CHAPTER 6

PLANNING BEST PRACTICES FOR THE BOTTINEAU CORRIDOR
Land use planning along major transit corridors does not and should not occur in a vacuum. Therefore, before detailed planning can occur in the Bottineau Corridor, and especially in each individual station area, it is important to have a good foundation of best practices from around the country. Based on the experiences of transit corridors with similar challenges and issues as the Bottineau Corridor, best practices can provide stakeholders and decision makers valuable insight into what works or doesn’t work when planning for transit oriented development (TOD).

In order to help identify the most relevant best practices, members of the Bottineau Corridor Land Use Committee, which is made up of city, county, and regional planning professionals representing the corridor, were surveyed to determine what topic areas were of most interest to multiple jurisdictions and stakeholders along the corridor. That survey identified four major areas of interest, including:

- Corridor planning
- Integrating social equity
- Pedestrian/bicycle station access
- Shuttle/circulator station connections

This chapter offers several examples of national best practices under each of the four topic areas. Where appropriate, best practices are also drawn from local examples and work already completed for the Bottineau Corridor or in the greater Twin Cities region. Each topic area includes a summary of the overall lessons learned. The best practices collected here faced challenges to planning and implementation of TOD that are similar to the Bottineau Corridor, and offer a range of potential solutions that could be applied at the corridor scale or on a case by case basis.

Because the Bottineau Corridor contains a diverse set of station areas with a diverse set of needs, not every example or topic area is applicable to every station area or jurisdiction. Individual communities should choose the examples most relevant to their own needs and conditions.
PLANNING FOR TOD AT THE CORRIDOR SCALE
The Twin Cities and the Met Council have adopted a corridor-based strategy for transit and TOD in the region, using the Corridors of Opportunity to move transportation and land use strategies forward along strategic transit corridors at distinct stages in the planning and implementation process. This Pre-Planning study is one component of the Corridors of Opportunity, and the corridor will remain an important scale for TOD along Bottineau moving forward into the future.

The corridor is the natural home of transit, and using the corridor to link transit planning with land use and TOD planning can be a game changer. Other regions that have made and maintained this link over time have seen transit become the organizing principle for development, with local jurisdictions identifying the areas around transit stations as their own development nodes.

Transit can change market dynamics along a corridor by providing new access to neighborhoods and centers. The typology process along the Bottineau Corridor was the first step in identifying the different market potential of future station areas, but as transit planning advances that potential may change and should be monitored. The best practices in corridor planning for TOD, described below, include some elements that can guide work along Bottineau Corridor moving forward:

- **Achieve greater efficiency by addressing challenges and opportunities together.** From identifying shared barriers to TOD and coming up with shared solutions, to creating models for land use and zoning, when multiple jurisdictions work together instead of piecemeal, the process can be more efficient for all involved.

- **Bring a range of stakeholders to the table.** Engaging a wide range of stakeholders over the course of transit and TOD planning can help bring people to the table who will later be responsible for implementing TOD visions. A wide range of participants can lead to creative solutions and long-lasting partnerships.

- **Market and frame the development opportunities.** Several of the jurisdictions and stakeholders involved in implementing TOD along the corridor scale have focused on using their planning efforts to create a way to market the corridor to the development community. Framing the types of TOD opportunities available, including the scale and amount of development can send a clear message to developers that will help them more quickly identify potential sites and opportunities.

- **Prioritize next steps.** Eventually, corridor scale planning can also help prioritize different kinds of activity at different station areas. Some places may be in more immediate need of pedestrian and bicycle improvements, while others may need to update their zoning codes and land use policies to reflect the vision for TOD.

Phoenix, AZ: Shared TOD Zoning Overlay
In order to support thoughtful land use planning around its light rail stations, Valley Metro, the transit agency in the Phoenix region, worked with a consultant to develop a model transit-oriented district overlay zoning ordinance and pedestrian-oriented development guidelines. The Central Phoenix/East Valley light rail corridor (the only light rail in Phoenix today) has 26 stations and traverses three cities in the region: Phoenix, Tempe, and Mesa. The line opened in 2008 and today has over 44,000 daily riders, far above initial projections. The overlay was developed before the line opened as a model that these jurisdictions could use to create their own TOD ordinance, tailored to their specific needs and regulations.

![Map showing light rail line and three cities it connects: Phoenix, Tempe, and Mesa.](image)

Figure 6.1- Map showing light rail line and three cities it connects: Phoenix, Tempe, and Mesa.
To better facilitate the robust discussions that needed to occur before new zoning ordinances were adopted, the consultant included further guidance and in-depth discussions of the issues associated with zoning for TOD. The intent of particular regulations, examples of other jurisdictions that have developed TOD zoning districts, and examples of different TOD project types were all included to aid jurisdictions in understanding the complexities of TOD. Ultimately, each city was able to customize the model ordinance and adopt TOD Guidelines into their zoning codes.

