes.

All ways forward are so bent that it suddenly strikes you as absurd to cling to the outer edge where the sidewalk would normally be, and everyone else is walking across or right down the middle of this strange street anyway. You step out into the center and walk a leisurely diagonal toward movements behind a picture window that catch your eye from the other side. You find a studio with a dance class in session, unapologetically rehearsing in front of anyone who may pass by. Gradually tacking back to the other side, you come face-to-face with an oncoming car. The car slows and the driver makes eye contact, almost imperceptibly—yet undeniably—offering you the right of way. You nod, walk past, and, almost incredulous, turn to watch the car make the same exchange with a bus bringing more people from the light rail. Immediately afterward, you watch the bus casually yield the right of way to on an adult on a tricycle heading towards the LRT station.

At the end of all this, finding an authentic, vibrant Midwestern small town main street in the middle of the suburbs seems almost natural. Another signpost beckons you to the left, though you have no particular destination at the moment. Passing the young couple's bikes locked to an unforgettable, raspberry-shaped bike rack, you smell fresh coffee wafting out of a fine old storefront and step in for a cup. As you sit down outside again, you hear a live band strike up at the restaurant across the

street and decide then and there to come back to Hopkins when you have more time.

TROLLEY SERVICE

Just like the complement of redevelopment with the historic downtown, light rail can be complemented with a historic transit service along Eighth Avenue. There is no doubt that Eighth Avenue can be a pedestrian draw for Mainstreet, but Hopkins has much more to offer than just Mainstreet.

Imagine a historic trolley bus ringing its bell at the light rail station, "All aboard!!" The bus then glides its way up Eighth Avenue, stopping at each uniquely marked bus stop. As it works its way up Eighth Avenue and down Mainstreet, it passes shops, restaurants, the Center for Arts, a movie theater, brick apartments, and much more. The windows on the bus mimic the look of the shops that line the streets and everyone can see the ins and outs of the community space. As the bus moves from Eighth Avenue to Mainstreet, the character of street shifts from new to old, much like transit riders did when they switched from light rail to trolley bus.

Imagine a historic trolley bus ringing its bell at the light rail station, "All aboard!!" The windows on the bus mimic the look of the shops that line the streets and everyone can see the ins and outs of the community space.

The bus continues on to drop off workers at Excelsior Crossings after a festive lunch break downtown. The driver, in historic dress, welcomes everyone aboard the Raspberry Ride. An elderly couple is traveling to their housing unit at Excelsior and Eighth after a short trip to Driskill's Food. They see Jimmy, their grandson, and some friends on their way to Overpass Skate Park for an afternoon skateboard session. The trip has gone full circle again as young meets old and that is why Hopkins will be the unique destination unmatched throughout the Twin Cities.

MIXED USE ZONING

A unique and historic Mainstreet is cradled in Downtown Hopkins about ¼-mile from the station. Multifamily and single family housing is nestled into the nearby area at a fairly high density. While Mainstreet has some commercial draws for local residents, our vision for future land use is one that complements and enhances what will be a vibrant downtown with a distinct sense of place: one that preserves the historic feel while ushering in the vibrancy of the new.

By zoning the Eighth Avenue corridor a “mixed-use” district, street level retail and office uses will anchor buildings to an active street. An increase in dense housing accompanying the energetic corridor will not only be attractive to those seeking walkable mixed use neighborhoods, but will also serve the local businesses located in the district.

Design of the street and buildings will be key when creating a sense of place rich in history, energy, and safety. Branding the district with flags with a community-chosen icon will signal to the user that they are downtown. Way-finding signage will activate the

pedestrian experiences as they seek the many destinations the district has to offer. Form based code will accomplish the many goals by enforcing design standards.

Downtown Hopkins is unique in the Twin Cities because it has a history that it retains even as the world changes. The light rail will undoubtedly bring about more change, especially along Eighth Avenue. Redevelopment along Eighth Avenue will spur new development, new business, and a new sense of place for the street. It will be an extension of downtown, but will complement new with old, transformation with history, and density with charm. In this sense, there is an amazing opportunity to create a unique regional destination that cannot be replicated anywhere else in the Twin Cities.

A PLAN FOR ACTION

COMPONENTS OF THE ACTION PLAN AND THEIR LINK TO THE VISION STATEMENT

The key elements of the vision guide the overall goal of the plan, which breaks up the components to more manageable projects.

The vision calls for an inviting, family-friendly, and safe area. This sense of identity and safety is a goal of the *Mixed Use Zoning Code* section of the Action Plan and will be achieved through a form-based code (FBC) to give the area a recognizable design, where the pedestrian experience is the priority. Active street windows, activity on sidewalks, and a visually stimulating streetscape are important elements in the vision and will be addressed in the mixed use zoning code section of the Action Plan.

While the Mixed Use Zoning Code section of the Action Plan will outline actions for achieving active and pedestrian oriented vision for Eighth Avenue, it is not the only component for achieving this aspect of the vision. While a new FBC will enhance the pedestrian and bicycle experience through visually stimulating buildings, hidden parking and the feel of eyes on the street, what happens outside property lines is not addressed. The *Bicycle and Pedestrian* section of the Action Plan covers recommendations for the bicycle and pedestrian design that is outside the jurisdiction of what is accomplished in the Mixed Use Zoning Code recommendations.

The Bicycle and Pedestrian section of the Action Plan is focused on the public right of way, it is written with the intention of complementing the design achieved in the FBC in the immediate downtown area. The Bicycle and Pedestrian section provides recommendations for achieving both a safe and inviting place to move. Drawing on best practices for walkable, bikable communities, and avoiding common mistakes in non-motorized transportation design, this section addresses what happens outside of the buildings in the study area to complement what is achieved there.

Finally, the *Transit* section of the Action Plan pulls the study area back to a broader context for users in the greater Hopkins community. While the Mixed Use Zoning Code and the Bicycle and Pedestrian sections are focused heavily on the experience of the LRT user, the pedestrian, and the cyclist in the immediate downtown area, the activity there falls within a broader context. Because the vision includes a vibrant and active downtown commercial component, drawing visitors is important. The Transit section is one way to encourage employees in the area to take advantage of the new transit hub.

BICYCLE AND PEDESTRIAN ACTION PLAN

In order to achieve the goals of creating a pedestrian-seductive, vibrant, and unique destination in downtown Hopkins, ensuring the safety and security of the experience of all users is essential. This section focuses on the experience of the pedestrian and the cyclist between the LRT station and Mainstreet and between the Southwest LRT and Lake Minnetonka LRT bicycle trails. In order to capitalize on the opportunity these nodes on Eighth Avenue, inviting the users on both ends, a shared space approach is proposed to not only maximize pedestrian and bicycle safety, but also to anchor this stretch of Eighth Avenue as an extension of Mainstreet rather than a throughput.

RECOMMENDATION ONE: SHARED SPACE TREATMENT

Implementing a shared space treatment along Eighth Avenue between Excelsior and Mainstreet will accomplish the following objectives:

- Fill gap between bike trails
- Invite a pedestrian experience rather than a generic connection
- Achieve safety without increasing enforcement costs

SHARED SPACE

Shared space is a new concept in urban traffic engineering which seeks to firmly establish the entire width of the right of way as the rightful domain of all modes of transportation, from pedestrians to bicycles to automobiles to transit. Rather than chopping up the right-of-way into rigidly separated zones for each separate mode, as is the case in many attempts to create "complete streets," shared space removes pavement markings, traffic signs, even curbs, and mixes all modes into the full street. At first glance, this invariably seems to be a recipe for disaster, but the practice is based on truly innovative understanding of human behavior and has safely created a number of impressive public spaces.

Shared space is based on the idea that the myriad of signs, signals and pavement markings seen by drivers on the vehicular (or bike) lanes of urban streets tend to create a false sense of an ordered, controlled environment, which a vibrant urban street is not. Though such traffic controls, most of them designed primarily to facilitate the rapid throughput of automobile traffic, are entirely appropriate for a highway, the concept of shared space holds that they, and their main goal, are entirely inappropriate for an urban street intended to function at least as much as a destination as a piece of transportation infrastructure. Constant, physical separation from pedestrian traffic (and in some cases lane separation from bicycle traffic) except at intersections can have a similar effect; since other modes operate in other spaces, they become none of a driver's concern until a conflict arises, which the driver is ill-equipped to deal with on account of expecting a controlled, predictable environment.

