



Urban Centers
and
Transit Oriented
Development
in Washington State

Commisioned by The Quality Growth Alliance

Commissioned by:

The Quality Growth Alliance

On behalf of:

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Sounder Link

Overview of Work

This report investigates strategies to overcome barriers to quality urban center and transit-oriented development (TOD) in Washington State. The narrative and conclusions are intended to be an applied, useful tool for government staff, elected officials, developers, land use, environmental and design professionals and related non-profit organizations.

The report contains two sections, and Appendices A-G. The first section includes an Executive Summary, the “Top Ten Barriers, Challenges, Solutions, and Best Practices for Effecting Change” and an Introduction. The second contains an in-depth discussion of barriers, challenges and corresponding solutions and best practices across four broad categories:

- Design, Land Use and Regulatory – Challenges and Solutions
- Continue Diligent Attention to Resolution of Fiscal Barriers and Challenges
- Resolving Political Challenges
- Recognize Organizational Barriers

Appendix G includes three North American case studies, which provide examples of how other regions have approached many issues discussed in this report.

An annotated bibliography provides companion background resources and allows detailed exploration of relevant issues. The bibliography can be found at www.qualitygrowthalliance.org.



Seattle Streetcar

Executive Summary

The Top Ten Barriers, Challenges, Solutions, and Best Practices presented in this report represent a synopsis of the most relevant strategies for addressing challenges to implementation of urban centers and transit-oriented developments (TODs) in Washington State. The principles presented in this report are derived from implementation of compact growth approaches in notable urban centers in the United States and select cities and regions worldwide.

A wide body of literature recognizes that concentration of growth in urban centers and TODs can limit negative effects associated with sprawl, and improve quality of life. In the early 1990's, the Washington Legislature acknowledged the importance of concentrated urban development through passage of the Growth Management Act (GMA). Specifically, the GMA requires affected counties and cities to direct growth into designated urban centers, within established urban growth boundaries.

Over and above the GMA mandate, what should such urban centers look like? What level of density, amenities, and mix of uses are most appropriate? What level of transit service is needed? The answers depend on the values and preferences of communities planning for growth. All neighborhoods and centers are unique, and communities should incorporate their own values and preferences when planning for growth. Integration of local values and preferences is a central aspect of the public process and key to the creation of unique communities. However, many guiding principles should apply.

Challenges, solutions and best practices included in this report are addressed across four broad categories:

Design, Land Use and Regulatory — Challenges and Solutions: Integration of the themes addressed in this section is essential to well-designed communities. Generally, urban centers and TODs should be approached from a place-making orientation (as opposed to a nodal orientation), which leverages access from transit by channeling the highest densities in transit corridors. Multi-modal, gridiron street-networks can improve mobility, particularly for pedestrians and bicycles. Transportation demand management, traffic calming, social-cost pricing and careful parking management can help moderate the negative effects of traffic on communities. Progressive zoning and expedited permitting for progressive projects can help encourage synergistic urban centers.

Continue Diligent Attention to Resolution of Fiscal Barriers and Challenges: Fiscal barriers are enormous for both the public and private sector. The public sector is struggling to identify sources of revenue to finance needed infrastructure for urban centers and TODs. Washington State law restricts many of the financing mechanisms available in other states. The Puget Sound Regional Council (PSRC) is actively researching public infrastructure financing mechanisms and has identified barriers and suggested additional sources of funding.

Resolve Political Challenges: Leadership, coordination across political boundaries, political discourse, and a clear articulation of plans and public policy can help build the consensus needed to create and promote urban centers and TODs as viable alternatives to conventional development.

Recognize Organizational Barriers: Organizational barriers vary considerably depending on the mission of the respective organization. Leadership should aggressively identify constraints, limitations and institutional barriers that affect the ability of the organization to fulfill its mission or particular task. Public organizations should articulate barriers and limitations to the appropriate lawmakers, and when appropriate the public, to build political capital for change.

Demonstrable implementation of the principles offered in this report will require an integrated approach and increased cooperation among actors in meeting stated regional objectives. Too often, ideas directed at solving growth-related problems are focused on singular approaches rather than a holistic approach. Common summary terms such as "green", "sustainable" and "shovel ready" — and their older cousin, "smart growth" — have arrived with a vengeance, albeit often more as separate silos of ideas and inspiration than as interrelated elements of societal change.¹ Successful creation of urban centers and TODs results from the intelligent linkage of complementary policies with the co-development of land use and transit services.²

Top Ten . . .

Barriers, Challenges, Solutions, and Best Practices for Effecting Change

1. **Accommodate Pedestrians.** Reflect a pedestrian-orientation in built environments. Every transit trip begins and ends on foot, dictating a pedestrian emphasis.
2. **Improve Access from Transit to Jobs and Residences.** Locate new development in proximity to transit opportunities to leverage the public's investment in transit capital and operating budgets.
3. **Move from Node to Place.** Create places for people, not cars. A place-making orientation should take precedence over creating a node for commuters and drivers.
4. **Resolve Fiscal Challenges and Barriers.** Continue diligent attention to resolution of public and private fiscal barriers. The public sector is handicapped by limited financing mechanisms for needed infrastructure.
5. **Depoliticize Transit Service.** More fully fund transit operations and focus new service in areas with the greatest demand for transit service.
6. **Integrate Views Among Actors.** Approach urban centers and TODs in an interdisciplinary fashion. To reach its potential, TOD should benefit from integrated goals, resources and policies.
7. **Enhance Leadership and Vision.** Continue leadership and articulation of a regional vision, consistent with GMA goals and objectives for development of urban centers and TODs.
8. **Enhance Transportation Demand Management (TDM) and Related Tools.** Governments should continue to moderate auto use through TDM, balanced parking requirements, emphasis on traffic calming approaches and expanded social-cost pricing mechanisms.
9. **Implement Proactive Zoning and Land Use Regulations.** Seek graceful growth and quality living environments through proactive planning. Zoning and development regulations should reflect comprehensive planning objectives and integrate with transit agency planning and implementation.
10. **Acknowledge Political Opposition to Growth and Density Imposition.** Offset resistance to density by corresponding investments in services and amenities. Public outreach should better anticipate "NIMBY" backlash and instill a sense of ownership in projects and plans.



Seattle Transit Tunnel

Introduction to TOD and Urban Centers

Well-designed urban centers and TODs offer a wider range of housing, mobility, shopping and recreation choices than conventional suburban development (and much urban development).³ Residents and employers locating in proximity to TOD have the freedom to drive, walk, bicycle or use transit to reach destinations. People who do not appreciate the lifestyle choices offered by TOD can still relocate to conventional developments. Rather than restricting lifestyle choice in the manner of conventional, auto-centric, and homogeneous development, urban centers and TOD provide an alternative to conventional development patterns.⁴

Premise for TOD and Urban Centers

Conventional development has been characterized by low densities, auto orientation, and decentralized growth, which has consumed open space, increased traffic congestion, and homogenized communities socially and economically across the region. Decentralized growth has been largely a product of federal, state, and local policies directed at subsidizing the cost of auto use, road construction and home ownership.⁵ Today, this model is proving unsustainable from an environmental, transportation and, more recently, an economic standpoint. President Obama has acknowledged the Federal government's role in the problem. Commenting at an urban affairs summit on July 13th, 2009 he said that, "for too long, federal policy has actually encouraged sprawl and congestion and pollution, rather than quality public transportation and smart, sustainable development."

Environmental problems associated with unsustainable growth include air pollution (including particulate matter and greenhouse gases)⁶; loss of open space including forests, steppe and farms; and overall degradation of watersheds. Transportation problems largely stem from inefficient land use patterns; poorly designed street-networks; and insufficient public transportation. Economic problems compounded by low density, auto-centric development patterns include high infrastructure and service costs, and inefficient tax bases.

Numerous organizations such as the Quality Growth Alliance, the Cascade Land Conservancy, Puget Sound Regional Council (PSRC), the Puget Sound Partnership, Futurewise, and the Urban Land Institute Seattle District Council are working to promote sustainable patterns of growth and reverse environmental problems associated with growth and development.

Washington's Growth Management Act (GMA) was implemented in the early 1990's to slow the impact of sprawl on undeveloped land. Growth Management goals are articulated in the Revised Code of Washington (RCW) Section 36.70A.020 Planning Goals. GMA goals are implemented

through city and county comprehensive plans and development regulations. Several major goals are centered on channeling growth into urban centers by requiring city and county comprehensive plans, and development regulations to:

- “Encourage development in urban areas where adequate public facilities and services exist.”
- “Reduce the inappropriate conversion of undeveloped land into sprawling, low-density development.”
- “Encourage efficient multimodal transportation systems that are based on regional priorities.”

VISION 2040⁷ is a long-range growth management, environmental, economic, and transportation strategy for in the central Puget Sound region (King, Pierce, Snohomish and Kitsap counties) prepared by the PSRC under GMA. Vision 2040 incorporates GMA goals by focusing growth in “Metropolitan” and “Core” cities across the region. According to Vision 2040’s Regional Growth Strategy, “Focusing growth in urban areas helps to protect natural resources and sensitive environmental areas, encourages a strong economy, provides more housing opportunities for all economic segments of the population, improves regional jobs-housing balance, and minimizes rural residential growth.”

What constitutes an Urban Center or TOD?

Urban Centers⁸



University of Washington, Tacoma Campus

The Puget Sound Regional Council describes urban centers as strategic places identified by GMA to receive a significant proportion of future population and employment growth compared with the rest of the urban area. Center locations are characterized by compact, pedestrian-oriented development, with a mix of different office, commercial, civic, entertainment, and residential uses. Urban centers play a key role in improving transportation across Washington’s most densely populated regions, by offering opportunities to improve accessibility and mobility for walking, biking and transit. According to VISION 2040’s Regional Growth Strategy, regional growth centers:

“ . . . form the backbone of the transportation network for the four-county region. Linking these centers with a highly efficient transportation system allows the region to take actions to reduce the rate of growth in vehicle miles traveled, especially by providing and expanding transportation choices. Consequently, regionally significant centers should receive priority in regional and local investments in the infrastructure and services that are critical for supporting growth.”

Transit-Oriented Development



Union Station, Seattle

Due to GMA's comprehensive planning process, most opportunities for TOD are located in or near urban centers. Varying viewpoints influence definitions of TOD. Peter Calthorpe pioneered much of the thinking regarding how TODs are best designed. Calthorpe viewed TODs as a constellation of co-dependent centers inter-linked throughout a region by high-capacity fixed-guideway transit services.⁹ Typical TOD definitions are descriptive and often include a mix of uses, at various densities, within a half-mile (or quarter-mile) radius of each transit stop.¹⁰ However, there is little evidence that a prescribed set of uses or densities will deliver sufficient riders to support a functioning transit system.¹¹

Many examples precede challenges now facing the Puget Sound region and other communities across Washington. Communities in the San Francisco Bay Area demonstrate TOD cannot be defined in physical terms alone.¹² San Franciscans clearly drive less than residents of suburban cities with densities comparable to San Francisco.¹³ The difference stems from the way many San Francisco neighborhoods combine density with appropriate street patterns, access to transit, neighborhood amenities, an adequate mix of nearby retail, and varied demographic composition.¹⁴ At the core of TOD is the pedestrian, and ensuring the walker has precedence over other modes is an imperative of TOD.¹⁵

Urban centers and TOD station areas vary considerably in their composition of residences, employment and amenities. Some stations function primarily as collector nodes for people traveling to work, while others serve as employment destinations¹⁶ (Tukwila station versus University station, for example). While TOD can help diversify the use of station areas, in of itself, TOD is unlikely to alter a station area's role in the regional network or economy.¹⁷ Appropriate physical and functional qualities are essential for TOD to work, but over emphasis of physical characteristics or other si-

los can obscure the main goal of TOD: to create places that function differently from conventional development.¹⁸ TOD should focus on the function and performance of entire places and systems rather than individual parcels or descriptive elements.

In conjunction with physical and functional characteristics, performance-based goals and benchmarks can help regions focus on end-results rather than evaluating success from the perspective of silo-specific functional and physical characteristics. A performance-based definition of TOD refers to projects achieving the following five goals:¹⁹

1. Location efficiency,
2. A rich mix of uses,
3. Value capture,
4. Place making, and
5. Resolution of the tension between node and place.

Transit Modes – Rail versus Bus



SR-99, Shoreline

TOD has traditionally referred to an area served by rail, however a growing body of literature takes the view that modes of transit are less important than levels of service and accessibility.



Tacoma Link and Convention Center

Bus rapid transit (BRT) is emerging as a low-cost alternative to light rail. However, because the technology is less established in the TOD context, its ultimate impact on property values and new development has yet to be determined. Preliminary evidence suggests because BRT offers few points of access and relatively fast service to destinations, property values around stops may achieve accessibility values similar to those achieved by property around rail stations.²⁰ However, to date there is little evidence about its attractiveness for development in the United States.²¹ One exception is Pittsburgh, where growth has occurred along the East Busway route.²² Aside from Pittsburgh, rail transit appears to attract more intense development and increases in return on investment.²³

While BRT is often referenced in case studies and sometimes cited as a potential alternative to local buses or light rail, interpretations of bus rapid transit vary considerably. Bogota, Columbia's, TransMilenio is one of the most well-known BRT systems in the world and is frequently cited as an example of the superior level of service BRT can provide. However, TransMilenio is much more comprehensive than BRT routes operating, or in planning stages, across the United States. Appendix A includes more information on TransMilenio.

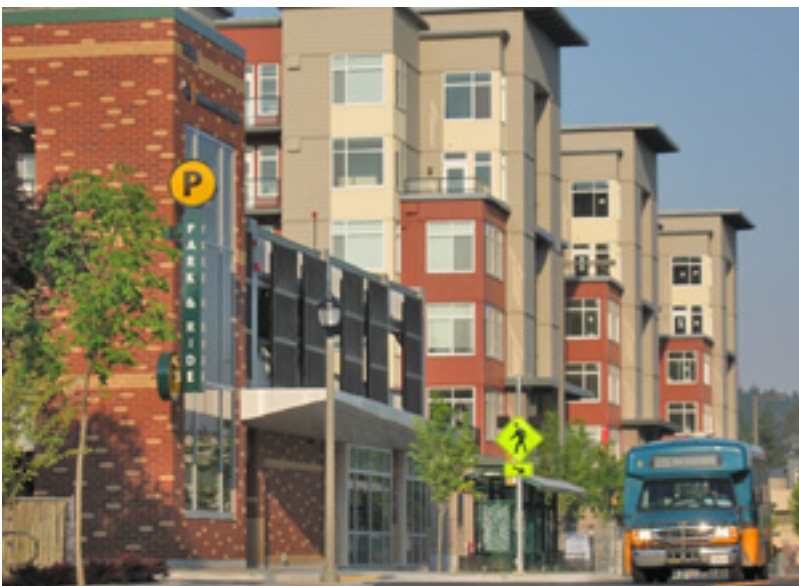
Despite current attention to light rail and BRT, the majority of transit users across Washington ride local buses. King County Metro buses served up to 395,000 people per day in 2008²⁴, nearly four-times as many daily riders as Sound Transit projects for the entire Link light rail line in 2020,²⁵ and 140 percent of the daily ridership Sound Transit projects for the completed, 53-mile light-rail network in 2030.²⁶ Frequent stops make local bus service relatively convenient and provide good accessibility along routes. The drawback of frequent stops is slow service, averaging about 13 miles per hour.²⁷ Even though local buses provide the vast majority of transit trips, bus routes rarely figure in planning for TOD. Generally, local bus stops do not cause an accessibility-related increase in the value of nearby properties.²⁸

Regardless of bus impact on TOD, the critical role of bus service in Puget Sound and cities across Washington foreshadows an ongoing, critical discussion of which mode of transportation will best serve the community's vision for growth and access to employment.²⁹ Appendix B includes additional information on transit service supply and demand.

Design, Land Use and Regulatory —

Challenges and Solutions

Design, land use and regulatory issues directly shape and limit the form and scale of the built environment. These barriers are the result of both public and private policies, and include a diverse range of issues such as the design of the street-network, competing visions of how a center



Redmond Downtown Transit Center

should function, accessibility, transportation-demand management, and zoning regulations. Literature often cites the three "D's"—density, diversity, and design—as necessary for creating great places and minimizing automobile use.³⁰

Foremost behind the success of cities such as Stockholm and Munich are built environments that make riding trains and buses more convenient and generally more pleasant than driving a car.³¹ Likewise, the success of transit in

the primary U.S. transit markets results from important design characteristics of their downtowns; these markets are major employment centers, are well served by radial transit lines, are densely built, contain a mix of uses, and are pedestrian friendly.³²

Efficient land use planning can yield significant transportation and environmental dividends if carefully integrated with transit services.³³ Such careful integration is particularly challenging in the United States given the prevalence of free parking and subsidized auto travel.³⁴



Seattle

Conceptualizing Urban Centers and TOD:

Moving from Node to Place

The role of transit in linking individual places with the broader region means TOD should perform a dual function as both a “node” within the regional transit system and a “place” in its own right.³⁵ Place refers to the neighborhood function of residences, businesses, entertainment destinations and other synergistic uses that combine to make station areas vibrant, pleasant, livable places. Node refers to the role of stations as an access point for commuters arriving and departing by train, bus, car, bicycle, and foot.

TOD’s dual role as a place and node requires accommodation of housing, employment, retail, trains, buses, cars, bicycles and people in close proximity with one another. The interaction and synergy among various uses and users gives TOD location efficiency; however the balance between place and node is difficult to achieve.³⁶ Stakeholders with varying objectives sometimes disagree on how transit-oriented developments should function.³⁷

New Urbanists and their political allies suggest mass transit stations should serve as hubs for residential and employment populations. The New Urbanist model envisions the best use of land around transit stations for accommodating as many residents, jobs and other synergistic uses as possible, while maintaining or improving livability. Political interests often compete for the area around a transit hub to accommodate a large amount of parking, viewing the transit station as an access node to employment centers across the region.

This tension is playing out along Seattle's Link light rail alignment, with many people displeased by the lack of parking at stations.³⁸ In other regions, a common complaint is most transit agencies have little interest in stations as anything but nodes and parking centers because they want to maximize ridership from park and ride facilities.³⁹

Sound Transit and the City of Seattle intentionally avoided accommodation of large quantities of parking at stations because they want to encourage stations to develop as "places" – synergistic communities of people, jobs, retail and other amenities. Tukwila Station is the lone exception, where a 600-space parking lot surrounds the station site to serve park-and-ride users. Increasingly, projects built around up-and-coming transit nodes, like Dallas's Mockingbird Station, Portland's Pearl District, and Metropolitan Chicago's Arlington Heights, are targeted at individuals, households and businesses seeking locations that are vibrant and interesting; these places usually have an assortment of restaurants, entertainment venues, art shops, cultural offerings, public plazas, and civic spaces.⁴⁰

While TOD projects must balance the multiple functions of node and place, the value of the system as a whole is enhanced with some degree of specialization at each station – a park and ride station functioning primarily as a node can help reduce pressure for other stations to function primarily as nodes.⁴¹

Auto access through Seattle's Westlake Center via Pine Street was a notable local example of the tension between place and node. Auto-oriented, commercial retail interests prevailed and today Pine is open to traffic. Virtually all European cities have imposed some degree of control over the



Bellevue

entry of cars into historic centers, improving their function as great places.⁴² Minneapolis, Boston, Portland, and Denver have similarly banned traffic from portions of their downtowns. Turning downtown streets over to shoppers and pedestrians has generally proven effective to increase downtown retail sales and commercial property values.⁴³

Improving Accessibility from Transit to Jobs and Residences



Seattle Streetcar

Accessibility is directly related to the tension between place and node. Generally, improving access for cars strengthens an area's function as a node over function as a place.

Accessibility is a function of mobility and proximity, enhanced by either increasing the speed of getting between points (mobility) or bringing points closer together (proximity), or some combination thereof.⁴⁴ Compact, mixed-use development, such as embodied

in urban centers and TOD, can substitute for physical movement by both shortening travel distances and promoting travelers to walk in lieu of driving.⁴⁵ Looking at cities from an accessibly perspective can reframe transportation objectives from transit supply-side strategies and mobility-based planning to enhancement of accessibility – shifting the focus to people and places.⁴⁶ An accessibility-based perspective gives particular attention to promoting efficient, resource-conserving land use arrangements.⁴⁷

The sprawling development pattern that characterizes urban areas across Washington is an inherent obstacle to transit use and accessibility. Compared with transit, autos provide far greater accessibility to the vast majority of parcels in Washington. Essentially all parcels in Washington are connected to the road network, while relatively few parcels are served by transit, especially routes offering direct access between centers. Transit-choice users thus have little incentive to use transit in place of their autos and transit-dependent users have limited access to the majority of parcels.

Higher residential densities and greater concentration of employment and other synergistic activities around transit stations, hubs and routes can help improve the level of accessibility afforded by transit relative to autos. Studies consistently show that transit demand rises most sharply when shifting from very low to moderate residential densities; such as moving from 4 dwelling units per net residential acre to 10 or 15 units per acre.⁴⁸ Increasing residential densities near transit stations is important but, in of itself, insufficient to convert significant numbers of choice-users to transit.⁴⁹ Locating key destinations, particularly employment and retail, near transit in conjunction with higher residential densities is necessary to fully leverage accessibility from transit.⁵⁰ For TOD to yield meaningful ridership gains it must provide accessibility advantages over the car.⁵¹

Rethinking Suburban Street Networks



Renton

Pre-World War II street networks across Washington are usually found in the gridiron form with small to medium length blocks that include sidewalks, often with 3- to 7-foot planter strips buffering the sidewalk from the roadway. While not always ideal, these street-networks usually accommodate the pedestrian orientation essential to successful urban centers and TOD. Contemporary suburban street networks typically bear little resemblance to pre-World War II street-networks, and can take any number of auto-centric forms.