Outcomes and Next Steps: Along the entire line, from 2004 (when the line opened) to 2011, there have been 169 projects built and planned, with 16,670 residential units and over 129 million SF of commercial space. Projects have ranged from 3-4 story multi-family housing to public school facilities to mixed use hotel and office space in the downtown.
The San Mateo County Transit District sponsored a study on TOD along two parallel rail corridors in San Mateo County: BART from Daly City to Millbrae and Caltrain from Bayshore to Menlo Park. Completed in two phases, phase one included an existing conditions report, a preliminary market analysis, and assessment of opportunities and constraints.

In phase two, five stations were chosen for further study, based on the transferability of recommendations, their readiness for TOD, data availability, and interest in participation from local station representatives. The challenges common to those five stations, and to stations along both BART and Caltrain corridors included: land assembly, the inability to incentive infill development, and station access. Both short and long term strategies were identified to respond to each barrier in a coordinated manner. If TOD plans had been developed one station at a time each city would have had to come up with their own solution to what was a shared problem, resulting in a more costly process to achieve similar results.

The Challenge of Land Assembly: Many station areas along new and existing transit corridors are built out, without large parcels of land available for redevelopment. This was the case for many stations in the San Mateo corridors. “Cities, such as Millbrae and Redwood City, faced challenges related to assembling privately owned parcels to create large redevelopment sites. This was either due to the high cost of land or property owners’ unwillingness to sell or redevelop.”

Interviews with developers and a financial and physical analysis of typical parcel sizes in key stations found that this wasn’t all bad news. In San Mateo County, developers could achieve high densities at a small scale, and these smaller scale projects were potentially more palatable to neighbors and the existing community. However, parking limitations were a serious barrier to developing narrow parcels of land, and land use policies (mixed-use requirements, etc) needed to be deployed strategically.

To facilitate land assembly in the short term, the transit authority and local jurisdictions needed to 1) establish a clearinghouse of vacant/available parcels and work with local brokers to maintain this information, and 2) identify underutilized parcels and maintain a database of underutilized areas. In the long term, more extensive recommendations were made, including 1) consider use of redevelopment or other public agency involvement in assembling parcels, 2) initiate or update specific plans to ensure that a long-term vision for new development is clear and local residents are supportive of development concepts, and 3) consider supporting local implementation of innovative partnerships between property owners for development, such as enabling property owners to “option-in” on a development, rather than selling their property.

Maps show the rail lines and recent development near transit in San Mateo County.
Seattle, WA: Transfer of Development Rights in the East Corridor Region

The City of Bellevue, located in the Puget Sound region with Seattle, created an innovative plan to concentrate development along a transit corridor while preserving farmland in the county. Contained in 900 acres, the Bel-Red Corridor has historically served as a major employment area for Bellevue. Sound Transit, the region’s light rail provider, will be constructing a new light rail line from downtown Seattle to the Eastside of the region, and two new stations will be located in the Bel-Red Corridor. The City of Bellevue recognized that this enhanced transit access presented a major opportunity to change the land use patterns in the area and embarked on a long-range plan for land use and transportation in the corridor. The goal of that plan was to work with the community to “plan and manage change rather than to accommodate the inevitable change in a haphazard, piecemeal way.” ²

The vision the City created includes housing that is affordable to people of all incomes, urban parks, restored streams and waterways, and walking and cycling paths. The first step in implementing that vision was to put new zoning in place that would allow the area to transform from its current light industrial uses to a series of vibrant, walkable and mixed-use neighborhoods.

The Transfer of Development Rights (TDR) agreement was the next step in thinking beyond the station area. Coming together with the help of the City of Bellevue, King County, the Cascade Land Conservancy and the Mountains to Sound Greenway Trust, the TDR agreement allows for the concentration of development near the planned transit stations and prevents sprawl in rural areas with fewer transportation options. The agreement also leaves the details to the private market. Developers in Bellevue’s Bel-Red Corridor can purchase development rights from rural private properties in specified locations in order to build additional square footage in their future commercial and residential projects. In addition to focusing growth near transit and in a well-planned, walkable community, this will permanently preserve from 3,000 to 6,000 acres of rural land in the county.

Denver, CO: Strategic Planning Along the West Corridor

Along the West Corridor in the Denver region, the City & County of Denver, the City of Lakewood, the Denver Housing Authority, MetroWest Housing Solutions (Lakewood), and the U.S. General Services Administration (GSA) formed a partnership to work cooperatively to implement TOD plans along the light rail corridor. This collaboration began in 2009, three years before the light rail line was scheduled to open. Both the City of Denver and Lakewood had already completed station area plans, and together with the housing agencies, these partners made up some of the largest single landowners along the corridor.