By removing the trappings of a highway from an urban street, one introduces confusion. When people are slightly confused, they tend to move (or ride or drive) more slowly, and fall back on basic norms of

social behavior, such as making eye contact with someone to request or offer the right of way. This idea is the heart of shared space.

All that said, to be safe, particularly for the pedestrians and cyclists it is primarily intended to benefit, the implementation of shared space requires somewhat more than the removal of curbs and signs and the erasure of pavement markings. Most importantly, it requires an unmistakable set of multi-sensory cues that leave motorists in no doubt that they have entered a very different environment from a normal, automobile-oriented road. In keeping with the principle of creating a unified space, shared space generally incorporates textured, often distinctively colored pavement, to set it apart from the road drivers have just left by sight, feel, and sound. Brick or concrete-block pavers are a popular surface for shared space streets, both for the distinctive (and low-speed-encouraging) vehicular ride quality they produce, and for the sense of an attractive, high-quality environment they impart to pedestrians. In addition, judiciously placed obstacles to break up the speed-supportive sense of a wide, straight road are also popular.

On Eighth Avenue, such obstacles such obstacles could take the form of line of ornamental bushes placed in the right-of-way near the entrance to the shared-space area. A twenty-two- to twenty-four-foot gap would be left in the center of the right-of-way, providing the equivalent of two 11-12 foot lanes in between the bushes. Though this would leave sufficient room for entering and exiting vehicles to pass each other, it would represent a significant narrowing of the automobile-compatible travel space, forcing cars to slow as they entered the Eighth Avenue Promenade. Gaps between bushes on either side, while too narrow to admit cars, would be made wide enough to admit pedestrians and cyclists. In fact, an effectively free flow of entering cyclists and pedestrians combined with a deliberate bottle-neck for entering automobiles can help instill the feeling in drivers that the space they are entering is not entirely theirs.

ALTERNATIVE STREETSCAPE FOR EIGHTH AVENUE

Though shared space is the recommended design concept for the Eighth Avenue streetscape, it can be difficult to convince the myriad of stakeholders (ranging from business owners and residents to the public works department) to get onboard with such a radical departure from conventional traffic engineering principles. Should shared space be determined unfeasible (at least in the near term) for Hopkins, the following, more traditional design is offered as an alternative.

Curb to curb, Eighth Avenue is currently thirty-six feet wide. This alternative cross-section is intended not to preclude an eventual shift to shared space along Eighth Avenue; as a result, it is conceived as a low-cost interim measure, assuming no major physical modifications will be made to the roadway. Sidewalks, however, would be widened to the greatest extent possible within the confines of the right-of-way. Interestingly textured block pavers could improve the perception of quality of the sidewalk environment. As significant funds will not have been already expended on rebuilding Eighth Avenue in its entirety, a subsequent decision to adopt shared space will be less painful from a budgetary standpoint.

So as to comfortably accommodate bicycle traffic while maintaining safe vehicular access, Eighth Avenue will be divided into two twelve-foot automotive lanes and two six-foot bicycle lanes. To minimize conflicts between modes and ease the flow of bicycle traffic into the trail connection North of Mainstreet, both bicycle lanes will be placed on the West side of the street, separated from the vehicular lanes by a strip of contrasting, colored pavement and a line of ornamental bollards. With such an arrangement, access management for vehicular traffic turning into drives and parking lots to the West of Eighth Avenue will be critical. Given the likely degree of redevelopment, and the existing alley access too many parcels, this course of action should not be overly difficult. Reducing the number of curb cuts along either side of Eighth Avenue to the absolute minimum will also improve the sidewalk environment. At the intersection of Eighth Avenue and First Street South, "Right/Left Turn Yield to Bikes" signs (possibly a variation on MUTCD R4-4 or message plaques places above a standard R1-2 "Yield" sign) would be employed to prevent conflicts between cyclists and turning motor traffic. Due to higher volumes of turning traffic at the intersection of Eighth Avenue and Mainstreet, separate signal lights would be installed for the bicycle lanes, with a special bicycle- and pedestrian-only signal phase provided.

INCORPORATION OF ARTS DISTRICT

Because the Center for the Arts is one of Hopkins' key destinations on Mainstreet, unifying this section on the western portion with the LRT activity and Eighth Avenue revitalization is important. One way to bring a unified sense of place to the downtown is through an Arts District which would include signage and cooperation of local artists to organize events. Capitalizing on existing events in the Center for the Arts such as Music in the Park to bring a stronger artistic identity could be promoted through flags, monthly events, open studio tours, or public art activities, partnerships with restaurants and local businesses. One model to consider is the Northeast Minneapolis Arts District which was formed as a result of the Northeast Minneapolis Arts Action Plan.

Advantages of Shared Space

- municipal street - jurisdiction appropriate
- cars can still access local destinations if necessary
- cars will be deterred from using the stretch of Eighth Ave as through street
- safe for pedestrians
- safe for bicycles
- flexible uses for festivals or special events
- multisensory signals that the street is a destination, someplace different
- capitalize on the arts center talents and patronage, reinforce arts as part of Hopkins identity
- Reinforce community vision for branding the district
- Involves a lot of community input for design to build sense of community

Disadvantages of Shared Space

- Unusual
- Could be tough for trolley turning radii
- Potential loss of on-street parking (depending on final design)

PEDESTRIAN MALL OPTION

Shared space is a fairly new concept, and it can be a frightening one as well. In addition, it may be difficult to go directly from current traffic volumes on Eighth Avenue to the relatively low volumes that would be

ideal for shared space. If shared space is deemed unfeasible or unfeasible in the short term, simply converting Eighth Avenue to a pedestrian-transit mall would be an alternative option. Design and surface treatment would be overall very similar to the shared space treatment described above, only with the exclusion of automobile traffic.

So as to preserve local automobile access to businesses and apartments on the block of Eighth Avenue between Mainstreet and First Street South, it might be preferable to implement a pedestrian mall only between Excelsior Boulevard and First Street South. Such a course of action would allow the preservation of automobile access to the apartment complex located on the East side of Eighth Avenue, as well as to other properties, while diverting through traffic to other routes, and still allowing the one-block pedestrian mall to function as a gateway to downtown Hopkins. Though a pedestrian mall only between Excelsior Boulevard and First Street South would be disconnected from Mainstreet, it would have the advantage of being easily visible from the light rail station to draw pedestrians toward downtown.

It might also be possible to implement a pedestrian mall on Eighth Avenue as an intermediate stage on the way to the eventual implementation of shared space. With Eighth Avenue simply closed to motor traffic, motorists would find alternate routes, removing the expectation of Eighth serving as a through route. Once such alternative traffic patterns were established, automobiles could possibly be allowed back onto Eighth Avenue without creating nearly the same traffic volumes as exist today.

RECOMMENDATION TWO: BICYCLE TRAIL CONNECTION

Currently, cyclists leaving the Southwest LRT trail to connect to the Lake Minnetonka LRT trail north on Eighth Avenue lack wayfinding, bicycle lanes, and facilities that raise driver awareness of cyclists along the road. The multi-sensory signals to users approaching this stretch of Eighth Avenue will include wayfinding to trails. The traffic calming coupled with deterrents for use of the area as a through-street will be overwhelming for drivers to be alert for bicyclists. The Shared Space will end at Mainstreet so as to not interfere with Mainstreet traffic flow.

However, the bicycle facility will continue between Mainstreet and the Lake Minnetonka LRT trail entrance to the north. Because the trail head is on the west side of the street, a two-way bike lane is proposed on the western portion of Eighth Avenue between the trail head and where the Shared Space begins south of Mainstreet. If the bike lanes were separated onto each side of the street, there would be many left-turn conflicts for cyclists heading northbound, so keeping cyclists on the west side of Eighth Avenue for the half-block stretch will prevent most driver-bicyclist conflicts. As with the alternative cross section for Eighth Avenue discussed above, the two-way bicycle lane will be separated from motor traffic by contrasting pavement and a line of ornamental bollards. Although the Eighth Avenue bicycle lanes are here planned to end at the trail connection, the community may request and extension of the on-street bicycle lanes.

Figure 1 - Before and After Extend of Eighth Avenue Treatments

RECOMMENDATION THREE: ADJUST SIGNAL TIMING AT EIGHTH AND EXCELSIOR FOR HIGHER PEDESTRIAN LEVEL OF SERVICE

Because the existing conditions at Excelsior and Eighth Avenue include well-marked crosswalks and newer curb cuts, the challenges are mainly the wide intersection and the signal timing. The objective is to have the pedestrian signal at a higher level of service to accommodate high platoons of pedestrian traffic, older and younger users. Because Excelsior is so wide, an increase in the red light signals for the approaches on Excelsior Boulevard will likely increase traffic delays for vehicles.