Suburban street-networks provide poor connectivity and mobility (especially for non-motorized users) by limiting route-choices and requiring pedestrians to navigate their way through a maze of auto-oriented build environments. Large volumes of traffic are dumped onto collector routes from adjacent subdivisions. The result is a clear auto-orientation with few mobility alternatives aside from the automobile.

The following techniques can improve the street network and mobility in general:⁵²

- **Locate development close to transit to improve accessibility.** Effective TOD places residential and office space as close to transit as possible. The optimal walking distance between a transit station and place of employment is 500 to 1,000 feet.
- **Improve accessibility for the greater community.** Provide connections to local and regional multi-use paths and trails that encourage longer walking and bicycle trips.
- **Use a multi-modal street design.** Street designs varying in modal emphasis can provide a balanced transportation system. Region-serving streets may emphasize auto and transit vehicles, other streets may emphasize pedestrians and bicycles. All streets should safely accommodate pedestrians.
- **Plan for local and regional travel routes.** Differentiating street design between local and regional routes is a way to balance regional accessibility to the transit station with local circulation and access.
- **Integrate transportation demand management.** Measures have different levels of effectiveness in reducing automobile travel when viewed individually. Combining land use, TDM, transit, and infrastructure strategies together offers the greatest potential to reduce single-occupant vehicle travel.
- **Revise level of service standards.**⁵³ Expanding roads can temporarily relieve traffic congestion, but often impacts other models of travel and discourages walking and bicycling. Many agencies are now revising level-of-service standards to reflect the multi-modal nature of transit-oriented development.

Enhancing Transportation Demand Management⁵⁴

Transportation demand management (TDM) is a regulatory tool that aims to make more efficient use of transportation resources already in place by shifting demand (e.g. into carpools or outside of peak times), or eliminating trips altogether.⁵⁵ TDM has been pursued most aggressively in the United States through ride-share promotion, parking management, and other demand-shifting tactics. Overall, American trip-reduction requirements have fallen far short of expectations because such programs have no “teeth.”⁵⁶ Programs that most effectively modify travel behavior pass on clear and unmistakable price signals; such as by underwriting carpools and vanpools, charging for parking, and providing free or heavily subsidized passes.⁵⁷ A growing consensus in the United States and Canada agrees parking management is the one TDM strategy with a high payoff potential that is also politically palatable.⁵⁸ The following section, “Balancing Parking Requirements”, provides greater discussion of parking management.

TDM exerts far stronger and more enduring influence when combined with land use initiatives.⁵⁹ Southern California implemented Regulation XV in 1991, which requires large employers to introduce measures that aim to reduce single-occupant trips made by employees. Workplaces with on-site convenience stores and ambitious TDM programs promoting ride-sharing, transit riding, and parking management realized 8 to 16 percent greater reductions in single-occupant trips where employees were commuting than did campus-style office parks and other single-use employment sites.⁶⁰

TDM measures in Washington State include the Commute Trip Reduction Law (CTR), originally passed by the Washington Legislature in 1991. The CTR law affects the state’s nine most populated counties.⁶¹ The 2006 legislature changed the geography of the program to focus on urban growth areas (UGA) of the state with significant highway congestion. Employers in those UGAs must participate in CTR if they have 100 or more full-time employees at a single worksite who begin their scheduled workday between 6 a.m. and 9 a.m. Statewide more than 1,100 worksites and 560,000 commuters participate in the CTR program. The percentage of people who drove alone to work at CTR worksites declined from 70.8 percent in 1993 to 65.5 percent in 2007. Efforts afforded by CTR helped make Washington (along with Oregon) the only states where the overall percentage of people driving alone to work decreased between 1993 and 2000.

The Growth and Transportation Efficiency Center (GTEC) program authorized by the legislature in 2006, is part of the CTR law but works with smaller businesses, schools, and neighborhoods to find new ways to encourage commuters to ride transit, vanpool, carpool, walk, bike, work from home and use other commute options besides driving alone. A GTEC is a defined boundary of dense mixed development with major employers, small businesses and residential units. The goal of the GTEC program is to provide a structure for local jurisdictions to coordinate their transportation and land use decisions to allow greater access to employment and residential growth centers. This is done by decreasing the proportion of commuters driving alone during peak periods on the state highway system.⁶² Common program elements include trip reduction incentives, transit passes, outreach and information for commuters, small-scale infrastructure investments, and local policy and development implementation.

Balancing Parking Requirements



The amount of on-site parking included in most new development adds significantly to development costs, particularly when parking is below-grade. Higher costs force developers to ask for higher rents, reducing affordability. Accommodating parking also adds complexity to the design and can interfere with the building's place function and pedestrian-orientation by generating traffic, noise, pollution and danger for pedestrians and bicyclists.⁶³

Parking provisions encourage single-occupant auto-use at the expense of alternative modes of transport, particularly when parking is "free".⁶⁴ Free parking, enjoyed 99 percent of the time when Americans make an automobile trip, dissuades many travelers from even considering transit options.⁶⁵ Because transit agencies typically charge little or nothing for parking, its cost must be subsidized internally by other project components.⁶⁶ The net effect is often a development program favoring the most lucrative uses and growing pressure for an auto-centric built environment instead of pedestrian-oriented urban centers and TODs – another place versus node clash. Improperly priced parking contributes to TODs functioning primarily as a node for cars and drivers instead of a place for people and community.

Parking strategies to prevent impediments for pedestrians and place making include:⁶⁷

- **Configure parking to avoid domination of the walkable environment.** Parking should be oriented away from the pedestrian realm, behind buildings, or preferably underground (although this increases cost). Increasing the amount of developable land and density in the development may offset the cost of structured parking.
- **Charge for parking. Charging is one of the most effective ways to change travel behavior.** Pricing can be direct (charging a fee to park) or indirect (parking cash-out or transportation allowances). Appropriately priced parking can reduce travel demand between 10 and 30 percent.
- **Reduce off-street parking requirements.** Parking requirements often do not reflect the characteristics of TOD and can result in excessive parking allowances, encouraging automobile use. Such parking requirements are often based on demand studies of isolated suburban uses with free parking. Shared parking, transportation demand management (TDM) programs, use of on-street parking, and trip-reduction benefits of transit-orientation can all help reduce demand for off-street parking, often up to 30 percent.
- **Shared parking.**⁶⁸ Mixing land uses can promote resource efficiency in the form of shared parking. Shared parking can reduce the scale of suburban activity centers by as much as 25 percent, which can mean a 25 percent more pedestrian-friendly environment.

- **Protect neighborhoods.** Neighbors often cite spillover impacts to validate the need for ample, free on-site parking. Neighborhood parking impacts can be mitigated with time restrictions, enforcement, and residential parking permit programs. Some places have priced neighborhood on-street parking using meters, that exempt local residents from charges or time restrictions and charges non-residents for use.
- **Utilize on-street parking.** A denser grid of pedestrian-oriented streets can accommodate parking that would otherwise locate on-site. On-street parking can also supply convenient parking for adjacent retail and service uses. On-street parking should be time restricted and metered.
- **Remote parking facilities.** Using remote parking facilities with shuttle and express connections to major intermodal transit stations. One of the challenges of developing property around transit stations is the loss of commuter parking. One solution is to build or lease remote park-and-ride facilities and provide frequent express bus service to the station.
- **Unbundle parking.** Private parking is often included in the sale or lease of residential units and commercial buildings. Unbundling the cost of parking can allow tenants to pay for only what they need; excess parking can be sold or leased to others.

Emphasizing Traffic Calming Approaches



Renton

Traffic calming incorporates elements of TDM and street network design by constraining automobile use and enhancing the livability of neighborhood streets.⁶⁹

Traffic calming aims to slow traffic and instill a sense of tranquility and intimacy rarely found on ordinary city streets. Virtually all European cities have imposed some degree of control over the entry of cars into their historical centers.⁷⁰ In the United States, Minneapolis, Boston, Portland, and Denver have similarly banned traffic from portions of downtown.⁷¹ When combined with high-quality urban design, turning downtown streets over to shoppers and pedestrians has generally proven effective at increasing downtown retail sales and commercial property values.⁷²

As mentioned in the preceding place versus node discussion, in the late 1980's and early 1990's, Seattle experimented with traffic calming on Pine Street downtown. Seattle has implemented various traffic calming measures on other roads as well,⁷³ however

none approach the prominence of the effort on Pine Street. Seattle's urban centers include several street-blocks that could be viable candidates for conversion to non-motorized corridors; such as 11th Avenue between Pine and Union Streets. The Seattle Department of Parks and Recreation is studying a similar idea for several blocks of Bell Street, where one lane of traffic would be converted into a recreational area to create 17,000 square-feet of open space with landscaping, lighting and pedestrian amenities for the Belltown Urban Center.⁷⁴

Innovating Social-Cost Pricing

Economists often argue proper pricing would eliminate the need for heavy-handed controls over car use and public interventions into private land markets.⁷⁵ Pricing measures include congestion fees, carbon taxes, and parking surcharges. If proper pricing was implemented, pricing proponents predict people would move closer to jobs and transit stops to economize on travel; employers would locate as close as possible to labor pools to lower their worker's travel expenses; and retailers would be welcomed into residential neighborhoods by those wanting to reduce the cost of driving to shops.⁷⁶

Pricing metropolitan travel has so far eluded real-world implementation because of political resistance.⁷⁷ Motorists already complain about the cost of gasoline and registration fees, and politicians are usually unwilling to champion congestion pricing in fear of reprisal from constituents. Critics argue pricing is elitist policy favoring the rich by pricing the poor off roads. In Chapter 10 of his book *Common Place – Toward Neighborhood and Regional Design*, Douglas Kelbaugh advocates for a much higher gas tax. In addition to raising revenue for infrastructure funding, Kelbaugh argues no other single legislative action would do more to reduce sprawl, fuel consumption, traffic congestion, and air pollution. He also recommends secondary measures such as congestion pricing to raise revenue and discourage driving.

Tolling is becoming more politically popular across Washington.⁷⁸ Tolling can moderate demand for roadway capacity, and raise money for infrastructure. The Tacoma Narrows Bridge now requires drivers to pay tolls. In order to fund the new State Route 520 bridge drivers will soon pay tolls for use of the existing structure. State Route 167 offers single-occupant drivers the option of paying variable tolls to use the carpool lane, depending of the volume of traffic. The Washington State Department of Transportation is evaluating several tolling alternatives for the future implementation in other corridors as well.⁷⁹

Implementing Proactive Zoning and Land Use Regulations

Traditional land use regulation often prevents the kind of development envisioned and encouraged by today's comprehensive plans. The common practice of separating land uses is a legacy of Euclidean zoning principles that, when first introduced some eighty years ago, sought to protect residences from industrial-related nuisances.⁸⁰



Bremerton

Jobs and housing imbalances result from single-use zones. Design regulations have a strong bearing on how projects relate to the street-front. Traditional zoning regulations can prevent a diversity of housing types (especially for varied income levels), and maximum density limits can prevent designated urban centers from reaching their potential for lack of density and synergy. A large portion of the area within a quarter mile radius of Seattle's Capitol Hill station site is zoned Lowrise 3, limiting parcel density to under



Seattle

fifty-five units per acre. While this net residential density is higher than many of the TOD density benchmarks cited across the body of literature, many of the older apartment buildings in the area have net densities in excess of 100 units per acre.

In many areas zoning and development regulations encourage or require development to adopt an auto-orientation. Parking requirements, density limits, and single-use zones can all contribute to automobile-oriented development. In a survey of public-sector stakeholders, automobile-oriented development patterns were rated the most onerous and difficult to overcome barriers to TOD.⁸¹

Mixing land uses can help encourage transit use and walkability. Mixed-uses allow residents and others passing through centers and TODs to complete errands and enjoy services and amenities in proximity to their residence, employment, or transit stop. A fine-grained mix of housing, shops, offices, and civic places allows those who take transit to easily connect multiple destinations by foot once they alight the train or bus.⁸² This mix of uses can help internalize trips and reduce vehicle miles traveled.⁸³ Mixing uses can also improve quality of life by saving time that would otherwise be spent making additional trips. Continuous activity and the casual surveillance of eyes on the street can help promote safety. Jane Jacobs' oft-quoted recipe for a healthy city is, "an intricate and close-grained diversity of uses that give each other constant mutual support, both economically and socially."⁸⁴

Cervero's analysis of fifty-nine large-scale suburban office developments across the United States found that every 20 percent increase in the share of floor space that is devoted to retail and commercial activities was associated with a 4.5 percent increase in the share of trips by vanpool or transit.⁸⁵ Suburban workers felt less compelled to drive their cars to work as long as they could conveniently reach restaurants and shops by foot during the midday. Studies also show that having retail shops near residences can encourage transit commuting. A recent analysis of work trips across eleven large U.S. metropolitan areas showed that having stores between a transit stop and a residence increased

the share of work trips via transit by several percentage points.⁸⁶ With conveniently sited retail in proximity to homes, transit riders can link work and shopping trips in a single tour.

In addition to providing the opportunity to internalize trips, mixing land uses can help moderate peak road capacity and balance transit ridership to bidirectional traffic flows.⁸⁷ For instance, at an office park with only office space, most tenants will arrive in the morning and leave in the evening. Such commute patterns require road infrastructure to be sized for peak capacity. Splitting the same amount of floor-space into office, residential and retail use can help balance trips throughout the day and reduce the amount of peak road capacity needed. The same principle is applicable to trains and buses. Stockholm and Curitiba demonstrate mixed land uses translate into bidirectional traffic flows, with trains and buses more fully utilized along their entire routes, creating a more efficient use of precious transit capital.⁸⁸

Public agencies with a proactive focus on zoning, planning, and predevelopment work are creating workable projects for developers and creating value for developers and the community.⁸⁹ A notable local example is the proactive planning Bellevue officials have undertaken for the Bel-Red corridor.⁹⁰ Local governments can accomplish this proactively through general policy approaches, and regulatory provisions.⁹¹ Policy approaches articulate which policy and regulatory mechanisms to use, how they are managed, and which partnering organizations participate. Policy approaches help establish a framework for development regulations.⁹²

Improvement to development regulations requires a threshold policy choice to approach. Should new regulations prescribe specific development characteristics or offer greater design flexibility? Prescribed mandates should focus on elements essential for success and feasible from a market perspective, without sacrificing opportunities for creative and original design.⁹³ Case studies reviewed in Chapter 4 of *The New Transit Town* (Dittmar, H., and Ohland, G. (Eds.)) found other cities regulate urban centers and TOD through:

1. **Active walkable streets.** Active streets, location efficiency, expanded mobility, and shopping and housing choices are favorable outcomes dependent on a mix of uses in proximity to transit. Some of the components of active streets include sidewalks, building placement and orientation, entrances, fenestration, block size, placement and supply of parking, street standards (including crosswalks, medians, and bulb-outs).
2. **Building density and intensity.** While density and concentration of activity sufficient to support transit are essential, there is no single benchmark for project density. Rather, appropriate levels of density and concentration of activity vary depending on the unique urban form and desire of the respective community. Setting minimum densities or establishing required average densities for station areas are two methods for requiring a sufficient level of density.
3. **Careful integration of transit.** While the integration of transit is only infrequently addressed explicitly through standard zoning provisions, it emerges in the case studies as an essential element in successful TOD.
4. **Variations.** Some cities have chosen not to prepare unique documents or plans for customized projects, but to apply established zoning regulations and approve variances for desired characteristics.

Exploring Permit Incentives

“Time is money” in real estate development. Project delays add risk and expense to projects and can threaten project viability, especially in a weak economy. Projects likely to further growth management goals centered on channeling growth into urban centers should be expedited through the permitting process. Unfortunately, the current regulatory framework does not always favor projects furthering regional or comprehensive planning goals. A recent example is Clearwater Commons in Snohomish County where the developer incorporated low-impact design features, however permitting took an extra year because the low-impact features required variances and had to be approved separately from the standard process.⁹⁴

Wedding Urban Design to Place



Everett

The influence of urban design on walkability is paramount. Design can serve as a barrier to urban center development and TOD by reinforcing auto-oriented uses and lifestyles, and acting as blight on the street front. Conversely, pedestrian-scaled and oriented design can foster walkability. Every transit trip starts and ends with a walking trip, so places where walking is comfortable and appealing have a larger catchment area for transit patrons.⁹⁵ Poorly designed projects can reinforce NIM-BY tendencies by validating negative connotations people may have between density and quality of life or place. The public’s negative association of density with poor quality design is reinforced by developments with less costly materials and an automobile emphasis.

New Urbanist principles are becoming increasingly popular as an alternative to conventional, auto-centric development. New Urbanism focuses on the details of what makes communities enjoyable such as walkable, tree-lined, gridiron street-networks with curbside parking and back alleys, prominent civic spaces that draw people together, commercial cores within walking distance of most



Seattle

Kelbaugh's design work has won more than twenty awards and has been published in over 100 books and periodicals.⁹⁸ In Chapter 10 of his 1997 book *Common Place – Toward Neighborhood and Regional Design*, he recommends urban design guidelines for all parts of the Puget Sound region. The following excerpt articulates his vision for good design:

“Develop Urban Design Guidelines for all parts of the region – ones that codify in clear and simple ways design principles espoused here or generated in the community. These ideas include but are not limited to such concepts as mixed-use zoning, typological zoning, walkability, bikeability, compact site designs and community plans, infill housing, bounded and legible centers, neighborhood schools and places of worship, main streets as opposed to shopping malls, zero-lot line and town housing, accessory units, alleys, recyclable and reusable building materials, regional building materials and practices, regional architecture, regional architectural types, and community empowerment. Municipalities should also adopt Neighborhood Plans... as an overlay to existing zoning ordinances and comprehensive plans. Together with the Comprehensive Plan already required by the state, Urban Design Guidelines and Neighborhood Plans form a three-legged base for stable and effective planning. Design charrettes... are helpful in turning all three legs and especially powerful in developing Neighborhood Plans... similar guidelines and plans should be developed for lower density suburbs and rural areas beyond the urban growth boundary to help ensure that low density development is also environmentally, socially, and economically sound and sustainable.”

Continue Diligent Attention to

Resolution of Fiscal Barriers and Challenges

Financing and cost are major barriers for both private developers and public entities seeking to promote urban center development and TOD. Major fiscal barriers include the enormous capital expenditures required for infrastructure and real estate development. Private developers are experiencing difficulty finding lenders and investors. The public sector is struggling to identify sources of revenue to finance needed projects.

Specific fiscal barriers and associated resolution strategies vary between the private and public sectors. An emphasis on value capture is a common strategy for all stakeholders to leverage financial viability. Appendix C includes a more detailed discussion of value capture.

Public Sector Barriers, Challenges, Solutions and Best Practices



Tacoma

Maintaining and improving public infrastructure is critical to the long-term economic well-being and quality of life in Washington. Urban centers and transit-oriented developments need infrastructure investment sufficient to accommodate growth planned for in comprehensive plans as required by GMA. Both Washington State and the United States are experiencing an infrastructure shortfall due to insufficient revenue from traditional sources of funding, and record demand for infrastructure.⁹⁹

The cost of public financing is a function of capital expenditures, and the cost of issuing public debt. The high cost of infrastructure and amenities — and the inherent questions of how such costs should be distributed — is one of the chief barriers to urban center and transit-oriented development. Washington's complex network of infrastructure programs and funds is another barrier. A myriad of roughly eighty programs and sub-programs administered by twelve state agencies is responsible for operating state-to-local infrastructure funding programs across Washington.¹⁰⁰

Traditional sources of infrastructure funding typically utilize gas taxes, property taxes and motor vehicle excise

taxes.¹⁰¹ Traditional funding sources are increasingly insufficient to meet the complex and diverse needs of Washington's transportation system.¹⁰² For example, the state constitution prohibits gas tax receipts from being spent on public transportation operations and capital investment. Beginning with Initiative 695 in 1999, and several further initiatives approved by voters, and/or subsequent actions by the Legislature have reduced sources of infrastructure and transportation funding

and further restricted the ability of government to raise and spend funds. The lack of funding has been made more challenging by the 2008-2009 recession.

In response to the national funding gap, over the last decade the Federal government has developed new “innovative finance” funding techniques that complement and enhance existing grant reimbursement programs.¹⁰³ Innovative finance aims to maximize the ability of states and other project sponsors to leverage Federal capital for needed investment, more effectively utilize existing funds, move projects into construction more quickly than under traditional financing mechanisms, and make possible major transportation investments that might not otherwise receive financing.¹⁰⁴ State and local governments must first enact legislation which enables the use of innovative transportation finance programs, and govern the way they work.¹⁰⁵ Local legislation governs implementation of federal programs as local funding.¹⁰⁶ Potential barriers to innovative finance in Washington State include constitutional limitations of some financing mechanisms, and a lack of enabling legislation.¹⁰⁷

Increasing revenue through innovative funding mechanisms is restricted by the state constitution, which imposes limits on the lending of credit and tax increment financing (TIF). In the 1982 case, *Leonard v. Spokane*, the State Supreme Court ruled the diversion of state property tax to be inconsistent with Article IX, Section 2 of the Washington Constitution.¹⁰⁸ Because the court struck only the diversion of state property taxes, the Washington Legislature has since authorized “TIF-lite” districts that capture increases in local property taxes.¹⁰⁹ Washington state law also restricts TIF by preventing local taxing districts from increasing the total dollar amount of their regular property tax levy to an amount that exceeds 101% of the highest levy over the past three years. Washington State’s various forms of “TIF-lite” are outlined below:

- **Community Revitalization Financing:**¹¹⁰ Washington statutes generally refer to TIF as community revitalization financing. Unlike other tax increment laws around the country, Washington’s TIF laws do not authorize the issuance of special revenue bonds. Washington laws provide an additional source of revenue (i.e. a portion of the regular taxes levied by other taxing districts) to apply toward debt service on the issuer’s general indebtedness. Cities create an increment area by adoption of an ordinance, or a resolution in the case of counties and port districts. Various factors must be present before an increment area can be created, and tax allocation revenues can be spent only “to finance public improvement costs associated with the public improvements financed in whole or in part by community revitalization financing.” Public improvement costs are defined broadly and include costs of design, planning, acquisition, construction, rehabilitation, relocation costs, financing costs, and improvement and installation of “public improvements.” Because significant increases in assessed value of property must occur in the increment area before tax allocation revenues are sufficient to finance meaningful improvements, community revitalization financing favors projects involving undeveloped and underdeveloped property (i.e. where the potential for growth in assessed value is greatest). Unlike laws relating to local improvement districts (LIDs), TIF laws do not: 1) require notice to be mailed to property owners within the proposed increment area; 2) establish protest procedures; or 3) limit the authority to create an increment area if protests are made at the hearing.
- **Local Infrastructure Financing Tool (LIFT):**¹¹¹ LIFT was established during the 2006 legislative session. LIFT is a competitive program that allows selected local governments to take advantage of tax revenue

generated by private investment in a Revenue Development Area (RDA) to make payments on bonds used to finance public infrastructure improvements. Incremental revenue increases in the RDA and revenue from other local public sources are used to match state money and must also be used to repay the same bonds. The state revenue that is captured is distributed through a local sales and use tax that is credited against the state's sales and use tax. While helpful in specific applications, restrictions on LIFT cap the state contribution at \$7.5 million per year and restrict which localities may participate. Localities wishing to participate must designate an RDA. While LIFT does offer a new source of funds for infrastructure improvements, it is flawed by a remarkably complicated selection process, and annual revenue tracking process. Additionally, the mechanism is based upon uncertain annual revenues in the future, putting local government's general funds at risk to repay bonds.