The partnership completed a Strategic Planning Process in 2011 that established a station area typology and development priorities, strongly positioned the West Corridor for funding opportunities, and marketed the corridor and sent a unified and consistent message to the development community. The Strategic planning process included several components, including station area plan analysis, demographic and existing conditions analysis, a real estate market assessment, developer interviews, data collection and analysis, a needs assessment of infrastructure and community resources, and the development of an implementation-focused station area typology.
These pieces of work were focused on creating a more robust understanding of how the vision for TOD along the corridor measured up to the current reality and identifying the priority activities for the corridor and priority station areas for next steps. Along the corridor, the priority activities identified included:

- Establish a permanent West Corridor Partnership.
- Engage new partners in the implementation activities of the West Corridor.
- Coordinate funding sources and development activities to promote TOD implementation within each city.
- Create new implementation tools to support effective and sound decision-making on implementation activities within each jurisdiction.
- Develop a marketing and branding plan to promote the West Corridor.
- Work on comprehensive bike and pedestrian connections in the corridor for the “last mile.”
- Conduct a housing strategy session for both preservation and new production of housing that is affordable, especially to low-income populations.

Figure 6.2- The West Corridor Implementation Typology identified stations according to their potential for change: transformational, intensification, and neighborhood infill.
Outcomes and Next Steps: The implementation typology identified stations likely to see different scales of development, which helped identify priority stations for implementation activities. The Lamar station, in Lakewood, was an immediate priority because there was a project underway by the local housing authority (Metro West Housing Solutions) as the Strategic Planning process was ending. The Sheridan station, which sits on the border of Lakewood and Denver, needed multi-jurisdictional coordination in order to ensure the vision for TOD was implemented in a coordinated fashion. The West Corridor Working Group has since received a grant from the Denver Regional Council of Governments to create a catalytic project at this site, funded through HUD’s Sustainable Communities Regional Planning Grant program. At the Federal Center/Union Blvd. station in Lakewood, a longer term priority was working with the Federal GSA in their land disposition process. The Federal/Decatur station in Denver was just beginning a station area planning process at the conclusion of the West Corridor Working Group’s Strategic Planning process, funded with a joint HUD/DOT Sustainable Communities Community Challenge/TIGER II grant. Recommendations from the Strategic Plan were expected to be incorporated into this station area plan.

The plan has strongly positioned the West Corridor for future funding opportunities and the partners are now working on branding and marketing strategies for the corridor to send a unified and consistent message to the development community. The line opens in April 2013 and there is increased interest from the private sectors in development opportunities and from the nonprofit and philanthropic sectors in equitable development and meaningful public engagement. The WCWG’s Strategic Plan will help both sectors identify sites to focus their resources in the years ahead.

BOTTINEAU CORRIDOR BEST PRACTICES

Smith Partners compiled the best practices from other transitways in the Twin Cities into a recommended approach for the Bottineau Corridor. Some elements of this approach are currently being implemented in the Pre-Planning Study, but others offer recommendations for moving forward after this work is complete. One major recommendation is around how to compete for Federal New Starts dollars. The New Starts process includes a score for land use potential, and the Pre-Planning study could be incorporated into that application to help show the federal government that local jurisdictions are planning for transit-supportive densities, connections and land uses. The Land Use Framework has detailed guidance on the details of the New Starts process.

Corridor wide implementation work taking place along the Central Corridor is also well-documented in the Land Use Planning Framework. Though St Paul has taken the lead on TOD planning for the section of the Central Corridor within their jurisdiction, some of the efforts undertaken by the City there could be taken on as collaborative projects. The “Mitigating the Loss of Parking in the Central Corridor” study identified the impacts resulting from the loss of parking on University Avenue due to light rail development and suggested solutions to mitigate it in the corridor as a whole and in the specific areas most affected. The “Bike Walk Central Corridor Action Plan” has been adopted and many elements have been implemented. The City also completed rezoning along the corridor and created a TOD Guidebook aimed at property owners and developers.

Another recommendation from the Smith Partners report suggests that Bottineau stakeholders consider how to frame opportunities to the development community. Private developers will be looking to city leadership to gauge what the interest in new development and building types might be. In a budget-constrained time, local jurisdictions may not have the financing to support new projects financially, but they can be clear in station area planning and corridor wide documents in identifying where different types of new development would be welcome.
Integrating Social Equity into TOD Planning

The Corridors of Opportunity and the Met Council have a heavy focus on ensuring that investments and planning in the region and along transitways result in equitable outcomes—that people of all incomes, races, and backgrounds can access the benefits that accrue from living and working near transit.

In some cases, this can mean intensive planning for workforce housing production and preservation, and in others it can mean linking transit to community resources and jobs. Increasing the variability of the types of housing available may be another strategy to fall under this topic. The examples below call out some different examples of how communities of different shapes and sizes are integrating equity into their plans for TOD.