Studies should be done to consider traffic volume, road capacity, projected volume, and what the maximum red light can be to accommodate pedestrians without sacrificing too much traffic flow rate. Because Excelsior Boulevard is not a municipal road, partnerships with State and/or County departments will be necessary.

Pedestrian Signal at Eighth Avenue and Excelsior Boulevard

While this report focuses on more qualitative aspects of pedestrian enhancements, quantitative considerations are essential as well. Currently, the pedestrian signal is activated for crossing Excelsior Boulevard at Eighth Avenue by pushing a pedestrian signal button. This button extends the green time for north and south bound traffic and designates a walk signal to accommodate current pedestrian volumes.

However, the pedestrian volumes for those crossing Excelsior volumes are expected to increase with the alighting and boarding of the LRT.

According to AASHTO, calculating a minimum pedestrian signal length is dependent on pedestrian volumes in addition to intersection length, pedestrian speed, and crosswalk width. With the increase in the pedestrian volume variable, further study of pedestrian signal time is essential. Not only will the pedestrian volumes increase, but they will be dispersed differently from current pedestrian volumes due to large numbers of people alighting and boarding the train.

The adjustment of the pedestrian signal at this intersection may be an opportunity to not only accommodate pedestrian volumes, but also encourage higher volumes through a sense of safety and ease in crossing. However, the adjustment in time must be taken into consideration in the context of Excelsior Boulevard as a key road with high traffic volumes as well as part of a greater transportation network, which will soon include an alternative for drivers on Excelsior to use the LRT. Further study by an engineer with comprehensive knowledge of the interplay of a signalized system should be done.

BICYCLE AND PEDESTRIAN STEPS

PUBLIC PROCESS

In order to garner community support and to develop the sense of place for downtown Hopkins, public participation will be important. One advantage of the Shared Space treatment is that it is relatively informal. The public can participate in the vision for features of the shared space through open houses, art contests, logo design, etc. Collaboration with Hopkins businesses and organizations downtown will also be key. If pursuit of a more visible arts district is something the community supports, coordination of arts activity and policy will need to be explored in the long term. Ongoing events - large and small - will need some level of centralized planning. One way to approach this may be to begin planning events around the grand opening of the SW Transitway.

COLLABORATE WITH OTHER DEPARTMENTS

In order to maintain a safe and useful circulation pattern for the area, partnership with traffic engineers and public works will be essential in implementing Shared Space because it is not very common in the region yet. The bicycle trail facilities and the signage implementation, as well as maintenance issue associated with things like planters and street paintings need to be addressed by the department that will be looking after them.

SECURE FUNDING

- Transportation Enhancements - Met Council
- Non-motorized Transportation Project (Transit for Livable Communities)
- Hennepin County TOD grants
- Bicycle and Pedestrian Benchmarks
- Pedestrian counts
- Bicycle counts
- TLC survey

TRANSIT ACTION PLAN

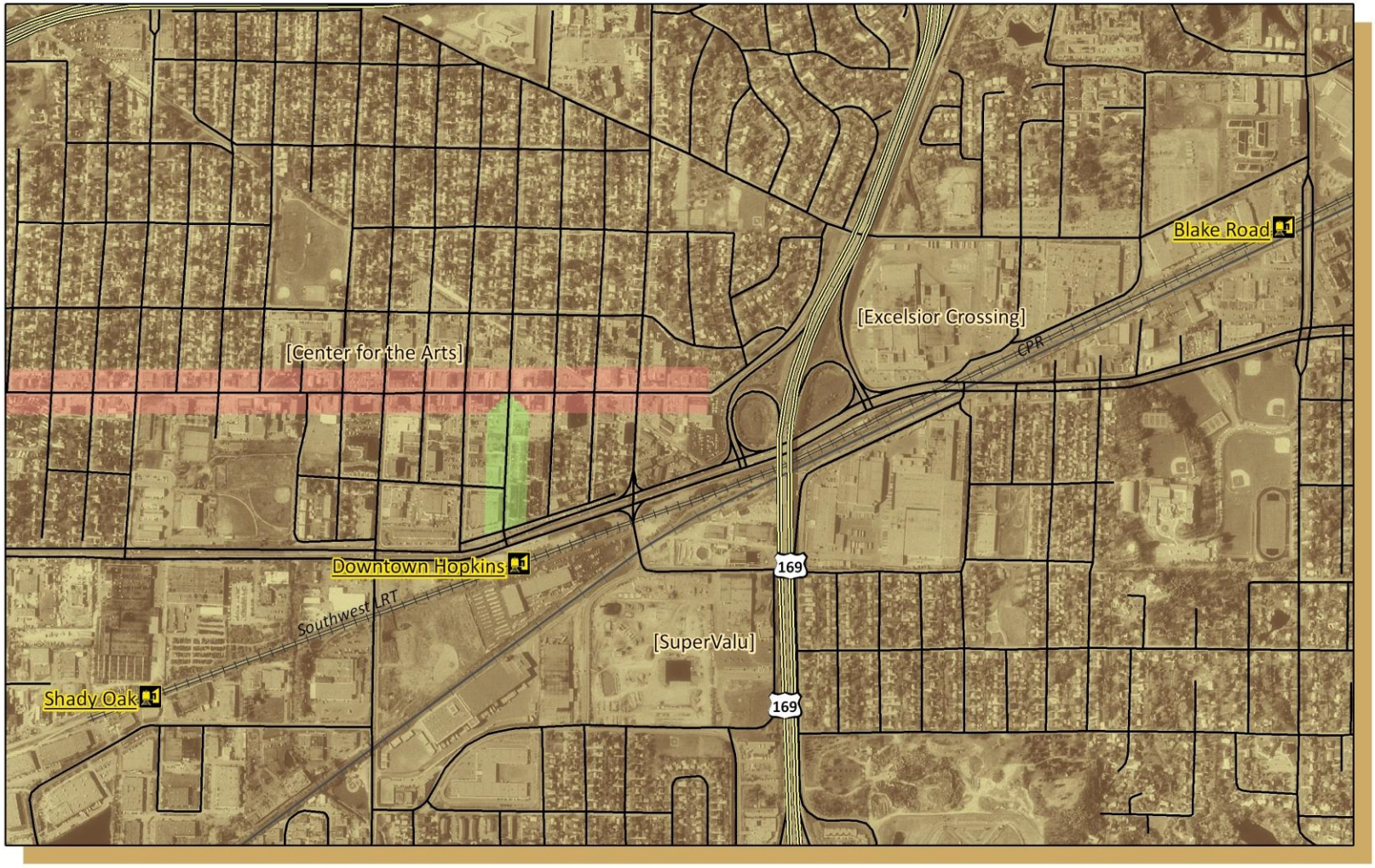
The opportunity to provide enhanced transit options for Hopkins is an important one to consider when discussing the revitalization of Eighth Avenue. The following options can be used as guidelines for future service implementation. The estimated costs of these routes are based on a $50 to $60 hourly range for contracted service, which is the range commonly found among existing contracted public transit service in the region[33]. The different options presented here incorporated the following principles when considering successful transit circulator systems:

- Limit duplication with existing and/or future transit service provided by Metro Transit
- Focus on serving major destinations and employment centers
- Provide enhanced frequency of service on Eighth Avenue between Mainstreet and the Downtown LRT station
- Implement a circulator that has flexibility in operation, be it weekend vs. weekday, lunch vs. rush hour, or serving specific sites

The following options are recommendations with the understanding that flexibility is an integral part of transit planning. As Hopkins changes and the Southwest LRT plans become more finalized, the transit options may change as well. The City should be proactive in exploring circulator options and ways to best move its residents through the City by establishing a working relationship with Metro Transit, the Metropolitan Council, and Hennepin County. These options do not include weekend service, since the demand patterns vary dramatically. As the Southwest LRT project advances, the City should consider timing any circulator route with the LRT timing.

The following map provides a base for the areas examined and three potential bus circulator options and one streetcar circulator option are included.

[33] Harper 2009.