- **Local Revitalization Financing (LRF):**¹¹² The Washington Legislature focused on sources of revenue and simplified funding programs during the 2009 session. Second Substitute Senate Bill 5045 expands TIF using LRF. LRF captures a local property tax increment based on new construction value within a designated revitalization area, and makes a state contribution available to approved jurisdictions in the form of a local option sales tax credited against the state sales tax. To use LRF, a city or county must create a revitalization area within its boundaries and identify public improvements to be undertaken. LRF may be used to repay general obligation bonds or to pay certain public improvement costs on a "pay-as-you-go" basis. The state contribution of tax revenues may only be used to repay bonds, and the state contribution cannot be received until after those bonds have been issued. The maximum state contribution available under this legislation is \$500,000 per revitalization area per year, with an aggregate statewide limitation of \$2.5 million (excluding the amounts allocated in the legislation to demonstration projects).
- **Special Assessment Districts:**¹¹³ Special Assessment Districts comprise areas within a municipally designated district in which a municipality installs improvements that are financed in all or in part from special assessments levied against all property within the assessment district that is "specially benefited" by the improvements. They often take the form of a LID.

The aforementioned "TIF-lite" tools offer additional financing mechanisms in specific and applied situations. In most cases however, contributions are limited and include numerous prerequisites and restrictions with regard to how money is spent. For TIF to become a truly viable financial mechanism the constitutional limitations need to be addressed by the Legislature and the state's 101 percent property tax levy limit must be lifted.

In recent years numerous studies have investigated more efficient processes for the state to administer state-to-local infrastructure funds. A summary of completed work to date appears at PSRC's Infrastructure Funding Resources home page.¹¹⁴ PSRC recognizes the central role of infrastructure to urban center development and is actively researching funding sources currently available and potential new sources of funding. PSRC's Public Infrastructure Funding Project Status Report provides an overview of funding programs currently available, the extent of their usage, and barriers to usage.¹¹⁵⁻¹¹⁶ PSRC plans to produce a final report in the summer of 2009, which will be available on the PSRC homepage. In terms of barriers, findings included in PSRC's status report include:

• **Revenue challenges:**

- Some sources are difficult to use due to restricted uses, jurisdictional eligibility, super-majority requirements, and limited time periods
- State funding source issues do not keep pace with costs, maintenance and retrofitting are prioritized before new capacity, and state revenues are not explicitly tied to supporting an area’s growth.
- Growth-generated funds are not all dedicated to infrastructure

• **Funding gaps:**

- Recognizing data caveats, the funding gap has grown particularly in areas of transportation and parks due to a lack of dedicated revenue streams or diminishing sources of existing revenue streams

Public funding sources are reviewed in the report and summarized in the following table:

Funding sources available to cities for capital projects

FUND REVENUES

- General fund:
 - Property taxes
 - Retail sales and use taxes
 - State-shared revenues
 - Utility taxes
- Enterprise funds:
 - Charges and fees

BOND & DEBT FINANCING

- State/federal low-interest loans
- General obligation bonds
- Revenue bonds
- Other bonds (63-20 financing)
- Other federal/local debt-Section 108 loan guarantee program

LOCAL OPTIONS

- Real Estate Excise Tax (REET)*
- Mitigation and development fees*
- Local improvement districts*
- Transportation benefit districts*

GRANTS

- State/federal grants

* Revenues restricted for specific purposes

The status report reviews and summarizes existing studies and begins to synthesize common findings and recommendations for increasing local and state funding sources. Recommendations for increasing local funding include new revenue sources, consolidating local options into a general use tax, and reducing existing funding burdens (such as restrictions on uses, limited eligibility for funds, super voter thresholds, etc.). Recommendations for state funding include:

increasing funding to programs (indexed to inflation, and/or increased growth-related focus); funding projects that reduce demand; eliminating legislative approvals and setting priorities programmatically; assigning a higher percentage to rural, smaller areas with limited means; tying funding to new requirements; evaluating bonding against loan portfolios, bond pooling; managing infrastructure programs as banks (shift mix to loans)

One additional public tool available to assist governments with land acquisition is the state's Community Renewal Law. The Community Renewal Law provides cities and counties with a powerful array of tools for land assembly and economic redevelopment in depressed areas.¹¹⁷ Appendix D includes additional information on the Community Renewal Law.



Private Financing – Prohibitive Costs and Limited Sources of Capital

The construction cost of urban infill development is usually more expensive than greenfield development.¹¹⁸ Land, labor, fees, permitting and more complex designs all contribute to the higher cost of infill versus greenfield development. Higher costs present a barrier for both developers and aspiring residents of urban centers and transit-oriented developments.

Risk management costs associated with urban infill can add expense and complexity to infill versus greenfield development. Cleanup requirements can add complexity, expense and risk to brownfield parcels. Entitlement risk is much more complex when assembling urban parcels, especially on brownfield properties with multiple agency jurisdictions, or when properties are subject to a rezone, text amendment or variance. Infill construction risk management is more difficult due to

the relatively complex design often required of infill and the proximity of neighboring parcels, utilities and rights of way.

Carrying costs are expensive, especially when there are limited sources of capital available. Expenses associated with zoning work, architectural work, and land acquisition attracts few sources of capital.¹¹⁹

Housing in urban centers and other higher density areas is often more expensive than comparable housing in outlying areas. This is particularly true with new developments, as they are more challenging and expensive to bring to the market and subsequently have higher housing costs.

Public sector investment in predevelopment stages has jump-started private investment in many TOD projects.¹²⁰ Potential sources of predevelopment capital include communities, transit agencies and foundations.¹²¹ Washington's Community Renewal Law can also be helpful in jumpstarting private investment in select cases.

Demonstrating there is a strong market for space is helpful in approaching lenders, particularly in uncertain economic times. Pre-leasing space or at least enlisting support from potential tenants can help attract investors.¹²² Showing examples of successful comparable projects (so-called "comps") and sharing data on their impact on the area's property values can also be helpful.¹²³ Private investors also look for signs that the local government will facilitate the public review process in a way that moves the project forward. Local government and transit agency champions can clarify and simplify predevelopment steps, reducing risk and lowering financing costs.¹²⁴

A strong market analysis and detailed business plan can help mitigate risk, particularly for large, complex, mixed-use projects. The plan should assist with exploring how to best finance the deal and position the project to secure the desired financing.¹²⁵ Business plans should include:¹²⁶

- A detailed analysis of the market and costs for each use;
- A detailed strategy to capitalize on the mix of uses and phasing to enhance value;
- An analysis of stakeholders and their motivations, and;
- A description of potential sources of funding for each phase of the project.

Financing can be "deconstructed" and positioned to attract a variety of investors.¹²⁷ Project phasing can produce early cash flow to meet the needs of impatient equity investors. Mezzanine financing can be structured in a variety of ways to meet the needs of various investors and developers. Simplifying the deal structure to produce familiar-looking deals can attract traditional debt investors.

Potential equity investors include self-financing developers, the developer's usual equity partners, special interest investors (such as a local family with a sense of civic responsibility), insurance companies, pension funds, endowment funds, and public equity investors.¹²⁸

"Efficient location" mortgages for home purchases could help make urban housing more affordable by leveraging transportation savings associated with living in proximity to transit. Under this theory, transit savings might be subtracted from principal, interest, taxes, and insurance expenses

when qualifying applicants for home loans.¹²⁹ Home mortgage policies could provide homebuyers with credits for low auto ownership and usage.¹³⁰ Lenders should recognize that households in certain neighborhoods depend less on automobiles and accordingly, have greater discretionary income to devote to mortgages.¹³¹ The policy could also extend to discounts for energy-efficient housing and for home offices, both of which can significantly reduce monthly expenses.¹³²

Resolving

Political Challenges

Political barriers for development of urban centers and transit-oriented developments are extensive. Political barriers tend to divide the public, local governments, agencies, and elected officials – making consensus difficult or impossible to reach. Leadership, coordination across political boundaries, political discourse, and a clear articulation of plans and public policy can help build the consensus needed to create and promote urban centers and TODs as a viable alternative (to conventional development) for a wide segment of the general population.

Enhanced Leadership and Vision

Leadership is critical for successful creation of urban centers and TODs. Challenges and barriers are numerous – an understanding, or at least awareness of opportunities and risks is key to seeing projects through. Having someone step up as the political champion of a TOD proposal is critical



Auburn Station

to marshalling resources, building a coalition, and resolving disputes that invariably surface along the way.¹³²

Successful creation of TODs and urban centers starts with shared visions that guide planning and implementation of projects for years to come.¹³³ Given the long time frames and substantial investments in planning and design required for TOD projects, clear and sustained public policy favoring transit-oriented development is enormously important. Successful projects are founded in clearly stated political and policy guidance for local officials, public

agency staff, and project proponents.¹³⁴ Formal policies as well as funding and program priorities help establish shared expectations among community members, transit agencies, and developers and smooth the way for development projects.¹³⁵

Integrated Views Among Actors

Turf battles, tunnel vision, and disagreements about project outcomes are all part of the challenge in moving TOD and urban center development forward.¹³⁶ Numerous actors create a logistical challenge both in promoting urban centers and TOD, and in the broader context of urban planning. Because each actor often brings different goals, priorities, and interests to the table there is no widespread agreement about what TOD should accomplish from a functional standpoint.¹³⁷ Should TOD aim to maximize revenue for the transit agency? Or minimize the use of automobiles? Should TOD be designed to maximize ridership? If so, how? Or should it be designed to revitalize station areas? Appendix E includes a list of goals frequently pursued by various actors.

While these goals can vary considerably depending upon specific circumstances, they illustrate the widely varying objectives pursued by actors and demonstrate the challenge in bringing parties together. To reach its potential, TOD requires the benefit of goals, resources, and policies that are dependably and accountably aligned around the task at hand.¹³⁸

Acknowledge Political Opposition to Growth

Density is often met with political resistance in the form of “NIMBYism.” Public sentiment often reflects fear of density and mixed uses because of the negative connotations between density and congestion, noise, pollution, crime, and poor schools. For higher densities to gain acceptance in American neighborhoods, more amenities, open spaces and high-quality design should be included.¹³⁹ Many compact European cities demonstrate the middle class can be drawn to restored in-city neighborhoods when treated to such enhancements as public courtyards, refurbished shopping arcades, museums, open-air markets, and outdoor cafes.¹⁴⁰

To minimize political resistance, development can be focused on existing urbanized areas. Channeling growth into underutilized areas inside the urban area can leverage opportunities to limit sprawl outside cities, and minimize political opposition to additional development in well-established areas inside cities.¹⁴¹ Experience with design charrettes and studios has shown it is easier to reach consensus for new development in underutilized parts of towns and cities than in existing, well-established neighborhoods.¹⁴² Accordingly, the least utilized sites should be addressed first, reducing the political turmoil and complexity of inserting new development into existing, more mature neighborhoods.

Inclusiveness and ongoing public input in TOD planning, design, and implementation is essential to success. Public outreach can help fend off NIMBY backlash and give those involved a sense of ownership in projects and plans.¹⁴³ Active citizen participation in forming plans, guidelines and regulations fosters a sense of empowerment and ownership on the part of the community,¹⁴⁴ and furthers the democratic process. Active public participation can defuse obstructionism and help develop stronger ideas compared with limited public involvement.¹⁴⁵



Metro Stop, UW

Depoliticize Transit Service

Transit service in the Puget Sound region has often been influenced by political agreements and has not always been based on comprehensive planning, projections for accessible and affordable service, ridership demand, or potential for public and private investment. For example, the 20-40-40 agreement hampers the ability of Metro to provide service to areas with the most potential ridership demand by requiring that 80% of new operations must serve suburban areas. Many suburban communities do need greater service than historically provided, however, demographics and land use policies in many suburban areas have not always provided strong ridership conducive to efficient transit service.¹⁴⁶

In addition, Sound Transit uses the principle of subarea equity, which assures that transit taxes raised in a given subarea are used for capital projects and operations of direct benefit to that subarea.¹⁴⁷ While such a funding mechanism has been politically necessary, politicizing transit planning in such a manner can restrict the ability of any public agency to fund projects where they are needed to make regional transit most effective.

These are just two examples of the political compromises sometimes necessary to gain public support for transit, but such compromises often erode the ability of transit agencies to provide effective transit service within the region.

Explore Reconfiguration of Local Governments and Transit Agencies

Coordination between localities and transit agencies can be especially difficult in areas with small, independent municipal governments.¹⁴⁸ The four county region served by the Puget Sound Region Council is comprised of twenty-three cities with a population over 10,000 people.¹⁴⁹ Dozens of separate agencies are responsible for issuing permits across King County. As a consequence, zoning and development regulations vary across the four county region creating urban landscapes with wide variations in their built environments and corresponding variations in livability. Coordinating actions between these multiple actors makes advancement of state, regional and comprehensive planning goals a greater challenge than it needs to be.

Seven separate transit agencies are responsible for transit service across the four-county region.¹⁵⁰ Coordinating service across these agencies can be a challenge and lead to sub-optimal service. For example, Metro and Community Transit will both begin operating “BRT” lines in their respective counties, but riders will be required to transfer at the county line. A greater level of regional coordination or consolidation could improve service, planning and reduce overhead costs.

National research literature on this problem emphasizes the restructuring of government by decreasing bureaucracy, increasing community empowerment, and emphasizing a regional context and orientation. Kelbaugh advocates this approach in Chapter 10 of his book *Common Place – Toward Neighborhood and Regional Design*:

“Reconfigure government to empower to a greater extent both the region and the neighborhood. These are more appropriate and effective scales of governance than the municipality, which is an increasingly arbitrary and awkward unit for planning and operations. Formally shift more power down to the neighborhood. Consider subdividing the City of Seattle into boroughs, which, in turn, would be divided into official neighborhoods of 5,000 to 10,000 people. With its dwellings, school, stores, community center, library, firehouse, church, synagogue, or temple, the neighborhood is the optimum and natural social and physical unit for building community. At the same time, shift power up to a new regional unit of government. Shifting power up to the county is not optimum, because counties have outdated and arbitrary boundaries like municipalities. Also, counties simultaneously act as both competitor and referee to municipalities on matters such as planning, sewage, and transportation when an unincorporated area competes with an incorporated area. We need a more truly regional government – one that corresponds to the region’s populated area, transit system, and urban growth boundaries – perhaps a three- or four-county consolidation or at least a heavily beefed-up PSRC. Representation on such a regional council should reflect the fact that the older and more mature central cities, such as Tacoma and Seattle, play a greater cultural, institutional, and employment role than their

residential population count might suggest. In fact, formally recognize the increasing international fame and importance of the Seattle region by making that the official name of the regional government or council. Retain the boundaries and names of existing cities and towns but slowly and deliberately shift appropriate decision making from the increasingly obsolete mosaic of municipalities up to a regional entity and down to neighborhood units.”

While modest governance reform may be achievable, wholesale changes to the structure of government are not realistic. The critical step is to establish common ground between various constituencies and form partnerships across jurisdictional boundaries.

Assure Ongoing Attention to Public Schools

Families avoid living in areas perceived to have poor schools. Suburban areas such as Bellevue, Mercer Island, Issaquah, and Kirkland are perceived to have schools superior to those in urban areas such as Seattle.¹⁵¹ This may account, in part, for why among major American cities, only San Francisco has a lower proportion of children than Seattle.¹⁵² It has been said “There are more dogs than children in Seattle. Creating and nurturing high quality schools with nationally recognized academic excellence is essential to attract families with children to any urban center or transit oriented development.

Recognize

Organizational Barriers

Organizational barriers vary considerably depending on the mission of the respective organization. Leadership should be proactive in identifying constraints, limitations and institutional barriers. Public organizations should articulate barriers and limitations to the appropriate lawmakers, and when appropriate to the public, to build political capital for change. Strategic exercises such as S.W.O.T. (strengths, weaknesses, opportunities, and threats) analysis can help public and private organizations identify barriers and develop offsetting strategies.

Explore Opportunities for Big Picture Thinking

From a national survey of approximately 300 transit agencies, White and McDaniel (1999) found only a handful were actually involved in TOD projects.¹⁵³ Actors often have a tendency to focus on their organization’s main function rather than the larger regional goals inherent in a TOD orientation.¹⁵⁴ Common organizational pitfalls can include projects favoring an engineering or financial focus rather than proper emphasis on a growth management and planning perspective.

For instance, Bay Area Rapid Transit (BART) station area plans have often failed to achieve critical linkages to constituent local jurisdictions’ planning activities.¹⁵⁵ In Seattle, Sound Transit elected not to build light rail stations on First Hill and Capitol Hill at E. Roy Street. The First Hill station was purportedly canceled due to engineering challenges and cost implications.¹⁵⁶ Ironically, these stations would have provided Link with additional critical connections to the highest-density area

of the state. Given the area's density, demographics, proximity to employment and journey to work characteristics, these station opportunities provided some of the best opportunities in Washington for urban center development and TOD.

Planning for the initial segment of light rail from downtown Seattle to Sea-Tac was complicated by several factors. Three factors, in particular, stand out: first, Link is the first significant light rail line to be built in the region since the Interurban in the early twentieth century. Regions developing new modes of transit frequently experience a learning curve when constructing new lines.¹⁵⁷ Second, some of the areas along the alignment created neighborhood plans before the light rail route was selected. As a consequence, zoning and development regulations near stations were not always conducive to transit-oriented development, and complicated the station area planning process for both Sound Transit and the City of Seattle. Third, routing a light rail line through an established, densely populated neighborhood with mixed-income residents is extremely complicated compared to routes through less dense neighborhoods with more open space.



Port of Seattle

Currently, stakeholders at many of the stations in Seattle are negotiating to create new zoning and development regulations to accommodate the development of new urban centers and transit-oriented developments. Planning “after the fact” can cause planning agencies, civic organizations and stakeholders to think too small when setting TOD policy.¹⁵⁸

Bellevue is taking a proactive approach to planning for light rail and transit-oriented development in the Bellevue-Redmond corridor (“Bel-Red”) and has the ability to take advantage of a developable land mass along the corridor. With time and space on Bellevue's side, the development of Bel-Red is less complex than the challenges faced by Seattle. Bellevue facilitated Sound Transit's selection of Bel-Red as the appropriate route for the East Link line. This line is expected to begin operations to Bellevue in 2020, and Overlake in 2021.¹⁵⁹

Bellevue has developed a long-term plan (through 2030) for the Bel-Red corridor to determine future land uses and the role of potential transit-related growth in the city's overall growth and economic development.¹⁶⁰ Early in the planning process, Bellevue officials established initial goals and principles to guide the long-term planning process for the corridor. Goals, principles and the vision statement are listed in Appendix F.

The plan provides for the transformation of a 900-acre urban infill site into mixed-use, transit-oriented development, while restoring ecological functions, and creating thousands of new jobs and housing units.¹⁶¹ Higher density and compact development will be the focus of new neighborhoods, organized around transit stations connected by a light rail line spanning the corridor. A “nodal” development pattern envisions concentration of development in the vicinity of future light

rail stations (generally within a quarter-mile radius).¹⁶² Ideally, these mixed-use nodes will include a high level of pedestrian amenities in order to reduce the number and length of automobile trips. Land use intensities within the nodes could reach a maximum development intensity of 4.0 FAR, but only if developers participate in an incentive system that provides public amenities in exchange for higher densities.



Bellevue

The successful transformation of Bel-Red from an underutilized, industrial corridor to a series of new urban nodes is not just about implementation of light-rail and transit-oriented development. City officials' approaches include early creation of goals, principles and a vision for the future. They recognize the need for infrastructure and amenities to accommodate growth, and have developed a preliminary financing strategy based on incentive zoning that also channels the highest intensity development

around light rail stations. Early action addressing numerous issues involved with Bel-Red's redevelopment is positioning Bellevue to successfully redevelop Bel-Red into a synergistic urban center with a multi-modal transportation orientation.

