Implementing Equitable Transit Communities

Regional & local recommendations for the central Puget Sound region

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prepared for:
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Growing Transit Communities Partnership

STRATEGICECONOMICS

CTOD CENTER FOR TRANSIT-ORIENTED DEVELOPMENT

Executive Summary

This report discusses those actions and investments necessary to implement a vision of equitable community growth around high capacity transit in the central Puget Sound region. This vision was developed through a regional collaborative planning effort among governmental and non-governmental stakeholders, the Growing Transit Communities Partnership, over the past 18 months. The Growing Transit Communities Partnership, which is funded by a grant from the federal Partnership for Sustainable Communities, has as its focus developing policies and tools applicable to key transit nodes within the region's long-range light rail corridors. The Partnership has articulated three overarching goals for growth of equitable transit communities in the region:

- Attract more of the region's residential and employment growth near high capacity transit;
- Provide housing choices affordable to a full range of incomes near high capacity transit; and
- Increase access to opportunity for existing and future community members in transit communities.

The 74 study areas included in this effort differ greatly in the types and depth of improvements and programming needed to achieve the Partnership's vision of equitable transit communities, as well as the ability of local real estate markets to support this vision. The implementation framework described in this report was created in order to assist the Partnership and local jurisdictions in understanding key needs & opportunities in each of the study areas, so that the right tools and investments can be targeted to appropriate areas and priorities can be set.

Implementation Recommendations by Study Area

Based on an evaluation of study area characteristics developed with GTC Partnership stakeholders and staff, Strategic Economics recommends eight different approaches to implementation and has sorted each of the study areas into one of these categories. While each approach includes prioritized strategies for real estate development intensification, transit-supportive public realm infrastructure, housing choice / affordability, and community development, they differ in focus and priority investments. Recommended approaches to implementation are summarized as follows:

- **Community Enhancement**

  This approach focuses on community development strategies and facilities that expand opportunity and social activity, and includes 21 study areas. Located in the South and far North corridor, these are long-term opportunity areas facing many challenges to implementing TOD given their auto-oriented environments and weaker markets.

- **Market Priming**

  Market priming emphasizes comprehensive planning and key infrastructure improvements in order to attract pioneering, market rate TOD in 14 study areas. Found primarily in the mid-North corridor, these are mid-term opportunity areas with moderate to emerging markets and weaker urban form.

- **Facilitated Equitable Development**

  Implementation activity in these study areas should focus on enabling & leveraging a strong market for growth and broad affordability. The 10 study areas recommended for facilitated equitable development are either current or future diverse mixed-use centers and are located in central Seattle and the inner portions of the light rail corridors.

- **Proactive Equitable Development**

  The *proactive equitable development* approach focuses on supporting an emerging market for higher-density development while preserving affordability & leveraging community benefits from growth.

These places are in transition with accelerating markets and diverse communities at risk of displacement and require a more proactive approach to equitable growth. There are nine such study areas, including four current stations located in Southeast Seattle.

- **Facilitated Diversification**

The *facilitated diversification* approach to implementation focuses on leveraging a stronger market to diversify land uses, make public realm improvements and expand affordability. These study areas are currently single use and low intensity of development, at the same time that they have stronger markets for TOD and are poised for transformation. The six study areas in this category are in the East Corridor.

- **Market/Growth Catalyst**

The *market/growth catalyst* implementation approach focuses on economic development strategies and investments to expand the local job base, fulfill development potential and expand opportunity. The six study areas in need of this approach are largely older city centers that have good urban form, but moderate markets for TOD.

- **Expanded Affordability**

Implementation of the GTC regional vision in these areas should focus on capturing value from strong markets and targeting of subsidy to expand affordability. The five study areas recommended for expanded affordability and located in the East Corridor and North Seattle are highly desirable, walkable neighborhoods or centers with greater access to economic and educational opportunity and little affordable housing.

- **Preserve, Monitor & Connect**

This implementation approach preserves the existing job base in three regional industrial or institutional employment centers that perform a vital role in Puget Sound's economy and recommends transit access improvements where appropriate.

Regional Program Recommendations

Local implementation of many of improvements and activities recommended in the study areas necessitates regional and state-level coordination and support, including steering of existing funding sources toward study areas, creation of new funding programs and development of new local funding mechanisms. The following regional and state-level actions are recommended:

- **Real estate development intensification**

Strategic Economics recommends that PSRC develop a station area planning and funding strategy grant program as a first priority of the GTC initiative. It is recommended that, at minimum, PSRC initiate an on-going peer networking exchange for staff at cities working on GTC study areas. Strategic Economics recommends that PSRC work with local jurisdictions to develop a forward-looking range of minimum regulatory density thresholds that acknowledges the significant difference in potential between study areas.