Local Transit Circulator Study Area

N
W
E
S

0 0.05 0.1 0.2
Miles

Legend
Mainstreet
8th Avenue
LRT Station

CIRCULATOR ROUTE 1

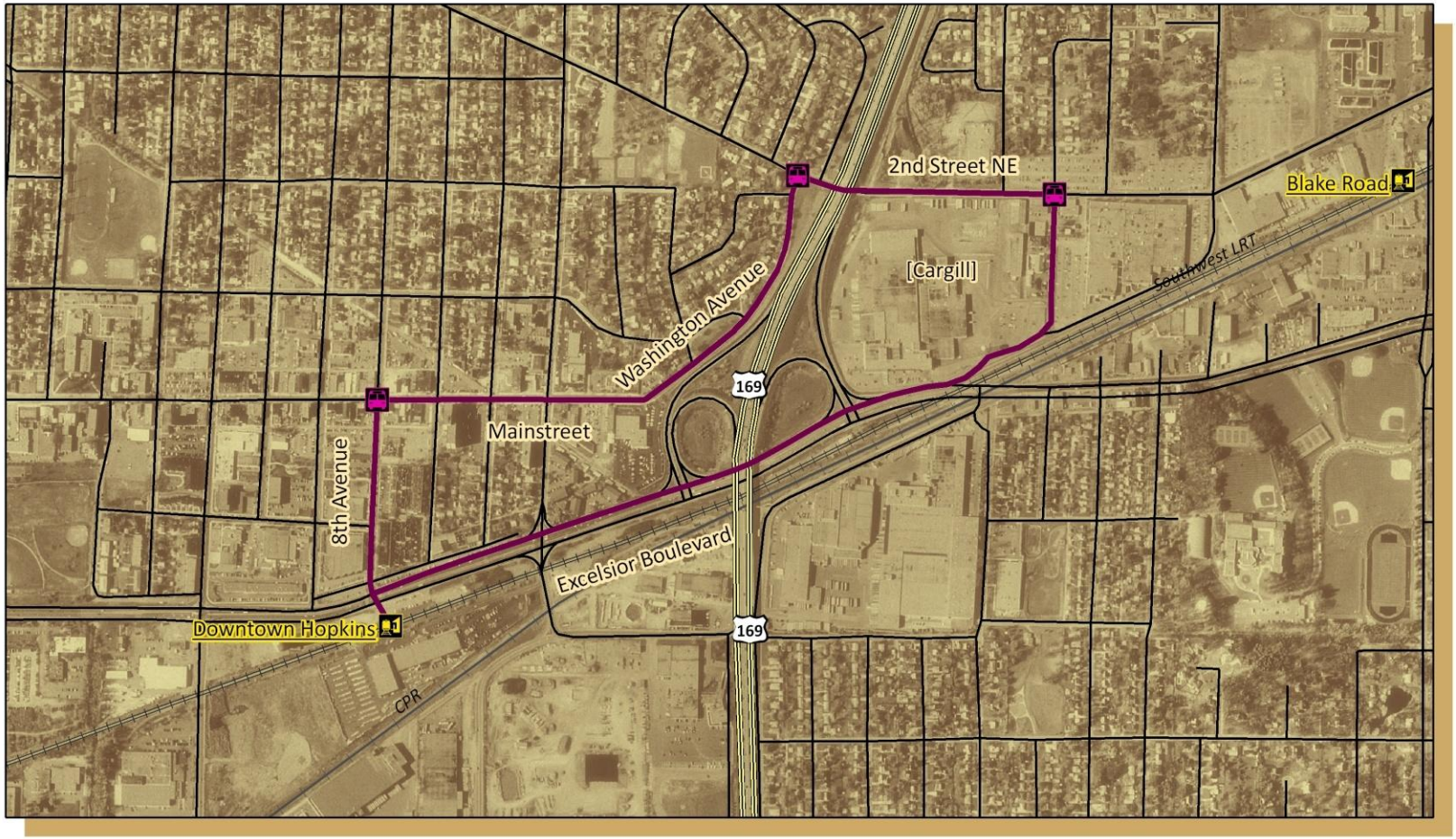
The first possible route is the simplest route, kept short and simple while still serving important sites. The route travels along Eighth Avenue from the Hopkins Downtown Station to Mainstreet. It then turns east and follows Mainstreet and Washington Ave N. to 2nd St NE. It can stop along 2nd St. NE to serve Excelsior Crossing, and then travel to Jackson Ave N. and turn south to serve the other side of Excelsior Crossing. The route would then travel along Excelsior Blvd. back to the transit station. The frequency during peak would be 15 minutes and off-peak frequency would be 30 minutes. Weekend frequency would be 30 minutes all day and the span of service would be 7 AM – 9 PM every day. The route would only travel in one direction to allow it to only use one vehicle but could be reversed midday to better serve travel demand.

BENEFITS

- Serves Excelsior Crossing and downtown Hopkins
- Only requires one vehicle to operate
- Can be reversed throughout the day to better match travel demand patterns
- Coupled with Metro Transit Route 12's possible 15-minute frequency, creates an average 7.5 minute frequency along Eighth Ave during peak travel times
- Does not duplicate Metro Transit Route 12 past Eighth Ave

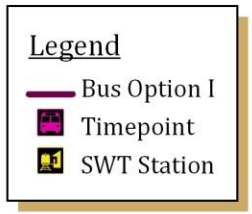
DRAWBACKS

- Limited layover time (2 minutes during peak) to make-up lost time or allow driver to rest.
- Unidirectional route will turn-away some riders wanting to travel the opposite direction quickly.
- Short route serving only limited sites could mean low ridership.



Bus Circulator - Option I

LENGTH
2.15 Miles
SERVICE FREQUENCY
15 min peak/30 min off-peak.



CIRCULATOR ROUTE 2

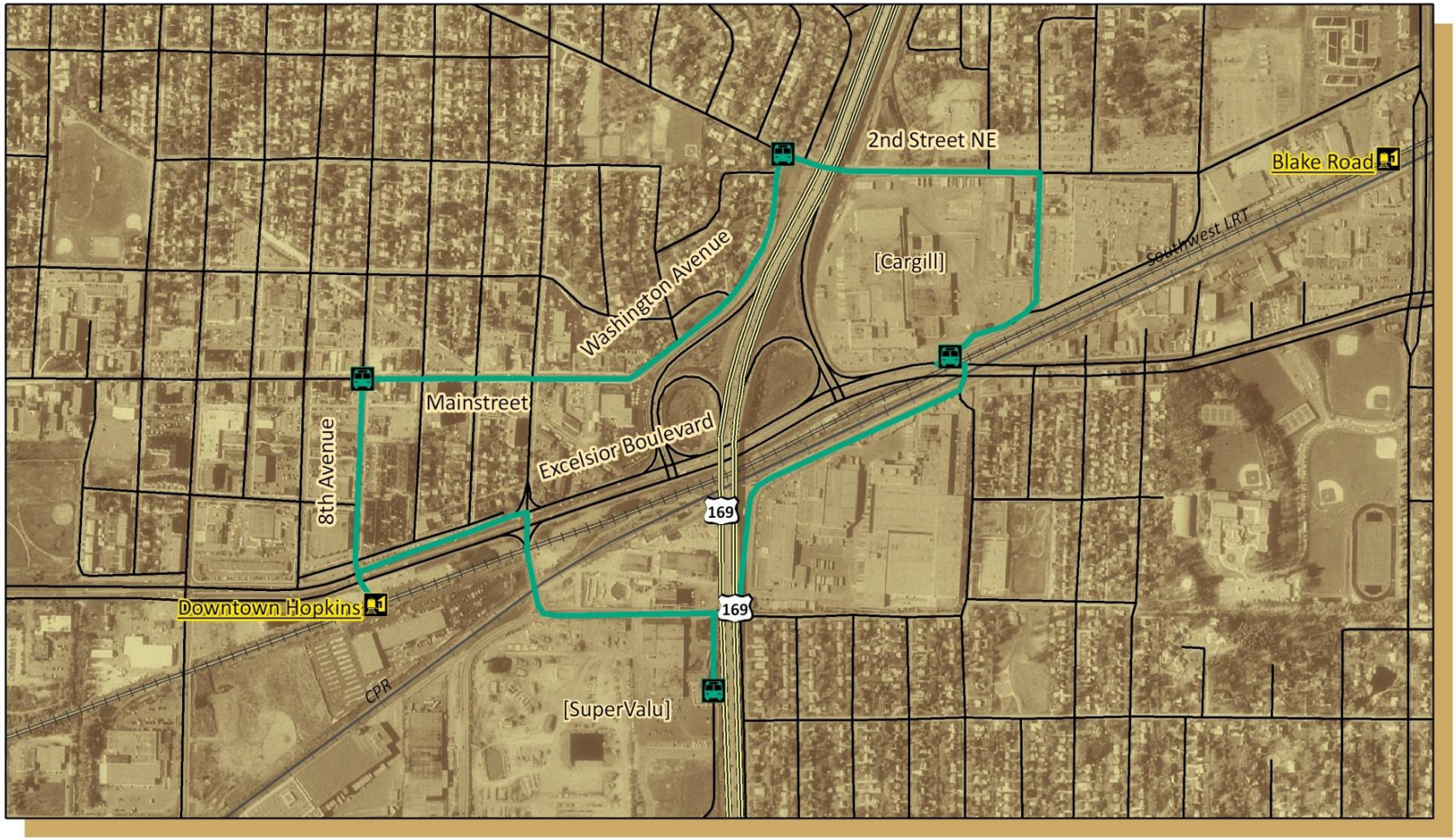
This potential route would leave the Hopkins Downtown Station and head east on Excelsior Blvd. to Fifth Ave S. From there, it would head south to the Supervalu parking lot for a quick drop off and turnaround. The route would then head north on Milwaukee St. to Excelsior Blvd. The remaining portion of the route would loop around Excelsior Crossing and follow the same path as Route 1. The frequency of this route would be reduced to every 20 minutes during peak travel times to maintain the need for only one vehicle and it would also switch directions midday to better serve commuters. Weekend frequency would remain at 30 minutes and service span would remain from 7 AM – 9 PM.