Critical issues identified by an Urban Land Institute (ULI) Innovations Workshop panel to ensure the success of Bel-Red include:¹⁶³

- Identification and prioritization of a Phase 1 catalytic investment. The strategic investment of scarce capital (particularly toward transit and green space) to create a destination place that is attractive to new residents;
- Identification of the necessary critical mass of density and mix of uses within a given area to ensure a desired level of synergy;
- Review of interim transit service needs;
- Emphasis on interagency coordination (for example, Bellevue does not have an elected official serving on the Sound Transit Board);
- Ongoing symmetry of Bellevue planning and regulatory efforts with Sound Transit environmental review process and station area planning;
- Identification of the lack of assured infrastructure financing methods in Washington State

Expand Technical Training for Professionals and Public Officials



Bremerton

Local staff may lack necessary technical expertise for the type of public and private investment and development described in this report.¹⁶⁴ The financial analysis required for capital projects, infill development and TOD can be complicated and involve various sources of public and private capital, potentially complicated deal structures, and in the case of public investment, a fiduciary responsibility to the public. Public agencies need staff skilled in real estate finance and deal structuring to negotiate TOD deals that avoid wasting subsidies and maximize public benefits and value capture.¹⁶⁵ TOD strategies frequently need to maximize the capture from the increase in land value, calculate a feasible ratio of affordable units, or calculate a development bonus – or all the above and more. Deals also must not diminish the incentive for private investment for improvements to land. Governments and transit agencies, particularly inexperienced organizations, risk getting the “short end of the stick” when dealing with experienced, deal-savvy developers.¹⁶⁶

Depending on the geographic location, developers may be unfamiliar with infill development and transit-oriented development. Developers active in this segment often assemble multiple parcels, and provide extensive on-site parking, increasing where by expense and limiting feasibility of high-quality urban design. Zoning and incentives also play a role in promoting such projects.

Additional workshops and training for local staff can help improve technical expertise. Additionally, hiring staff with financial skills on par with the private sector could help local governments conduct first-rate financial analysis.

Help Offset Turnover of Elected Officials¹⁶⁷

Turnover of elected officials is an organizational barrier unique to government. The organizational knowledge that would normally accrue over many years is often lost over one or more election cycles. New officials are sometimes unfamiliar with regional planning goals, further complicating the problem. To help overcome the turnover problem, PSRC periodically hosts workshops to educate new public officials about the basics of GMA planning.

Separate Planning

Department Funding from Cyclical Revenue Sources



Sumner Station

The planning departments of some cities, such as Seattle, are largely or partly funded from project permitting fees. When permitting slows so does departmental revenue. Reductions in staff and revenue during economic down cycles may compromise the ability of departments to proactively plan and author appropriate development regulations going forward. Restructuring planning department sources of revenue to non-cyclical sources could help diversify funding sources and allow planning departments to proactively plan during economic down cycles.

Overcoming Institutional Barriers – Federal Agencies

Federal agencies historically are known for largely working within their respective “silos” with little regard for “big picture” thinking. For example, the Department of Housing and Urban Development (HUD) formerly granted affordable housing funds without regard for housing proximity to jobs and public transit.¹⁶⁸ Similarly, major road and transit projects have received Federal assistance with little or no thought to whether they connect working class people to jobs or serve housing projects.¹⁶⁹ The Office of Urban Affairs head Adolfo Carrion indicated, “what we’ve heard is that there are too many bottlenecks in the way for cities to have the latitude to invest in smart ways and make the connections for the way people live.”¹⁷⁰

Under the Obama Administration, three federal agencies have announced plans to improve coordination to foster more livable communities across the United States. The three federal agencies are HUD, the Department of Transportation (DOT), and the Environmental Protection Agency (EPA).¹⁷¹ During the spring of 2009, cabinet secretaries announced a Partnership for Sustainable Communities with a joint fund to encourage metro regions, through a competitive process, to develop integrated housing, land use and transportation plans, focused also on energy saving and greenhouse gas reduction.¹⁷² The effort is particularly notable in that the average working American family spends nearly 60 percent of its budget on housing and transportation costs.¹⁷³ Improved federal assistance in these areas could significantly increase American’s quality of life by leveraging opportunities to create efficient, affordable housing in proximity to jobs and sustainable transportation.

President Obama has instructed the agencies, including the Office of Urban Affairs, to review federal infrastructure and transportation policies and identify how Washington helps or hinders American cities and metro areas.¹⁷⁴ The agencies are reviewing urban practices across the country to identify best practices in housing, transportation, and sustainability.¹⁷⁵ Six “Livability Principles” have been developed to help enact the Livable Communities Initiative and ensure the three federal agencies are working from the same “playbook;” the principles call for:¹⁷⁶

1. Providing more transportation choices;
2. Expanding access to affordable housing, particularly housing located close to transit;
3. Enhancing economic competitiveness—giving people access to jobs, education and services as well as giving businesses access to markets;
4. Targeting federal funds toward existing communities to spur revitalization and protect rural landscapes;
5. Increasing collaboration among federal, state, and local governments to better target investments and improve accountability;
6. Valuing the unique qualities of all communities—whether urban, suburban or rural.

The federal effort could be an important step toward tying allocation of federal government funds for transportation, energy, clean air, clean water, housing, neighborhoods, and public works to local

land use, transportation, and development that nurtures compact, affordable, walkable, and transit-oriented communities. Cities across Washington State would be wise to keep up with the new federal effort and ensure they are prepared to take advantage of any of the competitive grant funds to be made available by the federal government.

Overcoming Institutional Barriers – State and Local Transit Agencies

Institutional barriers limit the ability of state and local transit agencies to fully promote urban centers and TOD through their operations.

- **Washington State Department of Transportation (WSDOT).**¹⁷⁷ The focus of WSDOT is repairing, operating and building highways (including ferries). WSDOT's ability to encourage urban center development and TOD is essentially limited to HOV lanes and ramps. Most WSDOT funding is sourced from gas tax receipts, and required to be spent on roads. Additionally, WSDOT has limited statutory responsibility for urban mass transit.
- **King County Metro.** Metro is hampered by the 20-40-40 agreement which limits Metro's ability to direct new transit service to areas of greatest demand. Metro is unable to expand service at a time of record ridership due to an insufficient operating budget.¹⁷⁸ Service cuts are likely in the next two years.¹⁷⁹ Furthermore, Metro is near the maximum legally allowable proportion of sales tax revenue.¹⁸⁰ Renegotiating the 20-40-40 agreement to allow more flexibility for Metro planners, and closer coordination with city officials could help Metro leverage service investments to target areas where the greatest impact will be made. Diversifying sources of Metro's operating budget from cyclical sales tax revenue could help Metro ensure consistent service, regardless of economic conditions.
- **Sound Transit.**¹⁸¹ Institutional barriers have historically impeded Sound Transit's ability to promote and act on TOD opportunities. While three of the barriers are financial in nature, they specifically hamper Sound Transit's organizational ability to plan and act. Sound Transit's organizational barriers include the following:
 - Aforementioned limits on tax increment financing in Washington,
 - Aforementioned limits on direct participation of local governments and agencies in private economic development projects,
 - No specific provisions in the Growth Management Act address station area planning or integration with constituent municipalities.

While the financial barriers are beyond Sound Transit's ability to control, Sound Transit has taken action to improve its organizational structure by moving TOD work into the Planning, Project Development, and Environmental Affairs Department.

Conclusion

The principles presented in this report are derived from implementation of compact growth approaches in notable urban centers in the United States and select cities and regions worldwide. Barriers, challenges, solutions and best practices are well-documented effort of varying regions. The experiences of other regions can provide a baseline for local efforts.

Focused regional growth in urban centers and TOD requires a proactive and holistic approach. Silo-specific orientations often fail to discern the wide variety of investments, regulations, policies, financing mechanisms and public outreach needed for developing alternatives to conventional auto-centric development.

While integration of local values and preferences is a central aspect of the public process and is critical to the creation of unique communities, the guiding principles outlined in this report, particularly those in the Top Ten Barriers, Challenges, Solutions, and Best Practices, are crucial to implementation of urban centers and TODs in communities across Washington.

Appendices A—G

APPENDIX A

TransMilenio

TransMilenio moves more people per mile per hour than almost any of the world's subway systems, and serves an average of 1.6 million people per day – over three times as many daily passengers as King County Metro buses served in record-setting 2008.¹⁸² TransMilenio is comprised of seven lines and was made possible by giving it a dedicated right-of-way. Between two to four general-purpose traffic lanes from Bogota's major boulevards were converted to TransMilenio lanes and isolated with low walls to separate them from other traffic.¹⁸³ In place of conventional bus stops distinctive stations were built. Passengers prepay by swiping a farecard, pass through turnstiles, and board through multiple doors that slide open level with the station platform; allowing hundreds of passengers to quickly board and exit buses.¹⁸⁴ Metro's RapidRide service planned for select King County corridors to feature improved service and speed compared with conventional local buses.¹⁸⁵ However, RapidRide does not approach the level of sophistication, convenience or accessibility offered by TransMilenio so equivalent changes in travel-behavior and development patterns are not to be expected.

APPENDIX B

Transit Service Supply and Demand

The urban form of a given area has a significant bearing on demand for public transit and roads. Urban forms of low-density development, single use zones, and auto-centric street-networks negatively influence demand for transit versus urban forms characterized by higher densities, mixed-uses, and multi-modal street networks. Just as built environments shape transit demand, transit investments shape built environments.¹⁸⁶ Locational advantages afforded by transit can help minimize travel times, and thus attract residents, driving up land values. Urban location theory predicts a compact, mixed-use community will eventually emerge in areas served by high quality transit.¹⁸⁷ While transit can be a powerful shaper of cities and regions, it needs help from the public sector, and sometimes a stroke of good luck, to capitalize on its primary benefit – regional accessibility.¹⁸⁸

Transit Choice and Dependent Users

Transit users can be broadly categorized into two groups, dependent users and choice users. Transit-dependent users do not own a car and depend on public transit for much of their mobility. According to the U.S. Department of Transportation's 2001 National Personal Travel Survey (NPTS), two-thirds of bus riders and half of all rail passengers did not have access to a car at the times they

were traveling.¹⁸⁹ The NPTS found people from low-income households, African Americans, and Hispanics combined to account for 73 percent of bus riders, 35 percent of urban-rail riders, and 31 percent of commuter-rail passengers.¹⁹⁰ Being a captive segment, transit-dependent users typically use transit regardless of the level of service provided.

Transit-choice users own cars and tend to be middle to upper income earners. Attracting choice-users is a primary objective of transit-oriented development and public transit in general. Choice-users tend to avoid transit if their perception of it is negative. The mode of transit can affect who uses the service, with rail typically attracting a greater share of choice-users versus buses. Commuter-rail lines like the Long Island Rail Road or Philadelphia SEPTA tend to serve people living in upper-income suburbs.¹⁹¹ In Portland seven of every ten transit users claim to be choice riders, however sharp differences are found between bus and rail customers; 93 percent of MAX light-rail passengers are choice-users, but just over 50 percent of Portland bus riders are choice-users.¹⁹²

Successful urban centers and transit-oriented developments entice transit-choice users by providing good walkability, superior levels of service and access to many areas, jobs, services and amenities, particularly other urban centers.

LEVEL OF SERVICE

The following table illustrates total annual bus ridership from 2005 through 2008:

YEAR	TOTAL RIDERSHIP (MILLIONS)	ANNUAL % CHANGE	CUMULATIVE % CHANGE
2005 ^A	98.8	N/A	N/A
2006 ^B	103.2	4.3 %	4.3 %
2007 ^B	110.0	6.6 %	11.5 %
2008 ^C	118.8	8.0 %	19.5 %

^A http://your.kingcounty.gov/kcdot/news/2007/nr070108_ridership.htm

^B http://your.kingcounty.gov/kcdot/news/2008/nr080123_ridership.htm

^C <http://transit.metrokc.gov/up/archives/2009/2008record.html>

In terms of annual ridership, Metro is by far the largest transit agency in Washington and will continue to be for the foreseeable future. Metro ridership has steadily increased every year since 2006. Especially notable is the record increase in 2008; ridership was up 8 percent, despite tens of thousands of layoffs in King County.

Over the next two years, service cuts at Metro are likely.¹⁹³ Properly funding Metro to not only meet demand, but also encourage new ridership is paramount to enticing choice-users and reducing automobile dependence in King County. Metro's ability to expand service to meet demand is limited by funding/budget constraints and the 40-40-20 service agreement.

Urban centers require superior local and regional service to reach their full potential. The Seattle Transit Plan lays out a vision for center to center service through the Urban Village Transit Network (a.k.a. Seattle Connections).¹⁹⁴ The plan would connect Seattle's urban villages with 15-minute or better service frequency, 18 hours per day, 7 days a week. The City is dependent on outside transit agencies such as Metro and Sound Transit to provide service that would fully implement the plan.

Service Supply and Demand Implications

Enticing choice users to use transit in place of cars is challenging. A Federal Transit Administration survey of a cross section of public transit agencies found just 20 percent of all transit trips represent congestion relief — in that these trips would have been made by car had a suitable transit alternative not been available — and only about 8 percent of transit trips would not otherwise be made in the absence of transit.¹⁹⁵ The remaining transit trips represent riders without cars and others traveling for non-work purposes that were unlikely to be on the roads during peak travel periods. Proponents of new transit systems tend to emphasize the ability of such systems to get drivers off roads, because this is the benefit of transit that appeals most to suburban constituencies. Generally, only half or less of new riders on expanded transit systems are former automobile commuters.¹⁹⁶

Broadly speaking, efforts to address negative consequences associated with conventional development and auto-dependence can be categorized into demand-side measures and supply-side measures.¹⁹⁷ Demand-side measures seek to either reduce traffic volumes or shift them over time, space or mode. Supply-side measures seek to provide facilities and services that adequately accommodate people's wishes to travel.¹⁹⁸ Examples of supply-side measures include infrastructure investments in roads or rail, and systems enhancements (like synchronized signals).

Increasing transit ridership through urban center development and TOD is a demand-side approach — the aim is to align or shift trips over space so as to support desirable levels of bus or rail transit services. University of California Berkeley researcher Robert Cervero identifies four demand-side approaches that he considers particularly complementary to the formation of a “transit metropolis,” they are:¹⁹⁹ (1) transportation demand management; (2) restraints on automotive use; (3) regulation of automobile performance; and (4) pricing.

APPENDIX C

Value Capture

Value capture can be used in a variety of ways, depending on the objectives of the stakeholder. It can help individuals lead affordable lifestyles, assist developers in structuring creative deals, and empower communities to reinvest profits from their investment. In all cases value capture entails proactively leveraging financial and market opportunities available to the stakeholder. TODs can produce substantial financial and social returns, especially in the medium and long run.²⁰⁰ Success in value capture requires frequent, high-quality transit service; good connections between transit and the community; community amenities and a dedication to place making; and scorekeeping and attention to financial returns.²⁰¹ When these criteria are met, opportunities for stakeholders to capture value abound.

For local governments value capture can include more livable communities, higher property taxes, sales tax increment, special assessments, parking fees, utility user fees, business license fees, and the multiplier effect generated by new jobs and businesses.²⁰² KPMG estimated the Commonwealth of Virginia is earning a 19 percent annual rate of return on its investment in WMATA Metrorail

through additional development attracted by Metrorail.²⁰³ While in some cases Washington state law restricts the scope to which this can be done, opportunities for public sector value capture do exist and should be explored extensively. The public sector can also capture value by leveraging federal and state programs, particularly innovative finance tools, to fund local projects in conjunction with a performance-based orientation for infrastructure investments serving urban centers and TOD. Utilizing revenue sources that incentivize travel behavior is another way for the government to capture value. Social-cost pricing in the form of gas taxes, tolls and various forms of congestion pricing can raise revenue for infrastructure and moderate demand for highways and roads.

Transit agencies can realize value capture through joint development lease revenue, increased revenue from fares, and reduced access cost (passengers arriving on foot have lower transit access costs versus those arriving via bus operations or park and ride lots).²⁰⁴ The Santa Clara Valley Transportation Authority invests in high density residential joint development to generate revenue to defray expenses and increase ridership, both by increasing density and by enhancing the environment at stations and park-and-ride lots.²⁰⁵ Value capture is a core value of the Washington Metropolitan Area Transit Authority (WMATA). As of 1999 WMATA's 24 joint development projects were generating nearly \$6 million in annual revenue and an estimated \$20 million in increased property taxes to localities.²⁰⁶ The assessed value of the Rosslyn-Ballston corridor increased about 80 percent from 1992 to 2004.²⁰⁷ However, since WMATA only owns relatively small parcels around station areas most of the benefit from significantly increased land value accrues to private developers.²⁰⁸ A special assessment on station area real estate could capture some of the increase in land value and provide additional direct revenues for WMATA.²⁰⁹ A form of such benefit assessment districts exist in Los Angeles, Miami, and Denver. Special assessment districts are legal in Washington State and frequently take the form of local improvement districts.

TOD provides developers opportunities to capture value through public-private partnerships and capture stable returns on investment for a longer holding period.²¹⁰ The February 2003 sale of Arlington's Market Common was the most expensive sale on record in the nation for some years and is evidence of TOD's enduring value.²¹¹ In Portland, Bechtel Enterprises contributed more than \$28 million toward a \$125 million extension of MAX to the airport. In return, Bechtel was granted development rights to a 120-acre mixed-use commercial site near the entrance to the airport.²¹² Bechtel planned to more than recoup their return on investment through development, but the post-September 11th, 2001 recession ultimately forced Bechtel to sell the property to Trammell Crow.²¹³ This public-private partnership allowed the line to be built a decade ahead of regional plans, provided private partners an opportunity to profit, and was completed without federal appropriations, state general funds or additional property taxes.²¹⁴

Opportunities also exist for employers and residents to capture value through TOD. Employers can capture value in reduced employee commute times. For residents, TOD can provide opportunities for wealth capture through homeownership. Studies demonstrate proximity to transit tends to increase the value of a home, while proximity to a highway tends to decrease its value.²¹⁵ Residents also realize reduced household expenditures on transportation, as households in denser, transit-rich neighborhoods have significantly lower transportation expenditures (when the necessary amenities are provided to enable the reduction of driving).²¹⁶ A study of Chicago neighborhoods found residents of highly accessible, transit-served neighborhoods spent about \$3,400 less on transporta-

tion per year than residents with comparable incomes living in auto-dependent neighborhoods. Local government can help residents capture value by providing or encouraging amenities at TODs and urban centers such as child-care facilities, bicycle storage and rentals, car sharing programs (recognizing that people living in location-efficient areas occasionally need car access), and transportation demand management programs incentivizing transit use.²¹⁷ In 1991 WMATA began a program to encourage the establishment of child care centers at Metro stations based on the finding that commuter side trips for child care are a major barrier to the use of public transit by working parents.²¹⁸ San Diego has also added child-care centers within several blocks of its train platforms, and Santa Clara County's Tamian commuter rail/LRT station features a day-care center on site.²¹⁹

APPENDIX D

Washington State Community Renewal Law

Community renewal projects are defined as, "undertakings . . . for the elimination and for the prevention of the development or spread of blight," and may involve job creation or retention, "redevelopment" and "rehabilitation" in a "community renewal area." {RCW 35.81.010(18)}.²²⁰ The identification and delineation of "blighted areas" is critical because community renewal areas are intended to be exercised primarily within those areas. There are two distinct categories of blight that apply to the Community Renewal Law. The first category consists of blight that causes public health and safety problems, i.e., physical dilapidation, overcrowding, dangerous, unsafe and unhealthy conditions. The second type of blight presents more of an economic or land use problem, i.e., the use of property far below its highest and best use, obsolete platting or poor street layout, unemployment and poverty, or diversity of ownership so that effective development is constrained. Under RCW 35.81.070, the powers of a city or county (or a community renewal agency) to carry out the community renewal plan include the power to:

- Execute contracts and other instruments,
- Build and repair public facilities such as streets, utilities, parks and playgrounds,
- Buy, lease, condemn or otherwise acquire real property,
- Hold, clear or improve real property,
- Dispose of real property,
- Provide loans, grants, or other assistance to property owners or tenants affected by the community renewal process,
- Borrow money and accept grants to carry out community renewal,
- Provide financial or technical assistance for job creation or retention,
- Relocate persons,
- Close, vacate or rearrange streets and sidewalks, and
- For local improvement districts to finance improvements.

APPENDIX E

Disparate Views Among Actors

Goals frequently pursued by actors include²²¹

- Transit agencies:
 - Maximize monetary return on land;
 - Maximize ridership; and
 - Capture value in the long run.
- Transit riders:
 - Create and maintain a high level of parking;
 - Improve transit service and station access;
 - Increase mobility choices;
 - Develop a convenient mix of uses near stations; and
 - Foster development.
- Local government:
 - Maximize tax revenues;
 - Foster economic vitality;
 - Please constituents; and
 - Redevelop underutilized land.
- Federal government:
 - Protect the public interest and set limits on how federal investments can be used.
- Developers and lenders:
 - Maximize return on investment;
 - Minimize risk, complexity; and
 - Ensure value in the long term.
- Neighbors:
 - Maintain or increase property values;
 - Minimize traffic impact;
 - Increase mobility choices;
 - Improve access to transit, services, and jobs;
 - Enhance neighborhood livability; and
 - Foster redevelopment.

APPENDIX F

Bel-Red

Between 1995 and 2003, employment in Bel-Red dropped 6 percent, while increasing 18 percent across the city as a whole.²²² Safeway, Bel-Red's largest landowner, shifted most of its distribution operations out of the area and announced plans to sell about half of the 75 acres it owns in the corridor.²²³ Rather than viewing the loss of long-time industry as a threat to the future, Bellevue is approaching changes in the corridor as an opportunity to revitalize the area with new employment, residents and amenities.

Goals of the Bel-Red Corridor Project are to²²⁴

- Identify a preferred long-term land use vision for the Bel-Red corridor that:
 - Provides clear and deliberate direction for the area's future.
 - Enhances the economic vitality of the area and the larger city.
 - Complements downtown Bellevue and other employment centers in the city.
 - Strongly integrates land use and transportation systems in an environmentally sustainable manner.
- Devise a multi-modal transportation system for the area that accommodates future growth, enhances overall mobility, and mitigates impacts on adjoining areas.
- Evaluate the impact and opportunities presented by light rail through the area on both land use and transportation, and identify a preferred light rail route and station locations through the corridor in coordination with Sound Transit.
- Identify community and neighborhood amenities that will complement the preferred land use vision for the area and serve the broader community
- Protect adjoining areas from impacts of land use and transportation changes in the study area.