- **Transit-supportive public realm infrastructure**

Given the extent of need for public realm improvements and the challenges associated with local generation of funds, Strategic Economics recommends creation of a regional capital grant program that targets pedestrian and other transit access improvements in the light rail station areas. Value capture mechanisms that derive public benefits from new development or increases in property value should also be improved and expanded. Because different value capture tools are appropriate for different markets, a variety of tools are needed, including impact fees and developer agreements,

benefit assessment districts and tax increment finance. Funding of feasibility studies for assessment districts such as Local Improvement Districts should be supported through the previously recommended GTC specific plan and funding study grant program. In keeping with efforts already underway through the GTC Partnership, Strategic Economics recommends advancement of an equitable transit communities TIF program aimed at financing key public improvements and affordable housing in select GTC areas.

- **Housing choice / affordability**

While the appropriate methods for delivering affordability and housing choice vary by implementation approach, almost all study areas will need investments in affordable housing to grow as equitable transit communities. Many existing sources of permanent affordable housing financing may be steered towards study areas through alignment of local, county and state policies that endorse mobility and job and services access as a primary criteria of affordable housing location. Advancement of these changes is a key task for growth of transit communities in Puget Sound and on-going support of the regional coalition established through the Partnership is recommended.

Use of revenues derived from value capture tools previously described also applies to other community benefits, foremost affordable housing, and the previous recommendations to advance local use of these mechanisms should explicitly endorse use of revenues for affordable housing. Use of density bonus programs in study areas should also be supported through the feasibility and funding study component of the proposed station area planning program. GTC Partnership staff at PSRC are encouraged to continue to work with transit agencies, other public property owners in the study areas and local housing agencies and advocates to advance support for inclusion of affordable housing in property disposition at the policy level.

Development of a loan fund targeting affordable housing investment toward the GTC study areas is already underway as part of the Partnership effort. It is recommended that design of the equitable TOD fund encompass multiple aspects of gap financing, rather than just acquisition, so that projects advance through permanent financing. Given current demands on federal transportation funds eligible for transit investment in Puget Sound, the Partnership may need to look more broadly for funding sources eligible for use in a gap financing fund. Potential sources include the foundation sector, a broadly-based capital fund-raising campaign, and possibly, coordinated county and/or city-level funds that facilitate use of local sources toward gap financing in transit locations.

- **Community development**

The range of community development needs and potential program investments in study areas is diverse; those study areas regionally identified as having lower access to opportunity will need to be examined at the local level in order to determine critical needs and community priorities. Depending on the study area, economic development, education, housing, open space, commercial, community or health services may emerge as key areas of focus. Station area planning and implementation strategies for study areas with lower access to opportunity should include assessment, outreach and strategies that address these community needs. Strategic Economics also recommends that affordable housing projects going into study areas with lower opportunity include innovative community development or commercial concepts that address local priorities. Finally, a regionally coordinated effort that links populations of low opportunity study areas with workforce development and educational programs aimed at jobs in growth industries is recommended.

Next Steps

On-going dedicated PSRC staff is needed to work out the details of the regional program recommendations made in this report and elsewhere, further refine program priorities and targets, and

administer the program. In addition to the prioritization laid out in this report, Strategic Economics recommends that the Partnership consider the breadth of need for different types of investments across study areas, the imminence of station build-out, and the extent of real estate development capacity at different study areas.

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I. PREFACE FROM THE GROWING TRANSIT COMMUNITIES PARTNERSHIP

The Growing Transit Communities Partnership is a collaborative planning and implementation effort to promote equitable transit communities in the central Puget Sound region. Funded by a regional planning grant from the federal Partnership for Sustainable Communities and housed at the Puget Sound Regional Council, the Partnership has brought together governmental and nongovernmental stakeholders to develop consensus on policies and implementation tools to leverage the region's once-in-a-lifetime investment in high-capacity transit to foster communities that increase mobility and access for current and future residents.