BENEFITS

- Serves Supervalu, Excelsior Crossing, future redevelopment site at southeast corner of TH169 and Excelsior Blvd., and downtown Hopkins
- Only requires one vehicle to operate
- Can be reversed throughout the day to better match travel demand patterns
- Better ratio of service hours to revenue hours, meaning less lost time with bus sitting
- Does not duplicate Metro Transit Route 12 past Eighth Ave

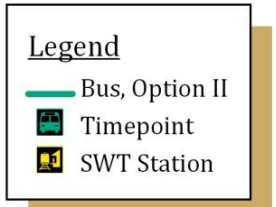
DRAWBACKS

- Peak headway of 20 minutes will not mesh as well with possible 15-minute frequency of Metro Transit Route 12
- Limited layover time (2 minutes during peak) to make-up lost time or allow driver to rest
- Unidirectional route will turn-away some riders wanting to travel the opposite direction quickly



Bus Circulator - Option II

LENGTH
3 Miles
SERVICE FREQUENCY
20 min peak/30 min off-peak.



CIRCULATOR ROUTE 3

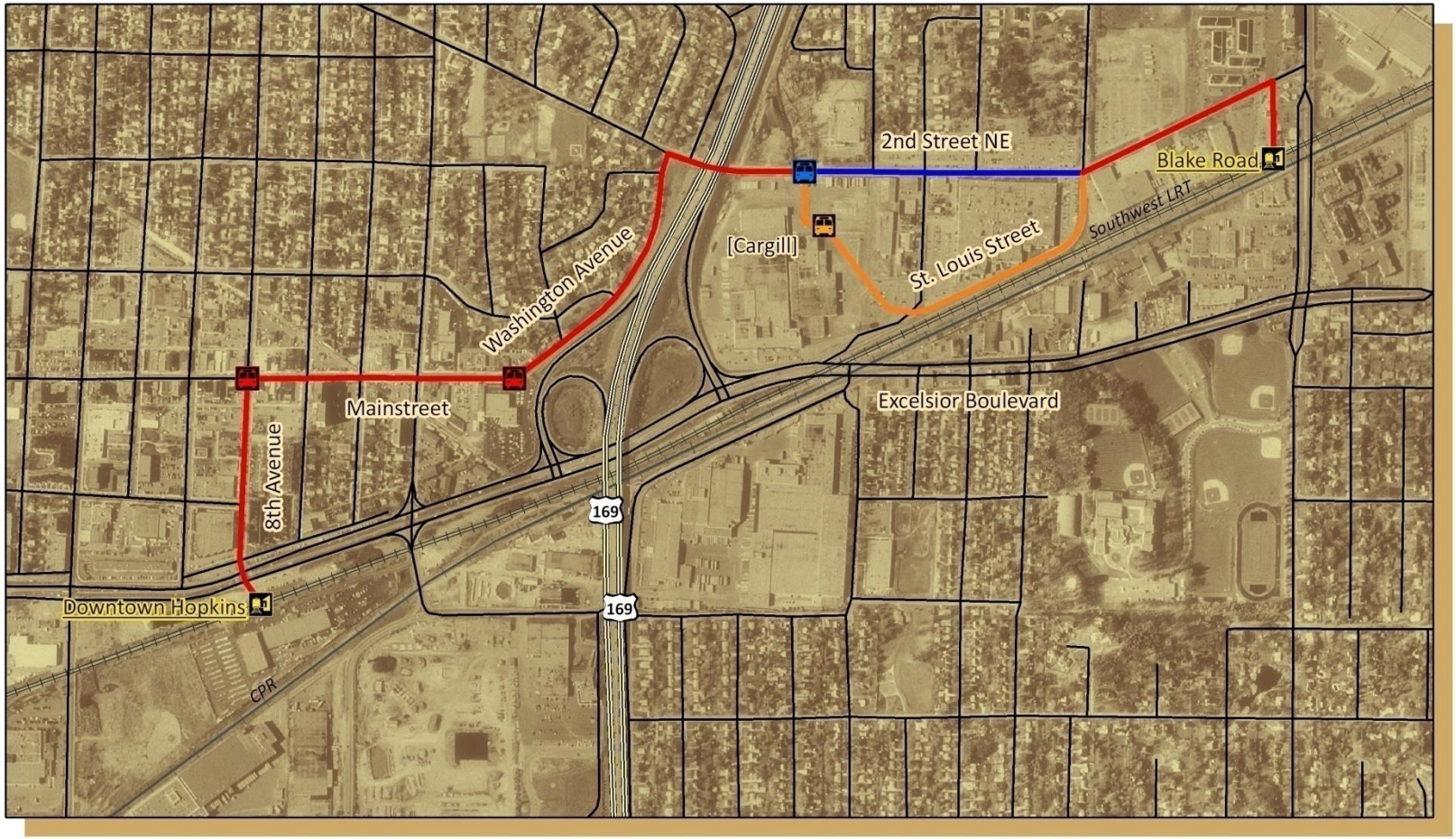
The third circulator route option is an out-and-back line, rather than a continuous loop as the first two. After travelling from the Downtown station to Mainstreet via Eighth Avenue, the route turns right, continuing along Mainstreet and Washington Avenue to Minnetonka Mills Road, where it turns right and crosses under US Highway 169, where Minnetonka Mills becomes 2nd Street NE. Shortly after crossing under the highway, the route passes by Excelsior Crossing. Between this point and the intersection of 2nd Street NE and Tyler Avenue, there are two routing options. Option 3-A continues along 2nd Street NE, directly serving a recently developed medium- to high-density residential area North of 2nd Street. Option 3-B turns south into the Cargill campus itself, running through this major employment center to St. Louis Street, following Saint Louis Street and Tyler Avenue back to 2nd Street. From the intersection of 2nd and Tyler, both options continue to the Blake Road LRT station via 2nd Street. As with the first route option, headways are 15 minutes peak, 30 minutes off-peak. Though two vehicles would be required for peak headways, the 15 minute peak headway is maintained since the one-way trip times of 10 and 11 minutes for options A and B would not allow even a 20 minute headway to be operated with one vehicle, and a 25 or 30 minute headway is not considered adequate for peak period circulator service.

BENEFITS

- Offers a direct service from Mainstreet to the Downtown Hopkins Station
- Provides bi-directional service along a single corridor, improving service legibility and service to passengers wanting to travel west along Second Street
- Serves Blake Road LRT station
- Coupled with Metro Transit Route 12 possible 15-minute frequency, creates maximum 7.5 minute wait time along Eighth Ave
- Does not duplicate Metro Transit Route 12 past Eighth Ave
- More closely serves redeveloping areas near Blake Road
- Makes more efficient use of a single vehicle during off-peak periods

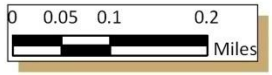
DRAWBACKS

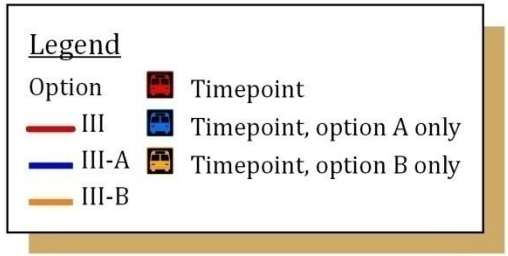
- Requires two vehicles to operate during peak periods
- Does not serve Excelsior Boulevard
- Requires multiple deadhead moves or long off-peak layovers for one vehicle on weekdays



Bus Circulator - Option III

LENGTH
Option IIIA: 3.4 Miles
Option IIIB: 3.8 Miles
SERVICE FREQUENCY
15 min peak/30 min off-peak.