The Bellevue City Council endorsed the following Ten Planning Principles for Bel-Red²²⁵

1. **Long-Term Vision.** The preferred vision resulting from this project should be long-term, ambitious, and rooted in reality, providing clear direction for the future of the Bel-Red area.
2. **Economic Vitality.** This project should establish a solid and dynamic economic future for Bel-Red, enhancing the area's existing strengths and its future potential.
3. **Differentiated Economic Niche.** Bel-Red should provide for future growth of jobs and firms that have significant potential for expansion, and which are not well accommodated in other parts of the city.
4. **Building from Existing Assets.** This project should build on existing assets of the corridor, including the large number of viable, successful businesses in the area.
5. **High Capacity Transit as an Opportunity.** This project should approach high capacity transit as a significant opportunity to both enhance mobility and affect desired land use change.

6. Land Use/Transportation Integration. Given the importance of maintaining a well balanced transportation system, and the inter-dependence between transportation and land use, this project should closely integrate land use and transportation planning.
7. Community Amenities and Quality of Life. The Bel-Red plan should protect existing natural resources and community amenities, and identify an extensive package of new amenities for the area.
8. Neighborhood Protection, Enhancement, and Creation. This project must identify strategies to identify and mitigate potential neighborhood impacts related to future Bel-Red development.
9. Sustainability. The vision for Bel-Red should identify opportunities to manage the area's natural resources in a sustainable manner.
10. Coordination. This planning effort requires solid coordination with other affected jurisdictions. In particular, close coordination with Sound Transit is necessary to attain regional agreement on the preferred HCT (high capacity transit) alignment and station locations.

The vision statement adopted by the Bellevue City Council for Bel-Red reads:²²⁶

"The Bel-Red corridor in 2030 will be an area that is unique within the city of Bellevue and the entire Puget Sound region. It will be an area where thriving businesses will be adjacent to, and sometimes mixed with, livable neighborhoods, all served by a multi-modal transportation system that connects the area to the greater city and region. The area will also be distinguished by environmental and community amenities that will serve residents and employees in the area, as well as residents from surrounding neighborhoods and the entire city. The area will transition gracefully over time, with existing businesses being accommodated while new types of development occur as conditions warrant."

In May of 2009 Bellevue implemented new zoning and development regulations to accommodate growth in the corridor; the new code:²²⁷

- Rezones the Bel-Red area from mostly light industrial and commercial zones to a set of new districts that allow for variations of residential, office and commercial uses in mid-rise and high-rise forms;
- Concentrates opportunities for new development around planning light rail stations;
- Maintains lower density commercial services in areas such as along Northup Way;
- Allows for the continuation of today's existing uses throughout the area as redevelopment occurs;
- Provides incentives for new development to contribute to affordable housing, parks, open space, stream restoration and other public amenities;
- Establishes parking requirements that are consistent with transit-oriented development and allow for greater flexibility; and
- Includes a set of design standards and guidelines to ensure that new development enhances the quality of the Bel-Red area and makes it an attractive place to live and work.

Factors effecting the designation of appropriate FARs include:²²⁸ 1) the City Council's intention for the Bel-Red corridor to complement, but not compete with downtown Bellevue; 2) the need for adequate FARs in strategic locations to support light rail transit; and 3) an economic analysis finding of demand for more "mid-rise" office development in the city.

APPENDIX G

Case Studies

The following North American regions exhibit well-planned integration of urban development around multi-modal transportation networks. They provide case studies of unique but effective approaches to planning and developing urban centers and TOD. Each region displays various densities, land use patterns, planning processes, values and culture but has created effective transportation networks to suit their respective needs.

Arlington County, Virginia

TODs in Arlington County are centered around Metrorail station site nodes, with the highest intensity development located in the center of nodes closest to Metrorail stations. Densities taper as distances increase from stations. Areas outside nodes typically retain a single-family orientation, preserving communities while allowing for higher intensity development near transit.

Early on, Arlington adopted a “bull’s-eye” metaphor to articulate its TOD future. This early vision and the subsequent general plan and specific station-area plans contributed to the original vision’s realization. Many local observers attribute Arlington’s success at adding over 15 million square feet of office space, 18,000 housing units, and several thousand hotel rooms since 1970 to the early adoption of the “bulls-eye” vision.²²⁹

Portland, Oregon

Success in metropolitan Portland can be attributed to proactive long-range planning, active involvement on the part of Tri-Met (Portland’s regional transportation agency), and targeted public investment spurred additional private investment in urban centers.

The Portland region – aided by the existence of a regional governing body, Metro – has come the closest to applying long-range planning principles to development of its light rail corridors.²³⁰ Undertaking a comprehensive planning process for forthcoming transportation investments can help identify individual growth corridors and TODs. Appropriate land use plans and tools can then be formalized and approved within the political process.

Tri-Met actively works to promote TOD by acting as a coordinator (not a developer). Tri-Met encourages development within a five-minute walk of its stations through development of station area development profiles, which identify sites suitable for development. Tri-Met has contributed land to developers at no cost in exchange for non-conventional development standards. Tri-Met has also prepared real estate pro formas and cost estimates to facilitate development. In Gresham, Tri-Met helped in writing development agreements, consolidating easements, and coordinating planning activities with other public agencies.

Public investments in Portland have proved beneficial in promoting TOD and the development of new urban centers. In the Lloyd district, large public investments have created employment and regional entertainment centers near the MAX line; including office building for the Bonneville Power Administration and the state of Oregon, the Oregon Convention Center, the Rose Garden arena, and new headquarters for the Metro regional government (Arrington 1996).²³¹

Toronto, Ontario²³²

Toronto is often heralded as the best North American example of rail transit's city-shaping abilities. The Toronto Transit Commission's (TTC) rail system spans about fifty-seven kilometers and is served by sixty stations. A rich mix of surface transit connections – trolley buses, diesel buses, historic trams, and modern mixed-traffic light-rail vehicles – feeds into the mainline rail system. Close coordination of schedules across modes, and a free transfer policy has been key to service integration. Some stations allow transferring patrons to step directly onto subway concourses without passing through turnstiles.

One of the greatest accomplishments of the TTC system has been the strengthening of the central business district (CBD) through strategic regional land use planning around the radial TTC system. Today an estimated forty-five percent of regional office employment is in the CBD, the largest share in North America. A strong CBD has encouraged higher transit ridership, with about sixty-five percent of all trips entering the CBD originating from transit.

An important factor in Toronto's success at wedding transit and land use is a strong tradition of regional governance. Until 1998, the Metropolitan Corporation (Metro) was responsible for coordinating the planning and delivery of government services across six municipalities. Beginning January 1, 1998, Metro was abolished and its six former municipalities were consolidated into a newly expanded city of Toronto. The consolidation of local government streamlined planning and decision making by replacing seven separate council bodies with a single, enlarged Toronto city council.

Notes

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- ⁴ Urban centers and TOD are not about forcing people to live in a particular way. Critics of humanist design principles such as New Urbanism sometimes complain of social engineering or physical determinism. One could level similar charges against the federally subsidized interstate highways and home mortgages that nurtured the automobile industry and suburban sprawl in the post-World War II era (Cervero, R. *Transit Metropolis*. Chapter 3. p.78). Ironically, opponents of increased investment in public transit argue cars and highways give people the “freedom” to move as they please – as long as they have access to a car and willing to adopt the lifestyle, expense and responsibility associated with car ownership.
- ⁵ Cervero, Robert. (1998). *The Transit Metropolis A Global Inquiry: Chapter 3 - Public Policies and the Sustainable Transit Metropolis*. Washington DC: Island Press. p.81.
- ⁶ *Moving Cooler* provides needed information looking at the effectiveness and costs of almost 50 transportation strategies, individually and in various combinations. The findings of this study can help us coordinate shape effective approaches to reducing GHG emissions at all levels (nationally, regionally, and locally), while meeting broader transportation objectives as well. *Link to Moving Cooler Executive Summary: <http://commerce.uli.org/misc/movingcoolerexecsum.pdf>*
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- ¹² Ibid
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- ¹⁴ Ibid
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- ¹⁶ Ibid
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- ²⁰ Dunphy, R., Cervero, R., Dock, F., McAvey, M., Porter, D., Swenson, C. (2004). *Developing Around Transit Strategies and Solutions that Work: Chapter One Who, What, Where, Why*. Washington DC: Urban Land Institute Press

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- Strategies to revise level-of-service standards include:
- Requiring multimodal assessment and mitigation of transportation systems to balance the needs of all users;
 - Relaxing or eliminating automobile level-of-service standards near transit and pedestrian oriented districts.
 - Using the environmental review process to override traffic impacts.
 - Developing multimodal level-of-service methods and establishing new standards that reflect the unique characteristics of TOD.
 - Replacing vehicle mitigation measures with a general impact fee used for multimodal improvements.
- 54 Moving Cooler provides needed information looking at the effectiveness and costs of almost 50 transportation strategies, individually and in various combinations. The findings of this study can help us coordinate shape effective approaches to reducing GHG emissions at all levels (nationally, regionally, and locally), while meeting broader transportation objectives as well.
- Link to Moving Cooler Executive Summary:
<http://commerce.uli.org/misc/movingcoolerexecsum.pdf>
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 - Dynamic pricing, where the price of the toll changes based on the actual traffic levels.
 - Cordon tolling, where specified lanes, or entirely separate roads, offer faster trips for those paying a toll.
 - HOT lanes, where single-occupant vehicles can pay to use HOV lanes when there is available capacity.
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- 92 Six recommendations for setting a policy approach are:
1. Create customized zoning for projects integrating transit facilities;
 2. Minimize customized planning and discretionary review for standardized projects;
 3. Provide an explicit foundation in policy and politics;
 4. Engage transit organization policy leadership;
 5. Meet multiple objectives;
 6. Anticipate a lengthy timeline for customized projects.
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- 98 Douglas Kelbaugh is former chair of the University of Washington Department of Architecture, principal in Kelbaugh, Calthorpe & Associates, and dean of the University of Michigan College of Architecture and Urban Planning. His webpage is: <http://sitemaker.umich.edu/kelbaugh/home>
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- 145 Ibid
- 146 In addition to improving public transportation service, suburban communities need to do their part to improve accessibility by addressing inefficient street-networks and land use patterns within their jurisdictions. Even with ridership on par with the New York City MTA subway trains, suburban ridership would continue to flounder due to single use and/or inefficient land use, disjointed street networks, low density and demographics unsupportive of transit.
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- ²¹⁵ Tri-Met. MAX Red Line Light Rail to the Airport. Accessed July 15th 2009 from: <http://www.trimet.org/pdfs/history/railfactsheetairport.pdf>
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- ²²² City of Bellevue. Bel-Red Transformation Background. Accessed July 28th 2009 from: http://www.ci.bellevue.wa.us/bel-red_background.htm
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- ²²⁵ City of Bellevue. Bel-Red Corridor Project Planning Principles. Accessed July 28th 2009 from: http://www.ci.bellevue.wa.us/pdf/PCD/Project_Background_Project_Principles.pdf
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- ²²⁹ TCRP 102. *Transit-Oriented Development in the United States: Experiences, Challenges, and Prospects*. p.5-10.
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**OVERCOMING BARRIERS TO, AND
BEST PRACTICES FOR:
URBAN CENTERS, AND
TRANSIT-ORIENTED DEVELOPMENT**

An annotated and representative bibliography

Prepared for:

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July 26th, 2009

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Overview of Work

This bibliography includes resources selected for their analysis of best practices, overcoming barriers, and case studies for urban center and transit-oriented development. Indented audiences include city and government officials, developers, and citizens. The bibliography serves as an additional resource to the final report on overcoming barriers to, and best practices for, urban centers and transit-oriented development.

Channeling growth into urban centers and transit-oriented developments (TODs) is widely recognized as an effective strategy to limit sprawl, and improve quality of life in communities. But what should these centers look like? What level of density, amenities, and mix of uses are most appropriate? What level of transit service is needed? While all neighborhoods are unique, there are some general principles repeatedly identified in the body of urban center and TOD literature. The resources included with this bibliography explore these principles in detail.

Case Studies

Arlington Virginia Network. (n.d.) Arlington's Smart Growth Journey. Retrieved May 18th, 2009, from:

http://arlington.granicus.com/MediaPlayer.php?view_id=4&clip_id=1206

This Arlington Virginia Network documentary gives an overview of the Roslyn-Ballston corridor's transformation to a transit-oriented community. The video discusses planning for Metrorail service, and reviews political battles over rail service, station locations, and freeway expansion.

City of Bellevue. Bel-Red Area Transformation. Accessed May 26th, 2009, from: http://www.bellevuewa.gov/bel-red_intro.htm

The Bel-Red corridor is the first area in Washington that will be redeveloped with TOD specifically in mind. Many of the industrial-related businesses that formerly used the corridor are relocating. Between 1995 and 2003 employment dropped 6% in the corridor while increasing 18% in Bellevue as a whole. Bellevue is now wrapping up a three-year planning effort that will initiate redevelopment for the corridor.

- Overview of the vision for Bel-Red: [Bel-Red project brochure](#)
- Documentation of current review drafts, planning commission recommendations, the Bel-Red land use incentive system, and capital project funding strategy: http://www.bellevuewa.gov/bel-red_intro.htm

Bertolet, Dan. (November 6th, 2008). Town Centers Are a New Catalyst for Small Cities. Daily Journal of Commerce. Retrieved April 28th, 2009, from: <http://www.djc.com/news/ae/11206443.html>

Bertoloet discusses the reemergence of town centers as a focus of planning. He offers Burien Town Center as perhaps the best regional example of development with the potential to deliver the ideal vision for a new town center. The Town Center is comprised of 10 acres surrounding a park, and includes three mixed-use buildings, 400 housing units, a library, and Burien City Hall. Bertoloet offers it as a salient example of the role of public-private partnerships in town center development.

The Center for Livable Communities. (1995). *Building Livable Communities: The Transit Stop Opportunity A Resource Guidebook for Local Officials. Model Projects.* Sacramento.

The Model Projects section of this comprehensive TOD guide offers basic information on TOD projects from California, Maryland and Virginia; a more in-depth look at Portland's experience with MAX follows.

** This report is available at the UW College of Built Environments library under call number: HE148 .B84 1995*

Cervero, Robert. (1998). *The Transit Metropolis A Global Inquiry: Chapter 3 - Public Policies and the Sustainable Transit Metropolis.* Washington DC: Island Press.

Case studies from Toronto and The Bay Area offer comparisons of fundamentally different approaches to public-sector involvement at the regional level.

Chapter three reviews demand-side and supply-side approaches that are consonant with the broader objectives of what Cervero defines as, "the sustainable transit metropolis."

Demand-side approaches offered are: 1) Transportation demand management; 2)

Restraints on automotive use; 3) Regulation of automobile performance; and 4) Pricing.

Supply-side approaches offered are: Advanced technologies; 2) Telecommunications; and 3) Nonmotorized transportation.

Cervero, Robert. (1998). *The Transit Metropolis A Global Inquiry: Chapter 11 - Creating First-Class Transit with Transit-First Policies.* Washington DC: Island Press.

Zurich displays one of the most efficient surface transportation systems in Europe through expropriation of a significant share of road space for trams, buses and bicycles. Zurich boasts one of the highest rates of transit usage anywhere. Success lies largely in the execution of numerous carefully conceived measures that together give clear priority and preference to trams, buses, bicyclists, and pedestrians. An important feature is the self-service basis of the fare collection system. More than 800 automated ticket machines are spread throughout the region instead of aboard trains, buses, and trams; providing more punctual service. Automobile disincentives have complemented transit incentives. The city's supply of curbside parking has fallen from 1970 to today. The overall supply of commercial off-street spaces has been halved. New, private multistory parking has been effectively banned.

Cervero, Robert. (1998). *The Transit Metropolis A Global Inquiry: Chapter 13 - Adaptive Light Rail Transit Karlsruhe, Germany.* Washington DC: Island Press.

Karlsruhe, Germany is experiencing a surge in transit patronage over the last decade, despite a downward ridership trend in the rest of Germany. Karlsruhe's innovative rail system allows integration of inner-city tram and intercity heavy rail services, virtually eliminating suburban/urban transfers. The system is well tailored to the region's spread-out settlement pattern, but also blends with pedestrian-only districts.

Dunphy, R., Cevero, R., Dock, F., McAvey, M., Porter, D., Swenson, C. (2004). *Developing Around Transit Strategies and Solutions that Work: Chapter 4 - Urban Opportunities: Successful Transit-Related Urban Infill*. Washington DC: Urban Land Institute Press.

Chapter four provides an overview of challenges and opportunities for housing and office development around transit. Case studies and a discussion of public policies and programs are included that explore how select cities addressed these challenges and opportunities.

Leach, D. (2004). Chapter 7 *Rosslyn-Ballston Corridor*. Dittmar, H. and Ohland, G. *The New Transit Town - Best Practices in Transit-Oriented Development* (132-151). Washington DC: Island Press.

Leach offers a detailed analysis of planning and implementation of Metrorail in the Rosslyn-Ballston Corridor.

Stiles, M. (2009, May 29th). 'Get ready to plan for projects' in Eastside's Bel-Red corridor. *Daily Journal of Commerce*. Retrieved May 30th 2009, from: <http://www.djc.com/news/re/12006540.html>

Bellevue planning director Dan Stroh is quoted as saying, "Its all about transit-oriented development." The corridor is forecast to get 4.5 million square feet of commercial development and 5,000 residents by 2030. Stroh said there is a tremendous amount of interest in opportunities afforded by transfer-of-development rights programs. Bellevue officials estimate it will take \$600 million to fund the transportation, open space, stream enhancements and other projects needed to transform the corridor.

Comprehensive Analysis

The Center for Livable Communities. (1995). *Building Livable Communities: The Transit Stop Opportunity A Resource Guidebook for Local Officials*. Resources. Sacramento.*

The guidebook's resource section is comprised of a bibliography and list of resources for TOD categorized into: Land Use and Transportation Overview; Land Use Guidelines, Ordinances and Policies; Citizen Participation; Transit-Based Development Projects; Measuring Success of Transit-Oriented Development; Economics/Financing; Travel Behavior/Ridership; Pedestrians/Bicycles; Air Quality; Transit Planning and Telecommuting.

* This report is available in the College of Built Environments library under call number: HE148 .B84 1995

Cervero, Robert. (1998). *The Transit Metropolis A Global Inquiry*. Washington DC: Island Press.

Author Cervero provides comprehensive look at the influence of public policy and land use on transit. The text's central premise is sustainable transit metropolises of tomorrow will embody an intimate "fit" between transit services and built forms. The text offers case studies of twelve global cities, which offer insights and policy lessons into how more economically, socially, and environmentally sustainable transit services can be designed and implemented.

Corrigan, M., Dunphy, R., Gabel, N., Levitt, R., McMahon, E., Pawlukiewicz, M. (2004). *Ten Principles for Smart Growth on the Suburban Fringe*. Washington DC: Urban Land Institute Press.

1. Create a shared vision for the future and stick to it
2. Identify and sustain green infrastructure
3. Remember that the right design in the wrong place is not smart growth
4. Protect environmental systems and conserve resources
5. Provide diverse housing types and opportunities
6. Build centers of concentrated mixed uses
7. Use multiple connections to enhance mobility
8. Deliver sustainable transportation choices
9. Preserve the communities character
10. Make it easy to do the right thing

Dittmar, H., and Ohland, G. (Eds.). (2004). *The New Transit Town – Best Practices in Transit-Oriented Development*. Washington DC: Island Press.

This text offers a fairly comprehensive look at TOD-related issues. The first half of the book gives an overview on TOD-actors, regulations, financing, traffic and parking. The second half of the text offers five in-depth case studies from Arlington, Dallas, Atlanta, San Jose, and San Diego.

Dumbaugh, Eric. (2004). *Overcoming Financial Barriers and Institutional Barriers to TOD: Lindbergh Station Case Study*. *Journal of Public Transportation*, 7. Retrieved May 25th, 2009, from:

<http://www.nctr.usf.edu/jpt/pdf/JPT%207-3%20Dumbaugh.pdf>

This study examines Atlanta's Lindbergh Station TOD to understand how a real-world development was able to overcome the substantial development barriers TOD developments face. The study finds transit agencies have a largely underappreciated ability to overcome the land assembly and project financing barriers that have prevented the development of these projects. Because they provide a means of converting capital investment into positive operating returns, this study finds that development projects provide transit agencies with a unique means of overcoming the capital bias in funding apportionment mechanisms. This latter factor will undoubtedly play a key role in increasing the popularity of transit-agency sponsored TOD projects in the future.

Dunphy, R., Myerson, D., and Pawlukiewicz, M. (2006). *Ten Principles for Successful Development Around Transit*. Washington DC: Urban Land Institute Press.

1. Make it better with a vision
2. Apply the power of partnerships
3. Think development when thinking about transit
4. Get the parking right
5. Build a place, not a project
6. Make retail development market-driven, not transit-driven
7. Mix uses, but not necessarily in the same place
8. Make buses a great idea
9. Encourage every price point to live around transit
10. Engage corporate attention

Dunphy, R., Cevero, R., Dock, F., McAvey, M., Porter, D., Swenson, C., (2004). *Developing Around Transit Strategies and Solutions that Work*. Washington DC: Urban Land Institute Press.

Chapter 1 - Who, What, Where, Why; Chapter 2 - The Property Value Case For Transit; Chapter 3 - Planning The Transit District; Chapter 4 - Urban Opportunities; Chapter -5 Suburban Challenges; Chapter 6 Accommodating the Terminal Function; Chapter 7 ULI's Ten Principles for Development Around Transit

Goodwill, J. Hendricks, S. (2002). *Building Transit Oriented Development in Established Communities*. Center for Urban Transportation Research. Retrieved May 25th, 2009, from <http://www.nctr.usf.edu/pdf/473-135.pdf>

This report suggests good transit-oriented design alone is not enough to make TOD work. This report offers tools, in addition to design, to help make TOD work. Suggested tools include: Developing financing methods; Offering financial incentives to land developers; Coordinating stakeholders; Careful tailoring of land development regulations; Crafting transit supportive design guidelines; Providing effective access by alternative transportation modes; Managing parking; Pre-designating transit corridors and incorporating transit service into future development; Adapting transit services to suburban areas; Providing home loan incentives to homebuyers; and addressing and overcoming community resistance through public education.