- Ensure social equity representatives are at the table. This means that equity is at the forefront of the conversation from the beginning, but also is a means to bring together diverse sets of resources and leverage them to meet community goals.
- Think outside the box. Equity isn’t always about workforce housing, but can mean preserving existing businesses, linking to important community resources like grocery stores and healthcare centers, and zoning for a diversity of housing types.
- Set tangible targets to work towards. Big Picture participants along the Central Corridor in the Twin Cities can tell you how hard it is to find a number that is meaningful, but setting targets can be a powerful tool for momentum, engaging funders, and bringing other important stakeholders to the table. Eugene’s housing strategy includes specific numbers on new housing units and how many should be located near transit and on transit corridors.
Denver, CO: Equity at the Table along the West Corridor

The West Corridor, detailed in the first section on corridor planning, also offers an interesting example of how to integrate social equity into TOD planning. Because two public housing authorities were key partners in the Strategic Planning process, equity was at the table from day one. The demographic profile of West is similar to Bottineau, with some very low-income households near a few stations, some higher income households near a few others, but the majority being a mix or more middle income neighborhoods.

While the public housing agencies have continued to work on upgrading and prioritizing workforce housing connections along the corridor, the Strategic Plan focused on considering the community resources that both make TOD “successful” by making it easier to walk, bike, or take transit to destinations and that serve low and middle income populations. Looking at where grocery stores, daycare centers, hospitals and healthcare centers, and parks are located helped identify gaps along the corridor that could prioritize future investments.

**Figure 6.3** - The gaps in community resources (grocery stores, day care, etc.)
Seattle, WA: Linking Workforce Housing and Transit Strategies
The Southeast corridor connects downtown Seattle to a series of residential neighborhoods in southeast Seattle and then further south to the cities of Tukwila and SeaTac, the home of the regional airport. The corridor runs through a series of neighborhoods that are culturally and economically diverse, and many are also home to low-income, minority populations.

Before construction of the light rail was complete and at FTA’s request, the City of Seattle created the Rainier Valley Community Development Fund to mitigate any potential negative impacts of the rail line on the existing low-income businesses and residents. The Fund has three major components: 1) business mitigation during construction of the light rail, 2) job training to ensure local residents can gain economic benefits from working on light rail related projects, and 3) a revolving loan fund for workforce housing and economic development.

Outcomes and Next Steps: As of 2010, the Fund had provided funding for 246 subsidized housing units, and by early 2011, eighty percent of the businesses who had received loans were still located along the light rail. With those loans coming due, the fund has a new cycle of money available to apply to long term workforce housing strategies along the corridor. And in 2011, the City was awarded a $3 million HUD Community Challenge Grant to work on priorities identified in the Rainier Valley and Beacon Hill neighborhood plans. The major activities to take place under that grant include: transit-oriented development acquisition loans, a commercial stability strategy, and planning for a shared cultural center.

Other players along the corridor: Different public and nonprofit actors have played important roles in bringing equity to the forefront along the Southeast line. The City of Seattle’s Office of Housing is a major player in financing the development of workforce housing, thanks in part to a voter-approved levy, and has been focused on creating a strategy to use their resources to prevent displacement along the line. The City also uses policy tools to incentivize workforce housing near transit. Their incentive zoning tool allows for a height bonus if a portion of the additional floor area is dedicated to households making 80% AMI or below. The City has also used property tax exemptions (a tool created by the State to encourage smart growth) to encourage for-profit developers to include workforce housing units in their projects.

The Seattle Housing Authority has been engaged in making equitable investments along the corridor, locating Hope VI projects near light rail stations and acting as a partner in various preservation transactions. Local nonprofits have been key players in developing long term affordability. The Mt Baker Housing Association is a CDC that works primarily in the Rainier Valley neighborhood and completed an inventory of 350 buildings throughout the Southeast corridor, ranking them on their potential for acquisition and rehab. The inventory included details on the type of plumbing and the age of electrical systems to gain a thorough understanding of the costs of rehabilitation for each building.
**Eugene, OR: A vision for a mix of housing types**

Incorporating equity into station area planning can also mean planning for different mix of building types. Eugene is a small town in the northwest with about 156,000 residents. Eugene’s transit system is a mix of local bus and high quality BRT, which includes dedicated transitways, exclusive bus lanes, transit signal priority, high-capacity vehicles with near-level boarding, widely spaced stations, off-board fare collection, and short headways. The BRT system currently has two lines operating: the EmX Green Line (opened in 2007) and the Gateway EmX (opened in 2011) which extended the existing EmX service to the PeaceHealth RiverBend facility and the Gateway business district. The EmX Green Line links downtown Eugene and downtown Springfield and serves the University of Oregon, and transit ridership more than doubled in the corridor after it opened, surpassing projections. The transit agency is currently in the planning phase for a future EmX extension in West Eugene.