CIRCULATOR BUS FEATURES

One of the greatest opportunities in providing a transit circulator option in Hopkins comes with the look and feel of the service. As Downtown Hopkins is branded and made to look like a distinctive, attractive center of activity, the local transit circulator should follow suit. With such short route options and frequent boardings and alightings, the vehicles used for this service should not be standard 40-foot Metro Transit-like buses. The more likely bus size would a 30-foot motor coach or a similarly sized historic trolley bus.

30-FOOT TRANSIT BUS

30-foot buses provide more seating and standard transit features than most historic trolley buses. They are also more readily available and cheaper (depending on the comparable size of the historic trolley bus). The buses can be wrapped to reflect the character of Hopkins. The windows are large, which resembles the storefronts of downtown Hopkins. The typical price range for a new 30-foot transit bus is $300,000 to $350,000. At a minimum, two buses would be required to satisfy the spare requirements imposed by the FTA. However, since 30-foot buses are already being used on regional transit routes by the Metropolitan Council, the need for spares could be satisfied regionally by other buses.

HISTORIC TROLLEY BUS

Historic trolley buses come in all shapes and sizes. The attractiveness of their unique character makes them an aptly designed option for the Hopkins Circulator. The floor plans can be kept open to facilitate faster boarding and alighting. The length of these buses can range from 25 feet up to 35 feet. However, a bus like this would likely only be used for the Hopkins service and could not be used elsewhere in the transit system.

Two buses would be needed, at a minimum, in order to satisfy spare requirements. New historic trolley buses range from $200,000 to $500,000, depending on size and features.

Source: Nations Bus Corporation[34]

The driver of the vehicle should reflect the character of Downtown Hopkins and Mainstreet. A historic bus driver outfit could be used, especially in conjunction with a historic trolley bus. Other features should be incorporated as best as possible to give the bus a unique "feel". The preferred methodology would be to link new and old, providing common new innovations with the historic feel of old Hopkins. Such innovations include low-floor bus designs, automated-vehicle locaters (AVL), and air conditioning.

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[34] *Main Street Rear Engine.* Nations Bus Corporation. 30 Apr 2009. http://www.nationsbus.com/Hometown%20Trolley%20Products/MainstreetRE.html

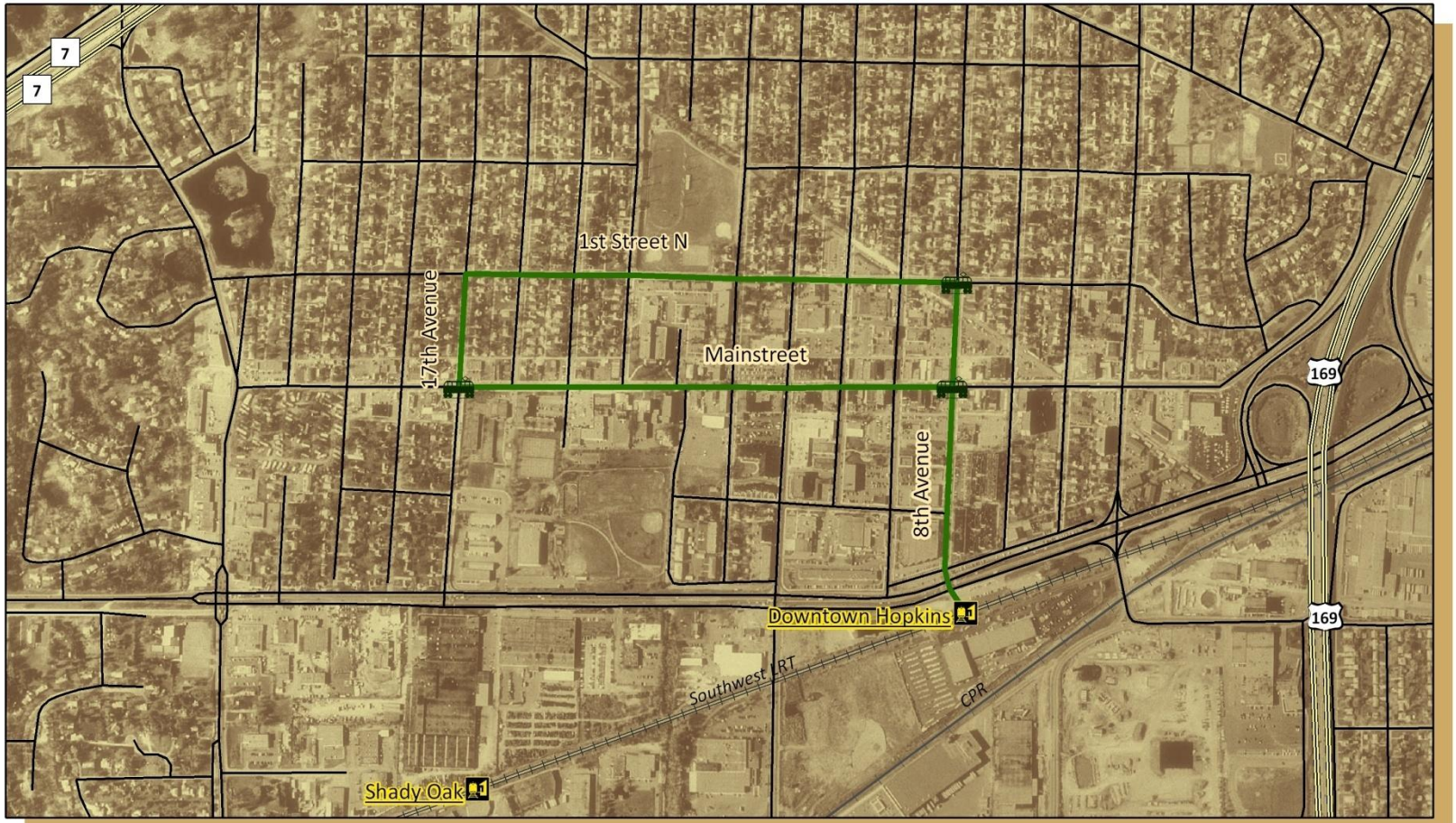
STREETCAR ROUTE

The steel-wheel streetcar route considered focuses exclusively on downtown Hopkins, rather than serving the Excelsior Crossing area as well, due to a need for constant, relatively high densities and activity levels to make the costs of fixed infrastructure worthwhile. After traveling up Eighth Avenue to Mainstreet, the streetcar route turns left, traveling down Main to 17th Avenue, directly serving almost all of the densely developed area of downtown. At 17th Avenue, the route turns right, turning right again on 1st Street N to head back to Eighth Avenue. This loop would also allow the eventual addition of a second car to shorten headways, by effectively double-tracking most of the line. Fitting into the shared space concept for Eighth Avenue, the streetcar would use a single track in the center of the Eighth Avenue Promenade, running in the normal traffic lane everywhere else. Service would run from 7:00am to 9:00pm on weekdays and 9:00am to 10:00pm on weekends, with 15 minute headways throughout.

A small storage and maintenance building would be constructed on either Eighth Avenue or 1st Street N to allow for weather-protected storage and maintenance of the car. Due to the relatively modest facility required to house and service a single streetcar, it might be possible to retrofit an existing building if one of suitable size and design can be acquired along the route.

INFRASTRUCTURE & CAPITAL COSTS

Infrastructure costs of heritage streetcars vary widely. Some lines have cost over $20 Million per track mile to construct, though these cost figures generally include major streetscape reconstructions which are not directly related to the carline itself. Others have come in at much less. The downtown streetcar in Kenosha, Wisconsin discussed earlier offers an excellent example of minimalist, affordable design. The proposed Hopkins line assumes the simplest of infrastructure designs, with street running in mixed traffic, single wire, direct-suspension overhead and traditional, trolley pole contact. Though concerns are occasionally raised about the visual impact of streetcar overhead on pedestrian environments, these usually stem from fears that it will look like the heavy catenary wire used by most LRT lines.



Streetcar Circulator

LENGTH
1.6 Track-Miles
1.85 Route-Miles
SERVICE FREQUENCY
15 min.