Kelbaugh, Douglas. (1997). Chapter 10 *What We Should Do A.S.A.P. Common Place - Toward Neighborhood and Regional Design*. (pp.287-300). Seattle and London: University of Washington Press.

In Chapter 10 Kelbaugh offers seven policy initiatives for immediate action to promote the creation and maintenance of more livable, affordable, and sustainable communities through public policy.

Parkins, Stephanie. Overcoming Barriers of Transit Oriented Developments Through Transit-Oriented Districts. ULI Reality Check Seminar White Paper. University of Washington Department of Urban Design and Planning. March 17th, 2008.

This white paper aims to help readers better understand the components of TODs, what barriers government agencies and developers face when trying to implement a TOD and various approaches to lessen these barriers to make TOD developments a feasible solution for the Puget Sound region.

** The white paper is included with this bibliography as Appendix D*

Puget Sound Regional Council. (1999). Creating Transit Station Communities in the Central Puget Sound Region: A Transit-Oriented Development Workbook. Retrieved May 26th, 2009, from: <http://psrc.org/projects/tod/workbook.htm>

- Part 1, Guiding Principles: compact, mixed use development, pedestrian friendly design, and parking access and management.
- Part 2, Assessing the market for TOD
- Part 3, Implementing TOD in station communities. This section includes a discussion of Washington State, regional and local funding sources.

Seattle Department of Transportation. (n.d). Policy, Planning, & Major Projects Station Area Planning – Transit-Oriented Development Case Studies. Retrieved May 25th, 2009, from:

http://www.cityofseattle.net/transportation/ppmp_sap_todstudies.htm

Twelve cases provided through this website provide valuable insights that could help the City ensure station area plans meet the City's goals and avoid mistakes that have limited transit-oriented development elsewhere.

Transit Cooperative Research Program. (2002). Transit-Oriented Development and Joint Development in the United States: A Literature Review. (Research Results Digest, Number 52). Washington DC: Transportation Research Board. Retrieved May 26th, 2009, from:

http://trb.org/publications/tcrp/tcrp_rrd_52.pdf

This TCRP document includes an extensive literature review divided into four main sections: Institutional Issues; Evaluation of Impacts and Benefits; Implementation; and Urban Design. An annotated bibliography, thought by the authors to be representative of much of the scholarly and analytical literature on TOD, follows. Annotated summaries are organized into the same sections as the literature review.

Section IV.6 reviews procedural and programatic tools that have gained a political foothold in the United States; notably streamlining of development reviews, remediation, resource sharing, siting of public facilities, and travel demand management initiatives.

Transit Cooperative Research Program. (2004). Transit-Oriented Development in the United States: Experiences, Challenges, and Prospects. (TCRP Report 102). Washington DC: Transportation Research Board.

This Federal Transit Administration-sponsored document takes a comprehensive look at TOD-related issues and gives an overview of implications for both the public and private sectors. The document is divided into four parts: Part 1 TOD in the USA Today; Part 2 The Policy Environment; Part 3 The Impacts of TOD; and Part 4 Case Studies from Boston, New Jersey, D.C., Miami, Chicago, Dallas, Colorado, Portland, The Bay Area, and Southern California. Chapter highlights include: Chapter 4 Implementation Tools; Chapter 5 Building and bankrolling TOD; and Chapter 6 Barriers to TOD (fiscal, political, organizational and barriers unique to TOD), and public and private sector perspectives on TOD barriers.

Transit Cooperative Research Program. (2008). Effects of TOD on Housing, Parking, and Travel. (TCRP Report 128). Washington DC: Transportation Research Board.

This report builds on the work of TCRP Research Results Digest 52, and TCRP Report 102. TCRP Report 128 addresses the following questions: 1) What are the demographic profiles of TOD residents and employers; 2) What motivates residents or employers to locate in TODs; 3) What are the travel characteristics of people who live or work in a TOD; 4) What was the travel pattern of the TOD resident prior to moving to the TOD; 5) What levels of transit connectivity are required to promote transit ridership at TODs; 6) What motivates or impedes transit ridership in a TOD; 7) Which strategies have been effective in increasing transit ridership at TODs; 8) What steps should transit agencies take in supporting TODs to maximize transit ridership; 9) What TOD land use and design features have had an effect on travel patterns, transit ridership, or the decision to locate in a TOD?

Design, Land Use, and Regulatory Barriers

Bertolet, D. (2009, May 14th). TOD awaits the green light in Southeast Seattle. Daily Journal of Commerce. Retrieved May 18th, 2009 from <http://www.djc.com/news/co/12006008.html>

Bertolet discusses the absence of new development along the Southeast Seattle Link corridor. He offers the following four policy strategies for enabling successful TOD: Upzones, developer incentives, enhancement of the public realm, and public assistance for assembling large parcels.

The Center for Livable Communities. (1995). Building Livable Communities: The Transit Stop Opportunity A Resource Guidebook for Local Officials. Designing TODs, Land Use Policies. Sacramento.

The guide identifies the following land use objectives: mixed-uses, density supportive of transit, a grid street-network, pedestrian-friendly design, and limited parking. The guide lists ten principles for developing TOD communities: 1) Create a pedestrian-friendly environment; 2) Make pedestrian facilities a priority; 3) Design building sites to serve many users; 4) Encourage a mixture of land uses; 5) Provide appropriate densities; 6) Interconnect the street system; 7) Narrow the neighborhood street; 8) Be cautious of major streets; 9) Integrate transit into the community; 10) Consider transit linkage in advance.

* *This report is available in the College of Built Environments library under call number: HE148 .B84 1995*

Cervero, Robert. (1998). *The Transit Metropolis A Global Inquiry: Chapter 3: Public Policies and the Sustainable Transit Metropolis.* Washington DC: Island Press.

Chapter three reviews demand-side and supply-side approaches that are consonant with the broader objectives of what Cervero defines as, "the sustainable transit metropolis." Demand-side approaches offered are: 1) Transportation demand management; 2) Restrains on automotive use; 3) Regulation of automobile performance; and 4) Pricing. Supply-side approaches offered are: Advanced technologies; 2) Telecommunications; and 3) Nonmotorized transportation. Case studies from Toronto and The Bay Area follow; and offer comparisons of fundamentally different approaches to public-sector involvement at the regional level.

Cervero, R. (2005). *Accessible Cities and Regions: A Framework for Sustainable Transport and Urbanism in the 21st Century.* UC Berkley Center for Future Urban Transport. Retrieved May 31st, 2009 from University of California Berkeley Institute of Transportation Studies Publications Database.

Cervero writes transit's struggle in competing with the automobile stems from the inferior job accessibility level transit provides versus the automobile. He defines accessibility as a product of mobility and proximity. He argues compact, mixed-use development, as embodied in New Urbanist communities and Transit Oriented Development (TOD), can substitute for physical movement by both shortening travel distances and prompting travelers to walk in lieu of driving (Ewing and Cervero, 2002). Some observers refer to this as "trip de-generation" (Whitelegg, 1993).

Daisa, J. (2004). Chapter 6 Traffic, Parking, and Transit-Oriented Development. Dittmar, H., and Ohland, G. (Eds.), *The New Transit Town – Best Practices in Transit-Oriented Development* (pp.114-129). Washington DC: Island Press.

Chapter six discusses factors impeding the effectiveness of TOD including: Free and excessive parking; a poor pedestrian environment; poor-quality transit service; an incorrect mix of land uses; a lack of transit link between housing and jobs; and current zoning practice.

Dunphy, R., Cevero, R., Dock, F., McAvey, M., Porter, D., Swenson, C. (2004). *Developing Around Transit Strategies and Solutions that Work: Chapter Three Planning the Transit District*. Washington DC: Urban Land Institute Press.

Chapter Three includes a basic discussion of elements of transit-oriented planning. It is followed by a brief overview of TOD-related resources for planners, including TOD implementation assistance.

Chapter Four provides an overview of urban infill development opportunities, gives several case studies of successful infill projects, and offers a discussion of public policy and programs to help promote successful infill.

Ewing, R. (n.d.). *Pedestrian and Transit-Friendly Design: A Primer for Smart Growth*. Retrieved May 31st, 2009 from www.epa.gov/piedpage/pdf/ptfd_primer.pdf

This checklist of Pedestrian and transit-friendly features is divided into “essential”, “highly desirable”, and “nice additional” features. Essential features include: Medium to high densities; Mix of land uses; Short-to-Medium Length Blocks; Transit Routes Every Half Mile; Two or four-lane streets; Continuous sidewalks wide enough for couples; Safe crossings; Appropriate buffering from traffic; Street-oriented buildings; and Comfortable and safe places to wait.

Grenberg, E. (2004). Chapter 4 *Regulations Shape Reality: Zoning for Transit-Oriented Development*. Dittmar, H., and Ohland, G. (Eds.), *The New Transit Town – Best Practices in Transit-Oriented Development* (pp.58-80). Washington DC: Island Press.

Chapter four focuses on regulatory tools available to local governments that can promote: active, walkable streets; building intensity and scale supportive of transit; and careful transit integration.

Lowry, S. (2008). *Delivering on TOD*. *Planning*, 74 (4), 18-19.

This Planning article reports on the success of the Portland's TOD program, the recipient of the American Planning Association's 2008 National Planning Excellence Award for Best Practice. According to councilor Robert Liberty, Metro's representative to the TOD steering committee, the projects demonstrate that land use can be used to determine how people travel. It is said that the projects will create 3,139 induced riders per day on the public TriMet transit system due to Metro's careful metrics.

Owen, J. (1987). *A Successful Street Design Process*. Moudon, A.V. (Ed.), *Public Streets for Public Use* (267-275). New York: Columbia University Press.

The author discusses his firm's experience with street improvement projects in business and residential areas. He gives an overview of the role of the urban designer, emphasizes focusing on the impetus for design improvements and working within a conceptual framework directly tied to project objectives. He also discusses viewing project constraints as opportunities, not restrictions.

Puget Sound Regional Council. (1999). Creating Transit Station Communities in the Central Puget Sound Region: A Transit-Oriented Development Workbook. Retrieved May 26th, 2009, from:

<http://psrc.org/projects/tod/workbook.htm>

Part 1, Guiding Principles for Creating Transit Station Communities, offers a discussion of compact, mixed use development, pedestrian friendly design, and parking access and management.

Sound Transit. (2008). Capitol Hill Station TOD Sites Baseline Report Appendix 4 – TOD Best Practices. Retrieved May 1st, 2009, from:

http://www.soundtransit.org/Documents/pdf/projects/link/north/Capitol_Hill/CH_TODSitesRpt12-12-08.pdf

- Supportive Land Uses are Typified: Concentrations and mixtures of uses provide the best opportunity to generate multi-trip, high pedestrian volumes and transit riders.
- Adequate Densities to Provide Ridership Base/Compact Development: Densities in immediate location of the station, with diminishing density further from transit access. Residential densities > 50 units/acre; employment centers (in lieu of or in combo) help provide jobs/housing balance.
- Convenient, Attractive Pedestrian Facilities: scale and amenity are important; variety and quality of retail contribute to pedestrian activity and amenity.
- Urban Design: Residents highly value place making and streetscape; quality urban design and land use mix may influence TOD as a residential and destination choice.
- Managed Parking: Free or low-cost parking is a major deterrent to transit ridership, and antithetical to TOD. Broadway will benefit in the long run from reduced auto dependency brought about by new residents dependent on improved transit and TOD.

Transit Cooperative Research Program (1997). Transit and Urban Form: Volumes 1 and 2. (TCRP Report 16). Washington DC: Transportation Research Board.

- Volume 1: Part 1 Transit, Urban Form, and the Built Environment: A Summary of Knowledge; Part II Commuter and Light Rail Transit Corridors: The Land Use Connection
- Volume 2: Part III A Guidebook for Practitioners; Part IV Public Policy and Transit-Oriented Development: Six International Case Studies (Houston, D.C., Portland, Vancouver, Ottawa, and Curitiba).

Transit Cooperative Research Program. (2002). Transit-Oriented Development and Joint Development in the United States: A Literature Review. (Research Results Digest, Number 52). Washington DC: Transportation Research Board. Section IV.3 Land-Based Initiatives; and Section IV.4 Zoning and Regulations; and Section IV.5 Complementary Infrastructure (p.54-61). Retrieved May 26th, 2009, from:

http://trb.org/publications/tcrp/tcrp_rrd_52.pdf

- Section IV.3 reviews four land-based approaches: assembly, swaps, banking, and sale/leases.
- Section IV.4 reviews experiences with zoning, Planned Urban Development (PUD) classifications, specific-plan initiatives, and transfer of development rights (TDR).
- Section IV.5 Upfront public investments are especially critical in inner-city areas; they demonstrate a public commitment to turning an area around.

Transit Cooperative Research Program. (2002). Transit-Oriented Development and Joint Development in the United States: A Literature Review. (Research Results Digest, Number 52). Washington DC: Transportation Research Board. Section V Urban Design (p.75-87). Retrieved May 26th, 2009, from:

http://trb.org/publications/tcrp/tcrp_rrd_52.pdf

- Density and mix of land uses is arguably the most important design element in creating a successful TOD. Design quality is also emphasized, with the following principles: create pedestrian streets; orient buildings to the street; set minimum floor-area ratios; use grid-like street-networks; use traffic-calming measures; use short blocks; provide a continuous network of sidewalks; ensure safe, convenient and frequent street crossings; use landscaping, weather protection, public art, street furniture, lighting, and public phones; and require all developments to provide for pedestrian and cyclist needs.
- TODs borrow heavily from European community design and town planning principles. In Europe a transit station functions as a centerpiece for community building and rebuilding – an organizing platform for creating a compact, mixed-use community, centered around the transit station.
- Common features of many European transit villages include: stations functioning as community hubs; tapering of densities with distance from the station; a mix of land uses; the presence of a major public amenity like a civic square; accommodation of intermodalism, with care given to allowing efficient connections between transit and access; and parking management with market-rate pricing and siting of parking facilities on the periphery.

Transit Cooperative Research Program. (2004). Transit-Oriented Development in the United States: Experiences, Challenges, and Prospects. (TCRP Report 102). Chapter 4 TOD Implementation Tools. (pp.61-82). Washington DC: Transportation Research Board.

Chapter Four suggests the following tools for implementing TOD: Visioning and Planning; Zoning/Overlays; Land Uses; Densities; and Parking Codes. The chapter offers a discussion of obstacles to TOD-related zoning, and provides ratings of implementation tools from transit agencies across the U.S.

Transit Cooperative Research Program. (2004). *Transit-Oriented Development in the United States: Experiences, Challenges, and Prospects*. (TCRP Report 102). Chapter 6 Barriers to TOD (pp.99-115). Washington DC: Transportation Research Board.

Chapter 6: Stakeholders consistently ranked the automobile-dependent landscapes of many U.S. cities as the biggest obstacle to TOD. A rank-order list of impediments to TOD among five stakeholder groups is shown in figure 6.1. Many of the cited obstacles fall within the public sector's sphere of influence.

Transit Cooperative Research Program (2008). *Effects of TOD on Housing, Parking, and Travel*. (TCRP Report 128). Washington DC: Transportation Research Board.

This report builds on the work of TCRP Research Results Digest 52, and TCRP Report 102. TCRP Report 128 addresses the following questions: 1) What are the demographic profiles of TOD residents and employers; 2) What motivates residents or employers to locate in TODs; 3) What are the travel characteristics of people who live or work in a TOD; 4) What was the travel pattern of the TOD resident prior to moving to the TOD; 5) What levels of transit connectivity are required to promote transit ridership at TODs; 6) What motivates or impedes transit ridership in a TOD; 7) Which strategies have been effective in increasing transit ridership at TODs; 8) What steps should transit agencies take in supporting TODs to maximize transit ridership; 9) What TOD land use and design features have had an effect on travel patterns, transit ridership, or the decision to locate in a TOD?

Tumlin, J., and Millard-Ball, A. (2003). How to make transit-oriented development work: Number One: Put the Transit Back. *Planning*, 69, 14-19.

- Cervero proposes "3-D's": density, design and diversity.
- Affordable housing is an important component of TOD because low income households tend to own fewer cars; its inclusion can add transit riders and further other public policy objectives.

Untermann, R. (1987). Can We Pedestrianize the Suburbs? Moudon, A.V. (Ed.), *Public Streets for Public Use* (123-131). New York: Columbia University Press.

This chapter explores challenges and opportunities to pedestrianize areas with suburban land use patterns.

Untermann, R. (1987). Changing Design Standards for Streets and Roads. Moudon, A.V. (Ed.), *Public Streets for Public Use* (255-260). New York: Columbia University Press.

Techniques to lure pedestrians back to areas invaded by cars are offered. They include altering: arterial road width; speed of travel; intersection radius; sidewalks; pedestrian islands; traffic signals; and parking and driveways.

Fiscal Barriers – Public and Private

The Center for Livable Communities. (1995). Building Livable Communities: The Transit Stop Opportunity A Resource Guidebook for Local Officials. Financing Mechanisms. Sacramento.

Cost-Saving Methods to Help the Developer: Zone Appropriate Properties “By Right”; Streamline the Permit Process for Desired Projects; Reduce or Delay Development Fees; Adjust Level of Service Requirements; Reduce Parking Requirements; Establish Enterprise Zones in Older Activity Centers; Help Address Public Opposition Through Education and Public Involvement; Educate Banks and provide Loan Guarantees; Conduct Market Studies and Marketing; Seek Free/Low-Cost Technical or Material Assistance.

* *This report is available in the College of Built Environments library under call number: HE148 .B84 1995*

Parzen, J., Sigal, A.J. (2004). Chapter 5 Financing Transit-Oriented Development. Dittmar, H., and Ohland, G. (Eds.), *The New Transit Town – Best Practices in Transit-Oriented Development* (83-111). Washington DC: Island Press.

Parzen, J., Sigal, A.J. (2004). Chapter 5 - Financing Transit-Oriented Development. Dittmar, H., and Ohland, G. (Eds.), *The New Transit Town – Best Practices in Transit-Oriented Development* (pp.83-111).

Washington DC: Island Press.

Chapter five describes challenges to financing TOD, strategies people are using to succeed in spite of the challenges, and ideas people have about how to make it easier to finance TODs in the future. Many of the strategies described are replicable, especially where there is strong public and private leadership. The chapter is organized into four sections: Increasing certainty; Enabling public investors to capture the value of public investment; Structuring the deal; and Addressing place and node: financing TOD's distinctive components.

PSRC. Infrastructure Funding Project Overview. Accessed July 12th 2009 from: <http://www.psrc.org/projects/infrastructure/index.htm>

This page gives an overview of PSRC's infrastructure funding project. The project was defined as researching past efforts, monitoring and participating in ongoing efforts, and seeking to make this body of work relevant for the local government members of PSRC. The primary focus of the research is on city and county funding options. The report seeks to put data and the studies' findings and recommendations, into context for cities and counties in the central Puget Sound region. Key tasks in the project's scope of work are: (1) research funding programs currently available the extent of usage; (2) research potential funding sources; and (3) research data and information on municipal funding and capital needs.

PSRC. Infrastructure Funding Resources. Accessed July 12th 2009 from: <http://www.psrc.org/projects/infrastructure/resources.htm>

Resources relevant to PSRC's infrastructure funding project are provided on this page. Highlights include:

- June 2009, infrastructure funding legislative update: http://www.psrc.org/projects/infrastructure/Infra_LegUpdate-June09.pdf
- February 2009, Public Infrastructure Funding Project Status Report, Part I and Part II: <http://www.psrc.org/projects/infrastructure/GMPB09pres.pdf> ; and <http://www.psrc.org/projects/infrastructure/GMPB09pres-part2.pdf>
- Office of Financial Management - Infrastructure Assistance Programs Review & Implementation Plan: <http://www.ofm.wa.gov/study/default.asp>
- December 2008, Office of Financial Management - Restructuring State Public Infrastructure Programs Analysis for the Washington Legislature: http://www.ofm.wa.gov/study/01_Report.pdf
- December 2005, Office of Financial Management – Inventory and Evaluation of the State's Public Infrastructure Programs and Funds: <http://www.psrc.org/projects/infrastructure/OFM-Berk05.pdf>
- January 2008, Study Committee on Public Infrastructure Programs and Funding Structures Final Report: <http://www.psrc.org/projects/infrastructure/PIPFS08.pdf>

The Center for Livable Communities. (1995). Building Livable Communities: The Transit Stop Opportunity A Resource Guidebook for Local Officials. Financing Mechanisms. Sacramento.

The Financing Mechanisms section offers the following options for local government: Use Housing and Community Development Funds; When the Transit Stop is on Main Street, Establish a Main Street Program; Apply for Historic Preservation Tax Credits; Use Motor Vehicle Registration Fee Surcharge Funds; Establish a Redevelopment Area Around Transit Stops; Set Up a Public-Private Partnership; Build on Public and Tax-Delinquent Land or Swap Key Parcels; Establish Special Assessment Districts Establish Mello-Roos Special Tax Districts; Use the General Fund; Issue Bonds; Subsidize the Retail Component; Pursue Grants and/or Local Donations; Apply Through Your MPO for "ISTEA" Funding

** This report is available in the College of Built Environments library under call number: HE148 .B84 1995*

Transit Cooperative Research Program. (2002). Transit-Oriented Development and Joint Development in the United States: A Literature Review. (Research Results Digest, Number 52). Section IV.2 Supportive Public Policies: Finance and Tax Policies. (pp.46-54). Washington DC: Transportation Research Board. Retrieved May 26th, 2009, from: http://trb.org/publications/tcrp/tcrp_rrd_52.pdf

Section IV.2 reviews experiences with grants; sliding-scale impact fees; tax abatement; creative financing; direct public sector financial participation; benefit assessment districts enterprise zones; tax increment financing; and loans.