The City has also been working to integrate housing and job connections to their transit system. One of the key recommendations to come out of a vision process for 2032 was a need for more multi-family homes. The vision acknowledged that the city currently lacks a mix of single family and multi-family homes, and that this lack of a diversified housing stock has meant housing is more expensive and unaffordable for many low- and moderate-income families. Eugene wants to expand the types and amount of housing available to help address this problem, without providing subsidies for that housing. The vision calls for a mix of 55% single-family and 45% multi-family for new construction.

In addition to creating more opportunities for housing that is affordable for a range of incomes, that vision also can help Eugene grow without sprawl. Almost all of the multi-family housing is proposed to be located along key transit corridors, and the City determined that approximately “75% of the future multi-family housing demand can be accommodated on vacant and partially vacant multi-family land and through redevelopment that is likely to happen without city assistance.”

**Outcomes and Next Steps:** After the visioning process was complete, the City undertook a year of technical analysis to refine their plan for land needs for different kinds of housing, jobs, parks and schools. In July of 2012, the Eugene City Council voted to begin the process of implementing the vision, asking the City Manager to prepare planning documents to establish a new Urban Growth Boundary “that car[ies] forward the pillars and strategies described in the Envision Eugene Draft Proposal.”

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**Eugene’s BRT connects directly to one of Eugene’s public libraries**
One of the first victories for equity advocates was the addition of three new stations to the line. This change came about through a combination of local advocacy and a change in the Federal New Starts rules, and it will result in enhanced access for the lower-income residents living and working along the corridor. Another group, the Central Corridor Funder’s Collaborative (CCFC), a group of local and national foundations, has also been engaged in promoting equity along the Central Corridor. They continue to leverage the resources necessary to allow residents, businesses and community groups to be actively engaged, which has increased their impact on the corridor planning process.

However, residents and advocates working along the Central Corridor knew that while access is crucial for enhancing equity, ensuring that housing for existing residents remains affordable must also be part of the solution. The Big Picture project, funded by CCFC, set the stage for how to achieve that goal by creating a unified housing strategy for the whole corridor, one that all of the players involved in producing and preserving workforce housing could agree upon.

The Big Picture Project involved a wide range of participants brought together to align the many individual programs and policies that already exist to support workforce housing and strategize about how they could be combined and leveraged to create a whole greater than the sum of its parts. Ultimately, the plan identified two critical areas under which multiple strategies and next steps were identified: 1) Invest in activities that help low-income people stay in their homes, and address substandard and vacant properties, and 2) invest in the production and preservation of housing with long term affordability.

One of the most challenging aspects that the working group grappled with was whether to set a numeric goal for the number of workforce housing units that should be preserved and created along the corridor. Ultimately, to demonstrate strong commitment to ensuring equitable outcomes along the corridor, the group called out for 4,500 new subsidized units by 2020. This goal nearly doubles the baseline projection for new and preserved subsidized housing units and calls for local and regional stakeholders to identify new resources (public and private) and ways of doing business.

Figure 6.5- Station area plans, community plans, and larger city-wide planning are all pieces to the puzzle at creating successful TOD along the Central Corridor. However, the Big Picture Plan is the first to bring a corridor-wide focus on workforce housing.
ADDRESSING MAJOR BARRIERS FOR PEDESTRIANS AND BIKERS

Pedestrian access to stations has been identified in many contexts as one of the major challenges for the Bottineau Corridor. As the Bottineau Land Use Framework points out, some of these issues were identified as far back as 2002 when the Smart Growth Marketing Analysis for Northwest Corridor was completed. The design of the roads and existing development were both identified as potential challenges to TOD.

That analysis describes the problems as follows: “Safe access to stations for pedestrians is a prerequisite for transit-oriented development. At all proposed station sites access will be constrained by the necessity for some BRT riders to cross the four drive lanes and turn lanes on County Road 81. These intersections are formidable barriers for pedestrians to cross. Adults may find crossing County Road 81 difficult in a single cycle of the traffic signal, while seniors and children may find it too difficult to attempt.”

The following best practices offer a set of different methods that local governments, transit agencies, and partnerships have implemented to address barriers for pedestrian and bicycle access.

- **Agree to a Set of Guiding Principles.** In the details of station area planning, engineering and design, it can be easy to lose sight of the overall objective for stations. A set of guiding principles can help ensure that a common vision is maintained as different pieces of a plan are implemented.

- **Bring Together Internal Departments.** To really make pedestrian and bicycle access around transit stations work, many government entities need to be involved from the get-go. Departments of transportation, transit agencies, engineers and planners all need to be at the table so when decisions about crosswalks and station entrances are made, they make sense for all modes of travel: auto, bike, transit, and walking.