To minimize visual impact, the proposed Hopkins streetcar would support its single overhead wire with simple span wires supported by dual-purpose, pedestrian-scale streetlights or possibly even from small eye-bolts attached to building fronts, a practice common in the original streetcar era.

A definite cost estimate will depend on a more detailed engineering analysis of site specific conditions, including any needed utility relocation. Bearing this in mind, a rough total cost of $5 Million for the 1.6 track mile line proposed, electrification, and vehicle and maintenance building seems a realistic goal.

In many cases, Federal funding has been obtained to cover much of the construction costs of heritage streetcar lines through the FTA Small Starts grant program. In recent years, Smart Starts funding for streetcars has been relatively hard to come by, with past administration policies favoring bus projects. However, the upcoming Federal surface transportation reauthorization bill (to replace SAFETEA-LU, set to expire in 2010) is likely to include an overhaul of the Small Starts program. Several members of Congress involved in the process have indicated that such an overhaul would once again make the program more favorable to steel-wheel on steel-rail streetcar projects.

STREETCAR EQUIPMENT

To minimize capital costs, both for vehicle acquisition and maintenance building construction, the streetcar service plan assumes the purchase and operation of an only one streetcar. A bus, possibly from the same fleet as the 30 foot community transit buses currently in service for the Metropolitan Council, would substitute for streetcar service during major repairs. In order to achieve the reliability needed for such an arrangement to be practical, a newly-constructed, heritage-replica streetcar is recommended, as opposed to an authentic, restored historic streetcar. Though the Gomaco Trolley Company of Ida Grove, Iowa is the most prevalent supplier of heritage replica streetcars, other suppliers, such as the Brookville Equipment Company of Brookville, Pennsylvania, have undertaken involved, heavy rebuilds of vintage streetcars, and have expressed interest in building complete new cars. ADA compliance, through the use of transit bus style wheelchair lifts, is standard, and modern features ranging from air conditioning to solid-state controls are available. Depending on features specified, a 40 to 45 foot, 50 seat, four axle car generally costs between $750,000 and $1,000,000, and can be expected to last 30 to 50 years.

As with capital costs, operating costs of heritage streetcar systems vary widely. Though costs are highly dependent on local conditions, an analysis of operating and maintenance cost data for similarly sized systems from the National Transit Database suggests an operating cost range of $70 to $110 per vehicle revenue hour.

BENEFITS

- Attractive to riders
- Fixed infrastructure attracts development/reinvestment

- Requires only one vehicle to operate
- Streetcars are uniquely compatible with pedestrian environments
- Streetcar lines can be incrementally expanded
- Clean, electric vehicle
- Potential availability of Federal funds
- Potential for comparable or lower unit operating costs depending on ridership

DRAWBACKS

- High implementation costs
- Relatively high absolute operating costs
- Ridership of a Hopkins circulator likely to underuse streetcar capacity
- Streetcar infrastructure best justified when headways are in the 5-minute range
- Does not serve Excelsior Crossing

Table 1 - Transit Circulator Summary Options

Option	Route Length	Average Speed	Frequency(9-11 AM, 1-4 PM, 7-9 PM)	Frequency(9-11 AM, 1-4 PM, 7-9 PM)	Daily Service Hours	Annual Cost Range (Weekday only)
1	2.15 miles	10 MPH	15 Minutes	30 Minutes	14.25	$182,000 – 218,000
2	3.0 miles	10 MPH	20 Minutes	30 Minutes	14.25	$182,000 – 218,000
3-A	3.4 miles	10 MPH	15 min	30 min	21	$268,000 – 321,000
3-B	3.8 miles	10 MPH	15 min	30 min	21	$268,000 – 321,000
Streetcar	1.6 track miles, 1.85 route miles.	12 MPH	15 Minutes	15 Minutes	14.25	$255,000 – 363,000

STOPS AND SIGNAGE

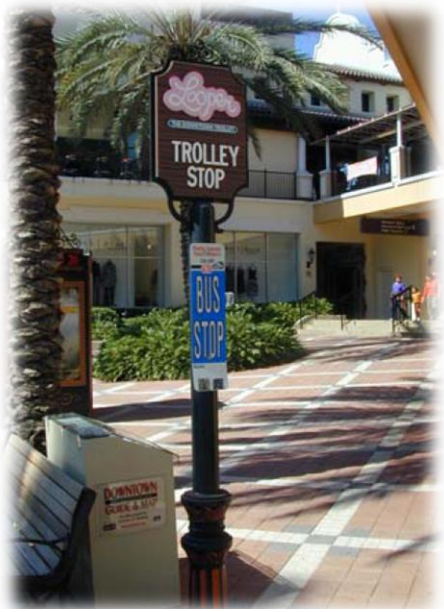
Transit signage and stop facilities can play a critical role in attracting patrons and, to a large degree, form the all-important first impression of a service. In addition, stops and signage preset an opportunity to brand the Hopkins circulator as a unique, easy to understand service, as well as to advertise the planned coordination with Metro Transit Route 12.

STOP FEATURES

Stops should be visually appealing and distinctive. Ideally, the circulator will use a standardized, unique stop design which will clearly identify Hopkins circulator stops as Hopkins circulator stops from a long way off. Design features could include custom built and/or painted shelters, contrasting sidewalk paving leading to a "bump-out" curb extension for ease of boarding, distinctive benches, streetlights, even plantings—anything to make stops attractive and instantly recognizable.

Especially given the Minnesota climate and the relative ease of climate-controlled automobile access to the areas the circulator will serve, shelters are a must. High-quality bus shelters are becoming more and more common and a variety of sources exist. They certainly need not be as elaborate as light rail platform shelters, but they should be attractive and easy to tell apart from normal bus shelters—this goal could potentially be accomplished by simply painting circulator shelters bright, raspberry red.

A common stop layout holds the potential to both improve the brand-recognition, so to speak, of the circulator service and to seamlessly blend that service and the busses which operate it into the pedestrian environment. Picture a shiny red-framed shelter—light and airy in the day, cheerfully lighted at night, with an on-demand radiant heater in winter—flanked by a pair of comfortable, wooden benches with bright red iron ends, all set on contrasting, colored pavement extending out in a continuous angle from sidewalk to curb bump-out, almost leading the passerby to the boarding area. The design of the shelters could also be matched to the type of vehicle chosen—a sleek, modern design for a 30-foot transit bus, or a traditional design, reminiscent of a railroad station platform for a streetcar or historic trolley bus.



Source: Bartee et al. 2005

TRANSIT SIGNS

The signs marking the stops of a successfully branded specialty transit service are much more than a simple "Bus Stop" signs. In fact, given the stop features recommended above, the signs for the Hopkins circulator will most likely function more to provide information to riders than to simply identify the locations of

stops. At a minimum, signs at circulator stops should provide the following information:

- The circulator's branded name
- A schematic map of the route
- A full schedule listing timepoints/major stops
- A listing of connections available to other transit services

In addition to providing information about the circulator service itself, signs at circulator stops should clearly point any schedule coordination with Metro Transit's Local Bus Route 12, and provide a schematic map of its routing through downtown Hopkins.

Source: Bartee et al. 2005

In addition to signs at stops, the circulator service should be advertised by a large, eye-catching and, above all, simple sign on the LRT platform, designed to be quickly and easily read and understood by passengers aboard light rail trains as well as those who have just alighted. If a rerouted Bus Route 12 stops at the corner of Eighth and Excelsior instead of turning into the LRT station, platform signs should direct passengers to a stop where they may catch the 12 downtown.

Signs for the circulator could potentially be combined with pedestrian wayfinding signs. Doing so could allow both types of signs to be placed in prime locations for visibility and legibility, as well as offer one-stop information on both what downtown Hopkins has to offer, and how to get there.

FUNDING AND OPERATION OPTIONS

A Hopkins circulator route would become a unique transit option in the Twin Cities region. There would likely be two options for operational management of a service like this, regardless of whether it is a streetcar of bus service. The City of Hopkins could build, maintain, and manage the route since it only serves the Hopkins area and does not require a significant amount of interaction with other services in the region. The City could also work with the Metropolitan Council to implement the service as a contracted transit service in the region, similar to the Route 612. Given the proposed interaction with the Route 12 and the assumption that Metro Transit will operate the Southwest LRT line, it would seem beneficial for the City to develop a working relationship with Metro Transit and the Metropolitan Council to increase the awareness and funding options for such a service.