Transit Cooperative Research Program. (2002). Transit-Oriented Development and Joint Development in the United States: A Literature Review. (Research Results Digest, Number 52). Section IV.7 Use of Value Capture. (p.66-68). Washington DC: Transportation Research Board. Retrieved May 26th, 2009, from:

http://trb.org/publications/tcrp/tcrp_rrd_52.pdf

Section IV.7 suggests the use of value capture to help the public sector finance the many upfront improvements (like infrastructure) that can be essential to implementing TOD.

Transit Cooperative Research Program. (2002). Transit-Oriented Development and Joint Development in the United States: A Literature Review. (Research Results Digest, Number 52). Section IV.9 Barriers and Constraints – Fiscal Barriers. (pp.71-72).

Washington DC: Transportation Research Board. Retrieved May 26th, 2009, from: http://trb.org/publications/tcrp/tcrp_rrd_52.pdf

An overview of common fiscal barriers is presented in this section. Barriers discussed include: zoning that promotes office and retail use at the expense of housing stock; the high costs of needed infrastructure; the questionable financial viability of TODs; and challenges of developing in economically stagnant areas.

Transit Cooperative Research Program. (2004). Transit-Oriented Development in the United States: Experiences, Challenges, and Prospects. (TCRP Report 102). Chapter 4 TOD Implementation Tools. (pp.61-82). Washington DC: Transportation Research Board.

Chapter Four concludes with a discussion of the public perspective of funding TOD. Funding tools and finance issues are discussed from the perspective of four public stakeholders: transit agencies, municipalities, redevelopment agencies, and MPOs.

Transit Cooperative Research Program. (2004). Transit-Oriented Development in the United States: Experiences, Challenges, and Prospects. (TCRP Report 102). Chapter 5 Building and Bankrolling TOD: A Private-Sector Perspective. (pp.83-97). Washington DC: Transportation Research Board.

Chapter five draws on input from the development and lending community to probe a host of TOD implementation issues mainly related to project financing.

Transit Cooperative Research Program. (2004). Transit-Oriented Development in the United States: Experiences, Challenges, and Prospects. (TCRP Report 102). Chapter 6 Barriers to TOD: What They Are and How to Overcome Them. (pp.99-115). Washington DC: Transportation Research Board.

Chapter six offers a discussion of public and private fiscal barriers to TOD, including an overview of the development community's perspective in overcoming financial barriers to TOD. Suggestions from developers include assistance with land assembly and

infrastructure, streamlining the development review process, offering subsidies, tax incentives, and below-market-rate loans.

Organizational Barriers

Belzer, D., Autler, G., Espinosa, J., Feigon, S., Ohland, G. (2004). Chapter 3 The Transit-Oriented Development Drama and its Actors. Dittmar, H., and Ohland, G. (Eds.). *The New Transit Town – Best Practices in Transit-Oriented Development* (pp.41-54). Washington DC: Island Press.

The chapter says actors tend to have disparate views about what projects should accomplish; with each actor bringing different goals, priorities, and interests to the table. The authors say this lack of congruency can cause actors to think too small when it comes to setting TOD policy. Place-making can suffer from over emphasizing TOD's function as a node.

Bullard, Robert. (Eds.). (2007). *Growing Smarter Achieving Livable Communities, Environmental Justice, and Regional Equity*. Cambridge: Massachusetts Institute of Technology Press.

The book focuses on creating equitable opportunity for all segments of the urban population. Chapter twelve calls for a more integrated approach to generate more equitable access for low-income communities, with a focus on equally bringing opportunities into low-income areas, not just ensuring that low-wage workers can access faraway jobs. The author points out those responsible for overseeing the implementation of transportation, land use, and economic development efforts have typically worked in isolation from one another. Chapter 13 discusses the importance of regional coalitions and fiscal equity programs. Chapter 14 lists tools and strategies to link smart growth to disadvantages communities.

MacDonald, D. (2005, June 25th). Transit train wreck: Here's how to do buses right. Crosscut. Retrieved from:

<http://crosscut.com/2008/06/25/sound-transit/15327/>

MacDonald emphasizes the opportunity for increased cooperation among the Puget Sound region's four major transportation agencies. He also discusses the importance of goal setting, visioning and leadership in transportation and land use planning.

MacDonald, D. (2009, January 26th). We have a Viaduct plan, not an overall transportation plan. Crosscut. Retrieved from:

<http://crosscut.com/2009/01/26/alaskan-way-viaduct/18802/>

MacDonald focuses on what he calls "piecemeal" transportation project planning in the Puget Sound region. He argues piecemeal project planning and steering by consensus causes costs to skyrocket. He emphasizes the need for a regional transportation plan.

Peirce, N. (2009, April 16th). The HUD-DOT collaboration. Citiwire.net. Retrieved May 20th, 2009, from: <http://citiwire.net/post/875/>

Peirce provides a conceptual overview of the Federal Department of Housing and Urban Development and Department of Transportation plans to:

- Make the bureaucracies work together in crafting programs as they impact communities nationwide.
- Launch a “Sustainable Communities Initiative” with a joint fund to encourage metro regions to develop integrated housing, land use and transportation plans, focused also on energy savings and greenhouse gas reduction.

Puget Sound Regional Council. (1996). Developing Your Center: A Step by Step Approach (Urban Center Incremental Development Study).

This document discusses strategies for developing an organization to plan and develop an urban center. A resource appendix includes tools and resources for planners and governments developing centers.

Puget Sound Regional Council. (1999). Creating Transit Station Communities in the Central Puget Sound Region: A Transit-Oriented Development Workbook. Retrieved May 26th, 2009 from <http://psrc.org/projects/tod/workbook.htm>

- Part 1 - Guiding Principles: compact, mixed use development, pedestrian friendly design, and parking access and management.
- Part 2 - Assessing the market for TOD
- Part 3 - Implementing TOD in station communities. This section includes a discussion of Washington State, regional and local funding sources.

Puget Sound Regional Council. (2003). The Development Toolkit Success Stories from the Regional Growth Centers. Retrieved May 26th, 2009 from: <http://draft.psrc.org/assets/227/toolkit.pdf>

The Development Toolkit looks at regulatory themes and strategies from Bellevue, Bremerton, Everett, Kent and Renton that could be replicable to other jurisdictions in the region.

Smart Growth America, and The Transportation Choices Coalition. (2009). The States and the Stimulus. Retrieved July 12th 2009 from: http://www.transportationchoices.org/stimulus_120days.pdf

This report criticizes Washington lawmakers for under investing in urban areas, spending too much economic stimulus money on new roads and infrastructure, and neglecting repairs to existing roads and transit. According to the report, Washington invested only 4 percent of funding into non-motorized transportation and no money on transit.

Transit Cooperative Research Program. (1996). Institutional Barriers to Intermodal Transportation Policies and Planning in Metropolitan Areas. (TCRP Report 14).

Washington DC: Transportation Research Board.

TCRP Report 14 categorizes institutional barriers to intermodal transportation into organizational, interjurisdictional, and resource barriers.

Transit Cooperative Research Program. (2002). Transit-Oriented Development and Joint Development in the United States: A Literature Review. (Research Results Digest, Number 52). Section IV.9 Barriers and Constraints – Organizational Barriers. (pp.73-74).

This section gives a brief discussion of the organizational disadvantage public agencies sometimes have in negotiating with savvy private parties for real estate projects.

Transit Cooperative Research Program. (2004). Transit-Oriented Development in the United States: Experiences, Challenges, and Prospects. (TCRP Report 102). Chapter 6 Barriers to TOD: What They Are and How to Overcome Them. (pp.102-103).

Washington DC: Transportation Research Board.

The chief organizational barriers discussed in this chapter are:

- TOD coordination between transit agencies and localities. This can be especially difficult in areas with strong tradition of small, independent governments.
- Lack of technical expertise, particularly in case of public-private partnerships

United States Department of Transportation Office of Public Affairs. (n.d.). HUD and DOT Partnership: Sustainable Communities. Retrieved May 26th, 2009, from: <http://www.dot.gov/affairs/dot3209.htm>

The Secretaries of the U.S. Department of Housing and Urban Development (HUD) and U.S. Department of Transportation (DOT) have formed a new partnership to help families gain better access to affordable housing, and lower transportation costs. The task force will set a goal to have every major metropolitan area in the country conduct integrated housing, transportation, and land use planning and investment in the next four years. To facilitate integrated planning, HUD and DOT propose to make planning grants available to metropolitan areas, and create mechanisms to ensure those plans are carried through to localities. DOT will encourage MPOs to conduct this integrated planning as a part of their next long range transportation plan update and will provide technical assistance on scenario planning. The departments will create a new task force that will identify strategies to: 1) Provide more choices for affordable housing near employment opportunities; 2) Provide more transportation options to lower transportation costs, shorten travel times, and improve the environment; 3) Give families the ability to combine several errands into one trip though better coordination of transportation and land uses; and 4) Encourage the development of safe, livable, and healthy communities.

Political Barriers

Brewster, David. Light rail at last: What took us forever?. July 21, 2009. Accessed July 21, 2009 from: <http://crosscut.com/2009/07/21/sound-transit/19122/>

Political barriers to Seattle region offered by Brewster include:

1. Dispersed power.
2. Passive-aggressive style.
3. The University of Washington
4. Boeing.
5. Culture lag.
6. Affluence.
7. Complacency.
8. City of commerce.
9. A reluctant metropolis.
10. Secession of business leadership.
11. Hills and lakes.
12. We're spoiled.
13. Inactive government.

Diers, Jim. (2004). *Neighborhood Power: Building Community The Seattle Way*. Seattle: University of Washington Press.

Jim Diers served Seattle under three mayors and was the first director of the former Department of Neighborhoods. *Neighborhood Power* chronicles his involvement with community development in Seattle and offers real-life examples of how to build active, creative neighborhoods and enjoy the rich results of community empowerment. The stories and programs outlined can help government officials embrace citizen activists as true partners.

Dunphy, R., Cevero, R., Dock, F., McAvey, M., Porter, D., Swenson, C., (2004). *Developing Around Transit Strategies and Solutions that Work*. Washington DC: Urban Land Institute Press.

Chapter Three Planning the Transit District offers examples of regional policy support tools to help promote urban centers and TOD.

Morrish, W., Brown, C. (1994). *Planning to Stay*. Minneapolis: Milkweed Editions.

Planning to Stay offers a practical guide for members of a community to assess the place they live and take control of its development. Doug Kelbaugh, the former chair of the University of Washington Department of Architecture and Dean of the University of Michigan College of Architecture and Urban Planning, recommends *Planning to Stay* as a particularly good guide on involving residents in planning and designing their neighborhoods.

Transit Cooperative Research Program. (2004). Transit-Oriented Development in the United States: Experiences, Challenges, and Prospects. (TCRP Report 102). Chapter 6 Political Barriers. (pp.102). Washington DC: Transportation Research Board.
NIMBY opposition is the only political barrier offered here.

Transit Cooperative Research Program. (2002). Transit-Oriented Development and Joint Development in the United States: A Literature Review. (Research Results Digest, Number 52). Washington DC: Transportation Research Board. Section IV.9 Political Barriers. (pp.72-73). Retrieved May 26th, 2009, from:
http://trb.org/publications/tcrp/tcrp_rrd_52.pdf

This brief section gives an overview of political barriers stemming from: NIMBY opposition; metropolitan regions with numerous small, independent governments; and fractions within the transit-riding population (specifically supports of park-and-ride lots).

Transit Service Supply and Demand

Cervero, Robert. (1998). The Transit Metropolis A Global Inquiry: Chapter 3: Public Policies and the Sustainable Transit Metropolis. Washington DC: Island Press.

Chapter three reviews demand-side and supply-side approaches that are consonant with the broader objectives of what Cervero defines as, "the sustainable transit metropolis." Demand-side approaches offered are: 1) Transportation demand management; 2) Restraints on automotive use; 3) Regulation of automobile performance; and 4) Pricing. Supply-side approaches offered are: 1) Advanced technologies; 2) Telecommunications; and 3) Nonmotorized transportation.

Lowry, S. (2008). Delivering on TOD. *Planning*, 74 (4), 18-19.

This Planning article reports on the success of the Portland's TOD program, the recipient of the American Planning Association's 2008 National Planning Excellence Award for Best Practice. According to councilor Robert Liberty, Metro's representative to the TOD steering committee, the projects demonstrate that land use can be used to determine how people travel. It is said that the projects will create 3,139 induced riders per day on the public TriMet transit system due to Metro's careful metrics.

Transit Cooperative Research Program (2008). Effects of TOD on Housing, Parking, and Travel. (TCRP Report 128). Washington DC: Transportation Research Board.

This report builds on the work of TCRP Research Results Digest 52, and TCRP Report 102. TCRP Report 128 addresses the following questions: 1) What are the demographic profiles of TOD residents and employers; 2) What motivates residents or employers to

locate in TODs; 3) What are the travel characteristics of people who live or work in a TOD; 4) What was the travel pattern of the TOD resident prior to moving to the TOD; 5) What levels of transit connectivity are required to promote transit ridership at TODs; 6) What motivates or impedes transit ridership in a TOD; 7) Which strategies have been effective in increasing transit ridership at TODs; 8) What steps should transit agencies take in supporting TODs to maximize transit ridership; 9) What TOD land use and design features have had an effect on travel patterns, transit ridership, or the decision to locate in a TOD?

Urban Centers and Livability

Bullard, Robert. (Eds.). (2007). *Growing Smarter Achieving Livable Communities, Environmental Justice, and Regional Equity*. Cambridge: Massachusetts Institute of Technology Press.

The book focuses on creating equitable opportunity for all segments of the urban population. Chapter 12 calls for a more integrated approach to generate more equitable access for low-income communities, with a focus on equally bringing opportunities into low-income areas, not just ensuring that low-wage workers can access faraway jobs. The author points out those responsible for overseeing the implementation of transportation, land use, and economic development efforts have typically worked in isolation from one another. Chapter 13 discusses the importance of regional coalitions and fiscal equity programs. Chapter 14 lists tools and strategies to link smart growth to disadvantaged communities.

Transit Cooperative Research Program (1997). *The Role of Transit in Creating Livable Metropolitan Communities*. (TCRP Report 22). New York: National Academy Press.

The text takes a place-making approach to livability. The book is unique in that it takes a “positive” approach to transit and the potential role it can play in people’s everyday lives (rather than another “negative” discussion of barriers). Chapter 2 offers a brief discussion on three transportation strategies impacting livability: transit strategies, design-oriented strategies, and service-oriented strategies. The heart of the report revolves around livability issues presented in terms of case studies emphasizing the following livability themes: “creating places for community life”, “serving as a catalyst for downtown and neighborhood revival”, “creating opportunity for entrepreneurship and economic development”, “improving safety and amenity,” “making communities accessible and convenient,” and “shaping community growth.”

Transit Cooperative Research Program (2008). *Effects of TOD on Housing, Parking, and Travel*. (TCRP Report 128). Washington DC: Transportation Research Board.

This report builds on the work of TCRP Research Results Digest 52, and TCRP Report 102. TCRP Report 128 addresses the following questions: 1) What are the demographic profiles of TOD residents and employers; 2) What motivates residents or employers to locate in TODs; 3) What are the travel characteristics of people who live or work in a TOD; 4) What was the travel pattern of the TOD resident prior to moving to the TOD; 5) What levels of transit connectivity are required to promote transit ridership at TODs; 6) What motivates or impedes transit ridership in a TOD; 7) Which strategies have been effective in increasing transit ridership at TODs; 8) What steps should transit agencies take in supporting TODs to maximize transit ridership; 9) What TOD land use and design features have had an effect on travel patterns, transit ridership, or the decision to locate in a TOD?

Appendix A: Professional Association Bookstore Resources

Urban Land Institute (ULI): <http://www.uli.org/Books.aspx>

- Multifamily housing:
[http://commerce.uli.org/AM/Ecommerce/ProductFeaturedList.cfm?FeaturedTitle=Featured Items In Housing%2C Multifamily&ListTitle=All Items In Housing%2C Multifamily&ListType=Topic&Criteria=20](http://commerce.uli.org/AM/Ecommerce/ProductFeaturedList.cfm?FeaturedTitle=Featured+Items+In+Housing%2C+Multifamily&ListTitle=All+Items+In+Housing%2C+Multifamily&ListType=Topic&Criteria=20)
- Mixed-Use development:
[http://commerce.uli.org/AM/Ecommerce/ProductFeaturedList.cfm?FeaturedTitle=Featured Items In Mixed-Use and Multi-Use Development&ListTitle=All Items In Mixed-Use and Multi-Use Development&ListType=Topic&Criteria=34](http://commerce.uli.org/AM/Ecommerce/ProductFeaturedList.cfm?FeaturedTitle=Featured+Items+In+Mixed-Use+and+Multi-Use+Development&ListTitle=All+Items+In+Mixed-Use+and+Multi-Use+Development&ListType=Topic&Criteria=34)
- Urban Regeneration:
[http://commerce.uli.org/AM/Ecommerce/ProductFeaturedList.cfm?FeaturedTitle=Featured Items In Mixed-Use and Multi-Use Development&ListTitle=All Items In Mixed-Use and Multi-Use Development&ListType=Topic&Criteria=34](http://commerce.uli.org/AM/Ecommerce/ProductFeaturedList.cfm?FeaturedTitle=Featured+Items+In+Mixed-Use+and+Multi-Use+Development&ListTitle=All+Items+In+Mixed-Use+and+Multi-Use+Development&ListType=Topic&Criteria=34)

American Planning Association (APA): <http://myapa.planning.org/apastore/>

- Places & Place Making, Transit-Oriented Development:
<http://myapa.planning.org/APAStore/Search/Default.aspx?a=1163,1180>
- Transit Planning:
<http://myapa.planning.org/APAStore/Search/Default.aspx?a=1150,1160>

Commercial Real Estate Development Association (NAIOP):

<http://portal.naiop.org/WIPCS/Commerce/Home.aspx>

- Mixed-Use Development:
[http://portal.naiop.org/WIPCS/commerce/category.aspx?cat=Mixed-Use Development](http://portal.naiop.org/WIPCS/commerce/category.aspx?cat=Mixed-Use+Development)
- Finance/Investment:
[http://portal.naiop.org/WIPCS/commerce/category.aspx?cat=Mixed-Use Development](http://portal.naiop.org/WIPCS/commerce/category.aspx?cat=Mixed-Use+Development)

Appendix B: Other TOD-Related Bibliographies

Municipal Research and Services Center of Washington. Transit-Oriented Development. Accessed May 26th, 2009, from:

<http://www.mrsc.org/Subjects/Transpo/transitdev.aspx>

- Guides, Studies, and Articles
- TOD and Market Forces
- TOD Plan and Ordinance Examples

Transit Cooperative Research Program (TCRP). Research Results Digest 52: Transit-Oriented Development and Joint Development in the United States: A Literature Review. October 2002. Accessed May 26th, 2009, from: http://trb.org/publications/tcrp/tcrp_rrd_52.pdf

This TCRP document includes an extensive literature review, divided into four main sections: Institutional Issues; Evaluation of Impacts and Benefits; Implementation; and Urban Design. An annotated bibliography thought by the authors to be representative of much of the scholarly and analytical literature on TOD follows. The annotated bibliography is organized into the same sections as the literature review.

Appendix C: Ready Accessible Online Resources:

Arlington Virginia Network. Arlington's Smart Growth Journey. Accessed May 18th, 2009, from:

http://arlington.granicus.com/MediaPlayer.php?view_id=4&clip_id=1206

This Arlington Virginia Network documentary gives an overview of the Roslyn-Ballston corridor's transformation to a transit-oriented community. The video discusses planning for Metrorail service, and reviews political battles over rail service, station location, and freeway expansion.

City of Bellevue. Bel-Red Area Transformation. Accessed May 26th, 2009, from: http://www.bellevuewa.gov/bel-red_intro.htm

The Bel-Red corridor is the first area in Washington that will be redeveloped with TOD specifically in mind. Many of the industrial-related businesses that formerly used the corridor are relocating. Between 1995 and 2003 employment dropped 6% in the corridor while increasing 18% in Bellevue as a whole. Bellevue is now wrapping up a three-year planning effort that will initiate redevelopment for the corridor.

- Overview of the vision for Bel-Red: [Bel-Red project brochure](#)
- Documentation of current review drafts, planning commission recommendations, the Bel-Red land use incentive system, and capital project funding strategy: http://www.bellevuewa.gov/bel-red_intro.htm

PSRC. The Development Toolkit Success Stories from the Regional Growth Centers. August 2003. Accessed May 26th, 2009, from: <http://draft.psrc.org/assets/227/toolkit.pdf>

The Development Toolkit looks at regulatory infrastructure funding themes and strategies from Bellevue, Bremerton, Everett, Kent and Renton that could be replicable to other jurisdictions in the region.

PSRC. Infrastructure Funding Project Overview. Accessed July 12th 2009 from: <http://www.psrc.org/projects/infrastructure/index.htm>

This page gives an overview of PSRC's infrastructure funding project. The project was defined as researching past efforts, monitoring and participating in ongoing efforts, and seeking to make this body of work relevant for the local government members of PSRC. The primary focus of the research is on city and county funding options. The report seeks to put data and the studies' findings and recommendations, into context for cities and counties in the central Puget Sound region. Key tasks in the project's scope of work are: (1) research funding programs currently available the extent of usage; (2) research potential funding sources; and (3) research data and information on municipal funding and capital needs.