- **Think Multi-modally.** As the typology exercise revealed, riders will access stations along Bottineau through a combination of park-and-ride, drop-off, transit, walking, and biking. Ensuring that all modes are served (and not just one or two) will support ridership and TOD potential in the long term.

**Charlotte, NC: A Long Term Plan to Address Pedestrian Barriers**

The South Corridor (Blue Line) was Charlotte’s first light rail line and opened in 2007. The rail alignment follows a former Norfolk Southern railroad right-of-way from the city’s central business district and then runs along South Boulevard, a major arterial with significant swaths of industrial and big box commercial uses, adjacent to suburban, single-family residential neighborhoods. The central business district and stops proximate to that area have led the way in terms of new development, while stations along South Boulevard have lacked the infrastructure needed to support a transformation from unconnected, large-scale, single-use development to a more walkable, multi-use, transit-supportive environment. Blocks are large, making it more difficult to walk to access stations, and there are few paths across the busy South Boulevard.

**Figure 6.6-** The City of Charlotte created a set of Station Area Principles to guide land use and transportation investments in station areas long before the light rail was built.
However, the City of Charlotte’s approach to supporting and creating TOD are moving those stations in the right direction. One of the first things the City did was create a set of high level “Station Area Principles” that guide the specifics of station area planning. One of these principles is to prioritize pedestrian and bicycle connections to stations. That policy set the stage for station area plans to include short and long term solutions for pedestrian access. Some smaller scale implementation activities included: installing median planters to make it easier to cross the roadway, installing pedestrian scale lighting, ensuring that all sidewalks were continuous, and any “breaks” in the pedestrian network were filled in. Pedestrian bridges over the railway were built when necessary to prevent conflict with the active freight rail. The City was able to fund some of these initial improvements through the South Corridor Infrastructure Program — a collaboration between the City’s Engineering & Property Management, Utilities, the transit agency, and transportation departments.

Outcomes and Next Steps: While the City lacked the funding to implement some of their longer term challenges, they laid out the plan for “beefing up” the street network by adding new streets and getting block length down to a more manageable 400-600 feet. In many cases, the City expects new development to pay for many of these larger scale improvements and that change will happen slowly, over time. Part of that long term thinking informed the design and placement of parking facilities. Many of the more southern stations provide surface parking for transit riders, with the expectation of using that land for TOD projects and active uses in the future.

The collaboration between different departments within the City and with the transit agency was key to shaping a pedestrian and bicycle-oriented approach, and to creating the initial funding mechanism. Though it was difficult to reconcile competing interests, the streets, transit, and land use planners were all dedicated to working together to find solutions that fit the goals of each agency and department.
**Pittsburgh, PA: Creating a Center out of a Transit Station in the East Liberty Transit Center/TOD**

The East Liberty Transit Center/TOD in Pittsburgh is undergoing a major renovation of the multimodal transit facility that will provide better pedestrian access and enhanced bike connections. Currently, the station is surrounded by a sea of access barriers. There is a small-scale “ring road” that was built in the 1960s during urban renewal, and the one-way streets encouraged cars to travel at higher speeds. The station itself is cut off from the surrounding neighborhood on both sides because of how the busway is situated. The busway cuts through the hilly terrain of east Pittsburgh and runs primarily below-grade, in a trench.

The transformation of the station is an ambitious project, and part of an on-going effort to create a robust and well-connected TOD neighborhood around the East Liberty station. A recent TIGER grant is supporting some of this work, with the goal of creating a transit center that will form the heart of a large transit-oriented development. But in order to truly make the transit station a functional center, the plan addresses key “structural problems.” One key change is implementing a 2-way traffic plan that prioritizes pedestrian crossing at intersections, improving site-line visibility, pedestrian and bike comfort and safety. Overall, the project will:

- build new biking and walking infrastructure, including pedestrian signals,
- create a new pedestrian bridge connecting to the transit center,
- relocate bus loading and unloading points and station walkways for pedestrians to seamlessly connect to other modes of transit, and
- construct a new intermodal bike garage.

**Outcomes and next steps:** This project is at the center of a $44 million infrastructure project in the East Liberty Transit Revitalization District (TRID) financed through public, private and community partnership. Key Partners include the City of Pittsburgh, the Port Authority of Allegheny County, the Mosites Company (a developer and project cosponsor), the Urban Redevelopment Authority, and East Liberty Development Inc (a local CDC.) Each of these partners have had a different role to play in making the station area a more walkable, more easily accessible area. State DOT is responsible for removing the loop road and making the street work in both directions. The City Housing Authority and local developers will be the ones to replace public housing with mixed use, workforce housing. While the local community based organizations have helped finance some of the more recent development projects, attracting Target, Whole Foods, and Google, and setting local hiring agreements and programs in place to ensure these local improvements benefit the community.
Minneapolis, MN: Local Examples of Pedestrian and Bicycle Improvements