The Metropolitan Council's Transportation Services Department has established relationships with regional transit contractors and has a management system in place for such a service. However, since this likely would be a City of Hopkins-led effort, some level of local funding commitment would likely be needed to implement s circulator system. This could come in a variety of forms, including general funds from the City, revenues from a business improvement district (BID), revenues

from a parking benefit district (PBD), and/or public-private partnerships with local businesses (PPP). The possible partnerships with the private sector could be expanded by increasing the number of businesses that benefit from the service. While many of the route options proposed above connect to Excelsior Crossing and sites like Supervalu, there have been other proposals for future redevelop that could provide funding if the benefit to their development is pointed to as a crucial benefit.

FARES

A Hopkins circulator will be an integral connection for the City of Hopkins and the regional transit system with light rail and Metro Transit routes. The concept of a circulator is meant to connect light rail transit riders with the City and move people throughout a small area. As a result, many riders of the circulator would be transferring to or from a Metro Transit service and transfers are free on this system within 2 ½ hours of the initial boarding. The Hopkins circulator would likely see a limited level of increased revenue from riders looking to use the system anyway. With that as a consideration, the most attractive fare option would be to keep the service free to promote the highest utilization and reduce the administrative overhead of managing and installing fare-collection equipment. This would likely require additional subsidies or private commitments from Hopkins. However, collaboration with the Metropolitan Council would open up additional funding sources from the Metropolitan transit sources.

MIXED-USE ZONING ACTION PLAN

This section provides recommendations for components to include in Hopkins' future zoning code. The mixed-use zoning code contributes to the fulfillment of the goals in the vision by addressing the building design, street activities, setbacks, and other design aspects to enhance the pedestrian experience.

Implementing a mixed-use zoning code will accomplish the following goals:

- An affordable and convenient Hopkins-specific transit option wrought with historic character,
- Revitalization of the downtown through high density uses, eyes on the street, character and activity without threatening the historic character of downtown.

RECOMMENDATIONS/OBJECTIVES

The recommendations for the Mixed-Use Zoning Code are based on a form-based code (FBC) approach. This requires ordinances that are written to achieve a community vision for the area. While an intensive public process was not done for this plan, it is recommended that the city consider one. This section also recommends a set of ordinance components that are meant to achieve the goals already identifiable in the vision statement (walkable, bikable, livable, vibrant, unique destination, safe, active streets, etc.). This section is meant to provide a scope of work for ironing out the details of the ordinances to fit the Hopkins-specific community.

COMMUNITY VISIONING

While this document contains a Vision Statement to guide the recommendations for the station area at Hopkins Downtown, the authors are not members of the community of Hopkins. While it does correspond to the opinions of City staff and some downtown community

members, a vision for the community should come from a more intense public process to guide specific components of the code.

Form Based Code (FBC) can achieve a sense of identity for a community. They are usually drafted based on a community-wide vision for how a place is to grow, develop, change, or be preserved. The first step to achieving a FBC is to have a community vision.

The scope of the community visioning process is left up to the planners. If the sense is that the community vision is already fairly developed, this step may not be essential. If community visioning is something to proceed with, the following scope is suggested:

A charrette in which community members are shown visualization of what the area *could* look like. Renderings from design specialists are a good was to present to the public all the possibilities. While the initial renderings may appear grandiose, the function of FBC is bridge a grand vision with practical, specific ordinances to achieve community-identified standards. This may be done by drafting ordinance language and placing it underneath the desired features of the design team's renderings.

Because the public process for visioning is out of the scope of this study, the existing version of the Vision Statement will guide the recommendations for further steps. Because the Vision Statement was written based on the input of planners from the City of Hopkins as well as collaborators who worked on the Comprehensive Plan, and some community members, the recommendations for the FBC are appropriate.

Some developers had other concerns about the redevelopment potential. For instance, one developer expressed a preference for a PUD system rather than a zoning regulation. This may be because they have run into FBCs or zoning codes that make certain aspects of development difficult. As progress is made in drafting a FBC for this district, developers must be included as well as the community at large. The greater community must participate in the form preference because it is the identity of their community that will be shaped, and developers must be involved to ensure that the code is appealing enough to attract development in the future.

REGULATING PLAN

This plan shows the boundaries for a zone where the code applies. The recommended boundary for Hopkins downtown includes the LRT platform, the stretch of Eighth Avenue between Excelsior Boulevard and Mainstreet, and along Mainstreet between Fifth Avenue and Fifteen Avenue.

FBC are often written with a guiding principle. This may be building type-based code, street-based code, or frontage-based code.

- Using a *Building Type-Based Code* may reinforce the character of a community through regulation of building design. It is often recommended that this approach is used in small communities or where a project area is about one square mile. Using the Downtown Development Code for Blue Springs, Missouri as an example may be a good idea.
- *Street-Based Code* is also applicable to Hopkins, especially with the desired increase in bicycle and pedestrian traffic throughout the downtown. The primary focus is on the design of streets. This will include a section drawing that defines dimensional requirements for the street design.

- However, *Frontage-Based Code* is recommended for Hopkins Downtown. The advantage of this code is that the government regulates the portion of the building that looks out into the public realm, but not every aspect of the building function. The boundary of the code extends control from the streetscape to the building façade. This provides flexibility for building uses, increasing the chances of redevelopment. However, the goals of the City may also be achieved because aspects of the building and streetscape are guided.

PUBLIC SPACE STANDARDS

This part of the FBC guides two elements of public space: thoroughfares and civic spaces. By guiding the design of a thoroughfare, its function may double as a safe and convenient traveling area and a destination itself. It includes the following elements:

- Movement type
- Design speed
- Pedestrian crossing time
- Right of way width
- Curb face to curb face width
- Traffic lanes
- Bicycle lanes
- Parking lanes
- Curb type
- Planter type
- Landscape type
- Walkway type
- Lighting
- Curb radius
- Distance between intersections

STATION OVERLAY DISTRICTS

A mixed-use zoning code will improve the development environment and flexibility for areas around future LRT stations. However, each station area has its own unique characteristics. Form-based codes can effectively be complimented with overlay districts to match the characteristics and design guidelines desired. For example:

- The Downtown station area transitions from potential land for redevelopment to the historic downtown along Eighth Avenue. An overlay district can establish a linear relationship between building heights and distance from the station. This would create a height transition from the newly developed sites to the downtown.
- The recommendations from this plan include a shared-space treatment along Eighth Avenue. An overlay district could require basic pedestrian and bicycle facilities with each new development, including wider sidewalks, bike racks, etc.
- The Blake Road station area is expected to have a major park-and-ride facility. An overlay district could establish limits on the size and number of parking spaces within a certain radius of the station site.

Overlay districts are an important component of form-based codes in terms of specifying the fine details of zoning application. Many of the public-space standards previously discussed are best implemented through overlay districts, since different areas require different treatments.

PROCESS AND STRUCTURE

Developing the perfect form-based code is impossible. Redevelopment around station areas in Hopkins likely will not happen overnight. With each development proposal, the City should reevaluate the effectiveness of the codes and overlay districts in achieving the planning goals set forth by the community visioning processes. The visioning and planning stages should put in place a concept that is understandable and realistic. While plans are rarely implemented exactly as they are written, they provide the basis for implementation strategies (such as zoning codes and design guidelines).

The process of developing a new zoning code creates an opportunity to tweak how zoning is presented and regulated. A form-based code is more visual and adaptive than Hopkins' current zoning code. Thus, visual examples and cues should accompany the code to provide an easily understandable presentation of what the code is attempting to accomplish (while still keeping flexibility). The City should also obtain feedback from past and previous developers who have worked on mixed-use projects in the area to help better facilitate a comfortable development environment in Hopkins.

CONCLUSION

Hopkins sits in a unique position: one embedded in the foundation of a historic, small town community while on the cusp of change with the future of LRT. The opportunity for growth and redevelopment invites a grand vision for this unique area in the Twin Cities. One of the greatest challenges will be for the Hopkins community to steer its identity in the direction that suits its members.

This document serves to guide planners and community members toward a healthy and feasible vision while leaving the reigns in the hands of those who live, work, and play in Hopkins.

The downtown holds significance for more than the downtown residents and businesses: it will continue to be central to the Hopkins community at large and so the broader community must choose the direction of the changes from LRT station opening.

The decisions made about the potential trolley, the overlay district, and the pedestrian and bicycle connections all shape the identity of a small downtown area, but they all play integral roles in larger systems. Because Hopkins is a small town in a big metropolitan region, input from developers, downtown stakeholders, the community at large, the regional and local arts community and others will be needed to steer Hopkins toward its vision for the future.

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