PSRC. Infrastructure Funding Resources. Accessed July 12th 2009 from: <http://www.psrc.org/projects/infrastructure/resources.htm>

Resources relevant to PSRC's infrastructure funding project are provided on this page. Highlights include:

- June 2009, infrastructure funding legislative update: http://www.psrc.org/projects/infrastructure/Infra_LegUpdate-June09.pdf
- February 2009, Public Infrastructure Funding Project Status Report, Part I and Part II: <http://www.psrc.org/projects/infrastructure/GMPB09pres.pdf> ; and <http://www.psrc.org/projects/infrastructure/GMPB09pres-part2.pdf>
- Office of Financial Management - Infrastructure Assistance Programs Review & Implementation Plan: <http://www.ofm.wa.gov/study/default.asp>
- December 2008, Office of Financial Management - Restructuring State Public Infrastructure Programs Analysis for the Washington Legislature: http://www.ofm.wa.gov/study/01_Report.pdf
- December 2005, Office of Financial Management – Inventory and Evaluation of the State's Public Infrastructure Programs and Funds: <http://www.psrc.org/projects/infrastructure/OFM-Berk05.pdf>
- January 2008, Study Committee on Public Infrastructure Programs and Funding Structures Final Report: <http://www.psrc.org/projects/infrastructure/PIPF08.pdf>

Sound Transit. Capitol Hill Station TOD Sites Baseline Report. December 2008. Appendix 4 – TOD Best Practices. Accessed May 2009, from: http://www.soundtransit.org/Documents/pdf/projects/link/north/Capitol_Hill/CH_TODSitesRpt12-12-08.pdf

- Supportive Land Uses are Typified: Concentrations and mixtures of uses provide the best opportunity to generate multi-trip, high pedestrian volumes and transit riders.

- Adequate Densities to Provide Ridership Base/Compact Development: Densities in immediate location of the station, with diminishing density further from transit access. Residential densities > 50 units/acre; employment centers (in lieu of or in combo) help provide jobs/housing balance.
- Convenient, Attractive Pedestrian Facilities: scale and amenity are important; variety and quality of retail contribute to pedestrian activity and amenity.
- Urban Design: Residents highly value place making and streetscape; quality urban design and land use mix may influence TOD as a residential and destination choice.
- Managed Parking: Free or low-cost parking is a major deterrent to transit ridership, and antithetical to TOD. Broadway will benefit in the long run from reduced auto dependency brought about by new residents dependent on improved transit and TOD.

Stiles, M. 'Get ready to plan for projects' in Eastside's Bel-Red corridor. Daily Journal of Commerce. May 29th, 2009. Accessed May 30th, 2009, from: <http://www.djc.com/news/re/12006540.html>

This DJC article gives an overview of the buzz surrounding the Bellevue-Redmond corridor. Light rail is identified as the primary driver of planned development for the corridor. Dan Stroh, Bellevue Director of Planning, is quoted as saying, "Its all about transit-oriented development." The corridor is expected to add 4.5 million square feet of commercial development and 5,000 residents by 2030. Stroh said there is a tremendous amount of interest in opportunities afforded by transfer-of-development rights programs. Bellevue officials estimate it will take \$600 million to fund the transportation, open space, stream enhancements and other projects needed to transform the corridor.

Appendix D: Stephanie Parkins. ULI Reality Check Seminar White Paper

Parkins, Stephanie. Overcoming Barriers of Transit Oriented Developments Through Transit-Oriented Districts. ULI Reality Check Seminar White Paper. University of Washington Department of Urban Design and Planning. March 17th, 2008.

**Overcoming Barriers of Transit Oriented Developments Through Transit
Oriented Districts**

Stephanie Parkins
University of Washington
Department of Urban Planning and Design
March 17, 2008
ULI Reality Check Seminar White Paper

Introduction

As an estimated 1 million new residents move in the Puget Sound region by 2025, local roadway infrastructure will not accommodate the travel demand if the majority of the population drive in single occupancy vehicles. If new roadways were built to accommodate increased demand, negative environmental impacts would be severe. Therefore, planners, policy makers and politicians need to investigate ways to encourage more travelers to use high capacity transportation, such as the bus or light rail, in lieu of driving private automobiles. One method could be closing the gap between different land uses and transit stations/routes through transit oriented developments, which are commonly referred to as TODs. These developments strive to incorporate a mix of land uses surrounding a transit station, providing transit, retail, residential and employment opportunities that are accessible via non-motorized modes. Although TODs would shift travel demand from automobile to transit, their development is challenging due to political opposition, lack of financial resources, and challenges created through private and public entities with different goals trying to develop one project together. This paper aims to help readers better understand the components of TODs, what barriers government agencies and developers face when trying to implement a TOD and various approaches to lessen these barriers to make TOD developments a feasible solution for the Puget Sound region.

What is a TOD?

A TOD is a mix of land uses, at various densities, typically within a district with a half-mile radius around a transit station.¹ This type of development strives to achieve a functional integration of land use and transit, making it a type of Smart Growth that encourages compact, mixed-use development and discourages dispersed, automobile dependent development at urban

¹ Cervero, R., Murphy, S., Ferrell, C., Goguts, N., Tasi, Y., Arrington, G.B., et.al. (2004). Transit-Oriented Development in the United States: Experiences, Challenges and Prospects: 5-6.

fringes. At the center of a TOD is a rail or bus station surrounded by higher density developments, with progressively lower-density spreading outwards. Typically, a TOD requires at least six residential units per acre and 25 employees per acre. If premium quality transit, such as rail service, were offered, required densities would double. Without density, there would not be enough ridership to justify the service, nor to attract supportive commercial activities to locate within walking distance of the station areas.² With this in mind, if TODs are to effectively shift people towards using transit or other non-motorized alternatives in lieu of driving a private automobile, they must have three key components: location efficiency, increased levels of value recapture, and the ability to create a place that is a destination in itself, versus being a transfer point to other places.³

Location Efficiency From Development of a TOD District

Location efficiency, identified as the strategic placement of new residential and retail developments within a district that centers around transit services, is important for growing regions because it ensures mobility for all socio-economic groups.⁴ Auto-oriented developments and districts that lack a transit emphasis force people to own a vehicle, which is typically the second highest personal expense next to housing costs.⁵ Location efficiency from creating TOD Districts, on the other hand, makes owning an automobile optional because high levels of density provide a customer base for high quality transit service. It also provides pockets of populations that can support residential, retail and transit options that are within walking distance of each other and the transit service.⁶

² Litman, Todd. Transit Oriented Development: Using Public Transit to Create More Accessible and Livable Neighborhoods. *Victoria Transportation Institute*. Retrieved on December 5 2007. Website: <http://www.vtpi.org/tdm/tdm45.htm>

³ Ditmar, H. and Poticha, S. (2004). Defining Transit-Oriented Development: The New Regional Building Block. *The New Transit Town*:22.

⁴ Ditmar, H. and Poticha, S. (2004). Defining Transit-Oriented Development: The New Regional Building Block. *The New Transit Town*:23.

⁵ Ditmar, H. and Poticha, S. (2004). Defining Transit-Oriented Development: The New Regional Building Block. *The New Transit Town*:26.

⁶ Goodwill, J. Hendricks, S. (2002). Building Transit Oriented Development in Established Communities. *Center for Urban Transportation Research – Public Transportation Syntheses Series*: 11.

Increased Levels of Value Recapture

One benefit of location efficiency via a TOD District is increased value recapture by both local and regional stakeholders. Through offering high quality transit service and enhanced connections between the transit and community amenities, local stakeholders can recapture value by decreasing levels of car ownership. Stakeholders can then shift income they would have spent on automobile or parking expenses towards other living costs. For example, households can allocate this recaptured income towards their housing budgets, allowing a wider variety of income groups to have more diverse housing options. This would be of greatest benefit to low and middle-income households. Savings would also be realized on a regional level, through lowering the need to build fewer roads, parking facilities and other infrastructure related to private automobiles due to significant increases in transit ridership.⁷

Creating a Destination versus a Transit Transfer Point/Node

When planning transit stations, transit agencies often plan for them to be a node where multiple transportation modes converge on one area to get travelers to their final destinations. TODs, on the other hand, view the importance of making the station itself a destination, which will attract new transit consumers and new developments within a ½ of the station. To do this, it requires close attention to the scale and design of the transit center, ensuring it is friendly to bicyclists and pedestrians, as well as being attractive to potential businesses and residential developments. Specifically, locating the station within the center of a neighborhood, creating a design that reflects the culture and values of the community, and the including engaging public spaces will encourage people to congregate around the station and use its services.⁸

⁷ Goodwill, J. Hendricks, S. (2002). Building Transit Oriented Development in Established Communities. *Center for Urban Transportation Research – Public Transportation Syntheses Series*: 10-12.

⁸ Dunphy, R., Myerson, D., and Pawlukiewicz, M. (2006). *Ten Principles for Successful Development Around Transit*. Washington DC: Urban Land Institute Press: 12.

History of Transit Oriented Developments

Though TOD appears to be a new concept within the development world, they actually originated in the United States during the industrial revolution. As streetcar lines were developed, new residential and community developments formed around streetcar stations, providing ridership to employment in the inner city.⁹ However, as automobile ownership and bus transit became less expensive, streetcars lines started to close and were replaced by bus lines because buses could travel anywhere since they were not dependent on an established rail line. This allowed for a significant amount of greenfield suburban development that created uses to sprawl in more rural lands and an urban form that was auto-oriented. As population continues to increase and the resources to support additional auto travel decrease, more people are seeking urban lifestyles that offer a variety of transportation options. Local planners and community groups have found that urban infill redevelopment around station areas is a sufficient method to accommodate additional growth, while discouraging travel via personal automobile.

Benefits of Transit Oriented Development

The benefits of TODs are heavily debated within academic and professional literature. Studies conducted in California found that residents who live near a rail station are 5 times more likely to use transit, while those working near rail stations were about 2.7 times as likely to use rail. Transit ridership, however, was also shown to decrease for both residents and employees if free parking is provided at their final destination and if they have access to a private vehicle.¹⁰ Some research also touts that TODs are responsible for revitalizing neighborhoods, increasing land values and rents, creating affordable housing opportunities and decreasing traffic congestion. On the other hand, other research claims that literature is laced with TOD platitudes,

⁹ Vuchic, Vukan. (2007). *Urban Transit: Systems and Technology*. New Jersey: John Wiley and Sons: 11-44.

¹⁰ Lund, H. Cervero, R. and Willson, R. Travel Characteristics of Transit Oriented Development in California. *Statewide Planning Studies*: 6-7.

whose sole purpose is to promote it as a viable land use tool. Thus, it fails to provide solid, quantifiable benefits of TODs. The only two impacts that have been measured quantitatively include the increase of ridership and property value gains. The other benefits, such as lessening traffic congestion and improving air quality, have been challenging to measure because it is hard to separate benefits directly related to the TOD from those benefits resulting from other factors.¹¹

Barriers of TOD Development

TOD development requires the participation of many stakeholders and occurs in a fragmented regulatory environment. This adds to the complexity, time, cost and risk associated with developing a project. Although high capacity transit service enhances the mobility, accessibility and value to a location, these benefits alone do not overcome the following challenges associated with these developments.

Financial Barriers

Financing TODs can prove challenging due to higher construction costs and increased risks of developing mid-rise multi-story structures within redeveloping neighborhoods. Mid-rise multi-story structures require strong foundations, underground parking, elevators and other elements to make them accessible to persons with disabilities – all that can add cost and cut down on net rentable space.¹² Added to this are site clearance and potential environmental clean-up costs, making developing a transit oriented development a more risky investment compared to developing within greenfields that typically have less site problems, fewer social issues and higher land values. Thus, developers tend to lean towards the greenfield projects, unless there are

¹¹ Cervero, R., Murphy, S., Ferrell, C., Goguts, N., Tasi, Y., Arrington, G.B., et.al. (2004). Transit-Oriented Development in the United States: Experiences, Challenges and Prospects: 120.

¹² Cervero, R., Murphy, S., Ferrell, C., Goguts, N., Tasi, Y., Arrington, G.B., et.al. (2004). Transit-Oriented Development in the United States: Experiences, Challenges and Prospects: 100.

significant public partnership dollars to lessen their risk and ensure their investment will have rates of return that meet the goals of their investors.

Another challenge is lining up financing in areas that are economically stagnant. While a host of public-private financing programs are available to build affordable housing units and transit stations, there is a lack of such funding for commercial developments. This leaves the developers searching for an anchor commercial tenant to cover financing costs once the development is built. If this anchor tenant is not obtained, the project's return on investment will appear weak, making financial institutions less likely to finance it.¹³

High Community Costs and Political Barriers

Though TODs can take advantage of existing infrastructure, especially those happening as urban infill projects, they may still require significant infrastructure upgrades.¹⁴ Older infrastructure may not be able to handle the wear and tear heavy buses inflicts on asphalt pavement, rail lines may require the re-alignment of existing roadways or the current water/sewer systems cannot accommodate the increased use by denser developments. Since transit oriented developments complete with other municipal infrastructure projects, there is no guarantee that the necessary support services and funding will be earmarked so the transit oriented development to move forward.

Established residents near a potential transit oriented development sometimes protest the development due to the perceived impacts it may have on their interests and investments. Many times residents equate transit-oriented housing and infill office development with more traffic, crowded schools, and increased drain on scarce public resources. Residents also fear how

¹³ Cervero, R., Murphy, S., Ferrell, C., Goguts, N., Tasi, Y., Arrington, G.B., et.al. (2004). Transit-Oriented Development in the United States: Experiences, Challenges and Prospects: 100.

¹⁴ Goodwill, J. Hendricks, S. (2002). Building Transit Oriented Development in Established Communities. *Center for Urban Transportation Research – Public Transportation Syntheses Series*: 12.

implementing transit near their homes will socially impact the neighborhood, which is especially true for development includes affordable housing. For example, when the Bay Area Rapid Transit (BART) District proposed to include affordable housing units in conjunction with a new station in the San Francisco suburb of Castro Valley, the community was quick to protest the development. Residents were skeptical of what impacts affordable units that are close to transit would bring to their community's social atmosphere. They perceived that the units would increase crime and other externalities, significantly lowering their property values. These fears often lead to lawsuits and other actions from residents aimed to delay or halt the TODs.¹⁵

Organizational Barriers

Another challenge for TODs is that they require the coordination of many stakeholders, many who lack expertise regarding the various elements development projects. In a typical TOD project, transit agencies plan for the TODs transit service, while local jurisdictions try to control how the parcel(s) are developed, and developers aim to make a profitable development. Other stakeholders, such as neighbors, transit riders and the public at large, advocate for what they envision the project to accomplish. Trying to coordinate these interests and create one vision for a project often makes TOD projects fall short and fail to provide the benefits discussed above.

Also, since many stakeholders within the public sector lack technical development expertise, transit agencies sometime get the short end of the stick when dealing with savvy developers who know how to negotiate a deal. On the other hand, developers sometimes feel that the local jurisdictions implement zoning or regulations that are required for an effective TOD add unreasonable costs to the project and make the development financially infeasible.¹⁶ Many times jurisdictional decision makers keep non-TOD supportive government policies, such as lot

¹⁵ Knack, Ruth E. (2007). Hayward Uses Public Transit Villages to Stimulate Urban Redevelopment. *Cities and Cars – A Handbook of Best Practices*: 94-98.

¹⁶ Daisa, J. M. (2004). Traffic, Parking and Transit-Oriented Development. *The New Transit Town*: 113-131.

size restrictions and auto-oriented building codes, to appease skeptical community stakeholders. This further prevents the optimal mix of uses, density and parking standards necessary to make TODs vibrant, economically viable destinations that are highly accessible by transit and non-motorized modes.

Recommendations on Overcoming Barriers

Lessening Financial Barriers

To alleviate fiscal barriers, public agencies can support the private development of TODs and TOD Districts through the provision of subsidies and tax breaks. Subsidies and tax breaks can be used to attract retailers to the TOD District. The guaranteed occupation of the retail space within the district will provide the income needed for developers to cover loan costs. It will also encourage more people to move within the TOD District due to the nearby retail making not owning a car actually feasible, which allow potential residents to be eligible for Location Efficient Mortgages (LEM). LEMs combine a low down payment requirements, competitive interest rates, and flexible criteria for financial qualification to allow a wider variety of income groups to purchase a home. Since location efficiency of living within a TOD can help residents save money by not owning a car, and LEMs make home ownership a reality for a wider range of income groups, there will be a greater market for the housing opportunities in the TOD. Both of these factors decrease the developments' risk and make financial investor groups more willing to provide funding.¹⁷ The subsidies and tax breaks can also be used to allow developers to offer affordable housing within their new developments without facing a severe loss.¹⁸

¹⁷ Cervero, R., Murphy, S., Ferrell, C., Goguts, N., Tasi, Y., Arrington, G.B., et.al. (2004). Transit-Oriented Development in the United States: Experiences, Challenges and Prospects: 113-114.

¹⁸ Goodwill, J. Hendricks, S. (2002). Building Transit Oriented Development in Established Communities. *Center for Urban Transportation Research – Public Transportation Syntheses Series*: 14.

Another mechanism to offset risk and attract developers to a TOD is to create public-private partnerships. Public-private partnerships provide opportunities for both the private developer and public entity to share risks, costs and rewards of developing a TOD.¹⁹ For instance, public agencies can invest in necessary public infrastructure improvements to support a TOD, such as new roads, parks and recreational facilities. Developers then agree to sign a 99-year land lease to allow transit services at the site as a form of commitment to re-develop the land as a TOD.²⁰ Since a TOD District spreads a ½ mile from the actual transit station, public agencies can also use public funds to redevelop public goods in the area, increasing property values and making it more attractive for development, even with the 99-year land lease commitment only relating to the transit center. Though this cost sharing does decrease risk, developers may be hesitant to create a cost-sharing partnership with public agencies because the savings are sometimes not enough to offset the development delays caused by government regulations. Also, another challenge of this type of partnership is to do this in a manner that it does not violate laws that work to prevent public dollars from directly benefiting private industry.

Educating and Empowering the Community to Convince Decision Makers

To convince community stakeholders and decision makers that TODs and TOD Districts will provide a balanced amount of benefits per the project costs, the community needs to be involved in the entire TOD District planning process. The first step is to educate the community of economic, environmental and social benefits of a TODs. Once they are convinced that a TOD District should be developed, they can help guide the urban design of the area. Though

¹⁹ Dunphy, R., Myerson, D., and Pawlukiewicz, M. (2006). Ten Principles for Successful Development Around Transit. Washington DC: Urban Land Institute Press: 6-7.

²⁰ Dumbaugh, Eric. (2004). Overcoming Financial Barriers and Institutional Barriers to TOD: Lindbergh Station Case Study. *Journal of Public Transportation*. 7.3: 51.

community participation of this nature can delay TOD development, causing potential financial losses by developers, community involvement enhances the mutual learning necessary to create a TOD design that everyone can live with. Since the community is the best and most important source of knowledge regarding the TOD area, they are best equipped to ensure the TOD has a sense of place, location efficiency and that it fits well into the community. Likewise, community wants and desires sway the opinion of decision makers and/or politicians, allowing the community to play an influential role in creating the essential zoning and regulatory changes that will make a TOD most beneficial to the community.²¹

Help Developers, Local Jurisdictions, and Transit Agencies to Work Together

A key to lessening organizational barriers is to have all the stakeholders understand their role and how their role can help the work of other stakeholders when creating TODs and TOD Districts. To help developers sell their projects to lenders, government and transit agencies can take an active role in laying the groundwork for TODs and TOD Districts. For example, governments can create zoning overlays for proposed transit oriented developments prior to developers acquiring land and financing to ensure re-zones and other land use matters do not delay development schedules. Local jurisdictions can also work towards streamlining design review and fast track permitting processes to ensure projects do not accrue unnecessary financing costs due to slow approval periods. Private developers, on the other hand, can work with the community to create a transit-oriented design that fits well within their community. Finally, transit agencies can work with both the local jurisdictions and developers to communicate what design elements are essential for ensuring a transit station provide reliable and frequent service,

²¹ Belzer, D. Autler, D. Espinosa, J. Feigon, S. and Ohland, G. (2004). The Transit-Oriented Development Drama and Its Actors. *The New Transit Town*: 41-57.

as well as what they can do to help create a transit system that will attract more ridership and create a transit focused community.²²

Conclusion

TODs and TOD Districts can enhance a community through creating better connections between transit and residential, employment and retail land uses. Potential TOD benefits include increased transit ridership, additional fare box revenue to support high quality transit services and economic revitalization of declining neighborhoods. However, the success of a TOD development is dependent on lessening the financial risks, community opposition and organizational barriers that can delay or halt a TOD development from moving forward. To do this, tax breaks, incentives and partnerships will lower financial risk, ensuring lenders and developers can gain sufficient return on a TOD investment. Community education about TODs and participation in the design process can create community buy-in for a TOD project. Lastly, collaborative efforts will help stakeholders with different visions and goals develop an overarching TOD vision and goal that fulfills the majority of stakeholder needs and interests. Through taking these steps, more TODs can be developed within growing regions, which will help accommodate travel demand without the potential negative impacts of building new roadways.

²² Cervero, R., Murphy, S., Ferrell, C., Goguts, N., Tasi, Y., Arrington, G.B., et.al. (2004). Transit-Oriented Development in the United States: Experiences, Challenges and Prospects: 112-113.

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- Cervero, R., Murphy, S., Ferrell, C., Goguts, N., Tasi, Y., Arrington, G.B., et.al. (2004). Transit-Oriented Development in the United States: Experiences, Challenges and Prospects. Transit Cooperative Research Program Report 102. Washington D.C.: Transportation Research Board Press.
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Ditmar, H. and Poticha, S. (2004). Defining Transit-Oriented Development: The New Regional Building Block. Dittmar, H. and Ohland, G. (Eds.), *The New Transit Town – Best Practices in Transit-Oriented Development* (19-41). Washington: Island Press.

Dumbaugh, Eric. (2004). Overcoming Financial Barriers and Institutional Barriers to TOD: Lindbergh Station Case Study. *Journal of Public Transportation*. 7.3: 43-68.

Goodwill, J. Hendricks, S. (2002). Building Transit Oriented Development in Established Communities. *Center for Urban Transportation Research – Public Transportation Syntheses Series*: 1-27.

Knack, Ruth E. (2007). Hayward Uses Public Transit Villages to Stimulate Urban Redevelopment. Kemp, Roger L. (Ed.), *Cities and Cars – A Handbook of Best Practices* (94-98). Jefferson, North Carolina: MacFarland and Company, Inc. Publishers.

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