In the Twin Cities, stakeholders have been hard at work improving pedestrian and bicycle connections to stations along the Hiawatha Line. The Franklin station area includes some major pedestrian barriers, including the intersection of Hiawatha Ave and I-94 and the accompanying exit and entrance ramps and wide roads. Franklin Avenue becomes a divided four lane arterial right around the station, though otherwise is a more walkable street. The station location is one of the last industrial and underdeveloped segments of Franklin Avenue, and while there is retail nearby, it is 3 or 4 blocks away and not visible from the station. The overhead high voltage transmission line along the western edge of Cedar Avenue also presents an indirect barrier to improving the pedestrian environment. The clear easement requirements for the transmission line force buildings to be set back from the western edge of Cedar Avenue rather than coming out to the sidewalk.

To address some of these challenges while planning for new development around the station, the City of Minneapolis has undertaken several studies. The first, the Franklin-Cedar/Minnehaha Station Area Development Implementation Plan, was completed in 2001 and has resulted in changes to zoning regulations, and continues to guide redevelopment activity and capital improvement plans.

The second, the Franklin Avenue LRT Station Area Development Implementation Plan, is aimed at implementing that 2001 Master Plan and includes specific recommendations about the types of partnerships and management needed to move forward on implementing that vision. This work assesses the development potential of the Franklin Avenue station area in terms of site-specific opportunities and needed infrastructure investments.

Outcomes and next steps: Some of the improvements called out have already been made and others are underway today. This includes the planned reconstruction of the Franklin/Cedar/Minnehaha intersection, a re-aligned 22nd Street connecting with Cedar Avenue, and streetscape improvements to Franklin Ave itself (including pedestrian lighting, curb extensions to reduce crossing distances, street trees, etc).

Some of the improvements already made to the station area, including a re-aligned 22nd Street connecting with Cedar Avenue and bike share stations located nearby. Photos: Jay Demma

Figure 6.8- The Franklin Avenue station area has several major barriers to pedestrian access that the City of Minneapolis has been slowly by surely working to fix. The circled areas above show how Franklin Ave widens to be four, divided lanes near the station, and the nearby intersection of Franklin, Cedar, and Minnehaha.
Alameda and Contra Costa Counties, CA: County-wide Planning for Bike and Pedestrian Connections to Transit

In 2010, the East Bay Regional Park District received TIGER funding to connect the existing East Bay Bicycle and Pedestrian network to transit hubs in Alameda and Contra Costa Counties in northern California. “The plan is to help complete those ‘last mile’ connections to transit nodes, which will allow people to both walk and bike to transit and employment centers and schools.”

The TIGER funding will help close seven critical gaps in the nearly 200-mile bicycle and pedestrian trail system. Each of the projects parallel congested roads and highways and will make it easier for people to walk and bike in an area of California that is rife with congestion and a rapidly growing population. Trails will also link an economically and ethnically diverse population to schools, businesses and employment centers, as well as improved access to commute alternatives including buses, the Bay Area Rapid Transit system, Capitol Corridor commuter rail service and Amtrak.

Figure 6.9- The purple lines are the new trails that will be built. Photo: East Bay Regional Park District.
USING SHUTTLES/CIRCULATORS TO SUPPORT STATION ACCESS/ LAST MILE CONNECTIONS

Several of the stations along Bottineau are close to major destinations (Target Campus, North Memorial Hospital, North Hennepin Community College, etc.) and to major shopping and retail hubs. However, in some cases these destinations are outside of a comfortable walking distance. The examples in this section offer a wide variety of solutions that were implemented to create better connections between a transit hub or station to a major destination about a mile or so away. Some of the lessons learned from these examples include:

- Branding and marketing can make a difference. Branding can make shuttle services easy to identify and more accessible for users, making it more popular travel option.
- Frequency is key to a useful shuttle service. Frequent service, or service that is timed with rail connections makes these more useful and more likely to be used. The time riders spend waiting to transfer to a shuttle or other connection can feel three times longer than the time they spend on a bus or train, so ensuring those connections are as seamless as possible makes the service more attractive and useful.
- Connect to major hubs and destinations. When shuttles are used to connect major hubs and destinations that are just outside of the range of a comfortable walking distance, they effectively can expand the walkability and catchment area of a transit station. This can help improve ridership and make it easier for people traveling to those centers for work or shopping to use transit.

Washington, DC: Connecting Transit Nodes and Major Destinations

The DC Circulator offers a unique transit option for traveling around the District of Columbia meant to complement the bus and rail service provided by the regional transit agency. The distinct red buses have low floors, big windows and multiple doors for easy on-and-off service, and because service runs frequently, every ten minutes, potential riders know the next bus will be arriving soon.

The Circulator connects key nodes around DC, linking activity centers without rail service to major rail stations or transportation hubs. One of the first routes linked Union Station, the Washington Convention Center, and Georgetown. Today, the five operating routes include stops in Adams Morgan, Anacostia, Capitol Hill/Union Station, Capitol Riverfront, Chinatown, Columbia Heights, Downtown DC, Dupont Circle, Georgetown, NoMa, and Rosslyn.

The Circulator is the product of a unique public/private partnership between the District Department of Transportation, Washington Metropolitan Area Transit Authority and DC Surface Transit, Inc. The Downtown Business Improvement District, a private non-profit organization that provides capital improvements, resources and research to help diversify the economy and enhance the Downtown experience for all, was an early champion of its implementation.

Clever advertising combined with service that fills holes within the fixed-guideway transit system have helped make the DC Circulator a successful shuttle service. Photos by afagen and angela n.
Boulder, CO: Shuttles Helping to Supplement Regional Transit Service

Though served by the Regional Transit District (RTD), the transit agency for the greater Denver regional area, the City of Boulder in 1989 created a special city agency devoted to creating an innovative and balanced transportation system for residents in Boulder itself, prompted in part by a desire to maintain their status as a center for sustainability. GO Boulder promotes “Great Options” in transportation to increase travel choices for the community.

Making transit more accessible and easier to use was one of the goals of the program, and to that end, GO Boulder developed a new set of transit services. The routes serve the most popular destinations in the city, buses feature improved design and comfort, and service is direct and frequent. The marketing and branding of these new transit services was also crucial to the program’s success. The first three routes were called the HOP, SKIP and JUMP.

The HOP functions like a destination connector or a shuttle. It follows a route connecting the town’s three major activity centers: the downtown business district, the University of Colorado’s main campus, and a major retail area. The shuttle also sports a very different look. Instead of traditional 40-foot diesel buses, the HOP is a small, brightly-colored shuttle, which comes every six minutes, not every fifteen. The SKIP, which provides shuttle service along a busy corridor, also connects to the University, who pays to keep the buses running until 3 am when school is in session.

Outcomes and next steps: As a result of these initiatives, transit ridership in Boulder, looking at the average daily trips since 1989, increased from 12,000 to an average of 31,000 trips in 2007. The City first implement this program within their regularly appropriated budget, and has since expanded their branded shuttles and buses to include the BOUND, DASH, STAMPEDE, and BOLT.

Figure 6.10- Boulder’s HOP route connects the town’s three major activity centers: the downtown business district, the University of Colorado’s main campus, and a major retail area.
Employer-sponsored Shuttles: MacArthur BART

The Bay Area Rapid Transit’s (BART) MacArthur Station is the site of multiple shuttle services that are funded by nearby employers and business owners to link public transit riders to destinations that might be too far to easily walk.

The Emery Go-Round is a free, private transportation service that is open to Emeryville, CA residents, visitors and employees. The Emery Go-Round is a service of the Emeryville Transportation Management Association, a non-profit organization whose aim is to increase access in the Emeryville area while relieving congestion through the shuttle program. Local businesses pay into a fund that keeps the shuttle service operating for free, understanding that many of their customers may not be able drive to the regional shopping destination and that the long walk from the BART station will discourage visitors.

The Oakland Kaiser Permanente Medical Center also provides free shuttle service between the MacArthur BART station and the Medical Center. Shuttles run about every 10-20 minutes, and another shuttle links to the Oakland Children’s Hospital. These shuttles provide both employees of Kaiser and the Children’s Hospital and people traveling to the Center seeking medical attention with a free and convenient connection to the BART station.

**Figure 6.11** - Both the Emery Go-Round and the hospital shuttles help extend the reach of the fixed-guideway transit station to surrounding communities and destinations.
OTHER BEST PRACTICE RESOURCES

Corridor Planning:
- West Corridor Implementation Strategy for TOD: http://westcorridor.org/

Equity in TOD Planning
- Rainier Valley Community Development Fund: http://www.rvcdf.org/index.php
- Central Corridor Big Picture Project: http://www.funderscollaborative.org/partners/affordable-housing-group

Bike/Ped
- Charlotte, NC station area plans: http://charmeck.org/city/charlotte/planning/AreaPlanning/Plans/Pages/Home.aspx
- Franklin Ave, Minneapolis: http://www.minneapolismn.gov/cped/planning/plans/cped_franklin-cedar-riverside
- East Bay Bicycle and Pedestrian network: http://www.ebparks.org/planning/ebgti

Shuttles
  http://mydoctor.kaiserpermanente.org/ncal/facilities/region/eastbay/area_master/locations_directions/oakland/publictrans.jsp

4 Ibid.
6 http://sf.streetsblog.org/2010/10/20/east-bay-regional-parks-gets-10-million-tiger-grant-for-bike-and-ped-trails/