The Partnership has defined equitable transit communities:

> *Equitable transit communities are mixed-use, transit-served neighborhoods that provide housing and transportation choices and greater social and economic opportunity for current and future residents. Although defined by the half-mile walking distances around high-capacity transit stations, they exist within the context of larger neighborhoods with existing residents and businesses.*
>
> *These communities promote local community and economic development by providing housing types at a range of densities and affordability levels, commercial and retail spaces, community services and other amenities integrated into safe, walkable neighborhoods.*
>
> *Successful equitable transit communities are created through inclusive planning and decision-making processes, resulting in development outcomes that accommodate future residential and employment growth, increase opportunity and mobility for existing communities, and enhance public health for socially and economically diverse populations.*

The Partnership has articulated three overarching goals to direct progress toward creating equitable transit communities in the region:

- *Attract more of the region's residential and employment growth near high capacity transit;*
- *Provide housing choices affordable to a full range of incomes near high capacity transit; and*
- *Increase access to opportunity for existing and future community members in transit communities.*

As the focus of this initial planning and implementation effort, the Partnership has identified a geography of 74 study areas that include current and future Link light rail station areas, as well as other key transit nodes and residential or employment centers within the three long-range high-capacity transit corridor identified in the regional transportation plan, Transportation 2040. While the current effort focuses on these identified communities, the analysis and policy development that emerges from the Growing Transit Communities Partnership will be applicable to the region's many other locations that are now or may be served by high capacity transit, including but not limited to bus rapid transit, streetcar, commuter rail, intercity express bus, and ferries station areas.

The Growing Transit Communities Partnership will produce a final report of *Corridor Action Strategies* in mid-2013 that will provide an overview of the data analysis conducted by the Partnership, recommendations for new policy and programs to promote equitable transit communities, and direction on near-term implementation activities and priorities. The *Corridor Action Strategies* will be informed by an 18-month stakeholder process of three corridor-specific task forces, topical steering committees for affordable housing and social equity, input from public outreach, as well as consultant products that provide relevant expertise and perspectives.

The series of reports completed by Strategic Economics and Reconnecting America of the Center for Transit Oriented Development, culminating in the present report of recommendations, comprises consultant products funded by the Growing Transit Communities Partnership to help inform the *Corridor Action Strategies*. The Partnership's stakeholder committees will consider these recommendations as they develop their final recommendations in the coming months.

For more information on the Growing Transit Communities Partnership, please visit www.psrc.org.

II. INTRODUCTION

Over the next 30 years, the Puget Sound region's planned investment in light rail transit will have a considerable impact on mobility and access, as well urban and community development (**Figure 1**, following page). However, the construction of the Link light rail system is not sufficient, in and of itself, to achieve the regional vision of sustainable and equitable growth that benefits local communities and the region as a whole. The term "equitable transit communities" is used by the Growing Transit Communities Partnership in order to elevate the need for inclusive, community-building growth that intensifies development and improves the walking environment near transit while expanding housing affordability and broad access to jobs and other opportunity for existing and new households. Guided by VISION 2040 and funded by a grant from the federal Partnership for Sustainable Communities, the Partnership has been working over the past 18 months to identify and come to consensus on the overarching goals and supporting actions, tools and investments necessary to shape transit communities that provide social, economic, and environmental benefits to current and future residents and businesses.

This report is the last in a series of supporting studies from Strategic Economics and the Center for Transit-Oriented Development to assist the Partnership in understanding the opportunities and challenges associated with equitable transit-oriented development in the central Puget Sound region, and how to address them. Previous reports include "Puget Sound Region Transit-Oriented Development Market Study" (June 28, 2012), "Puget Sound Region TOD Demand Estimates" (August 1, 2012), and "Incentivizing TOD: Case Studies of Regional Programs Throughout the US" (October 8, 2012), from Strategic Economics, and "Recommendations for Transit Community Implementation Typology" (July 2012), from Reconnecting America. This final report discusses those actions necessary to implement equitable growth, walkable streets and community building in the transit communities and makes recommendations regarding regional programs to advance implementation. It is informed by an in-depth stakeholder process developing a "typology," or system of categorizing the transit communities by physical and social attributes, the previously described studies, as well as broad experience assisting other regional governments, local jurisdictions and community-based organizations in shaping priorities and developing tools for implementing equitable TOD. Strategic Economic was joined by Reconnecting America, its partner in the Center for Transit-Oriented Development[1], in developing the implementation framework described in Chapter II.

The Growing Transit Communities Partnership has identified 74 study areas as the implementation geography for this effort. These study areas represent current and future Link light rail station areas, as well as other key transit nodes and residential or employment centers within the three long-range high-capacity transit corridors identified in the regional transportation plan, Transportation 2040. The study areas differ greatly in the types and depth of improvements and programming needed to achieve the Partnership's vision of equitable transit communities. Local real estate markets also vary in their current ability to support this vision. One of the foundational steps in implementing a regional vision for transit-oriented growth and community development is identifying what actions are needed and which tools will work in these different contexts. One size does not fit all. The implementation framework described in Chapter II was developed in order to assist the Partnership and local jurisdictions in understanding key needs & opportunities in each of the study areas, so that the right tools and investments can be targeted to appropriate areas.

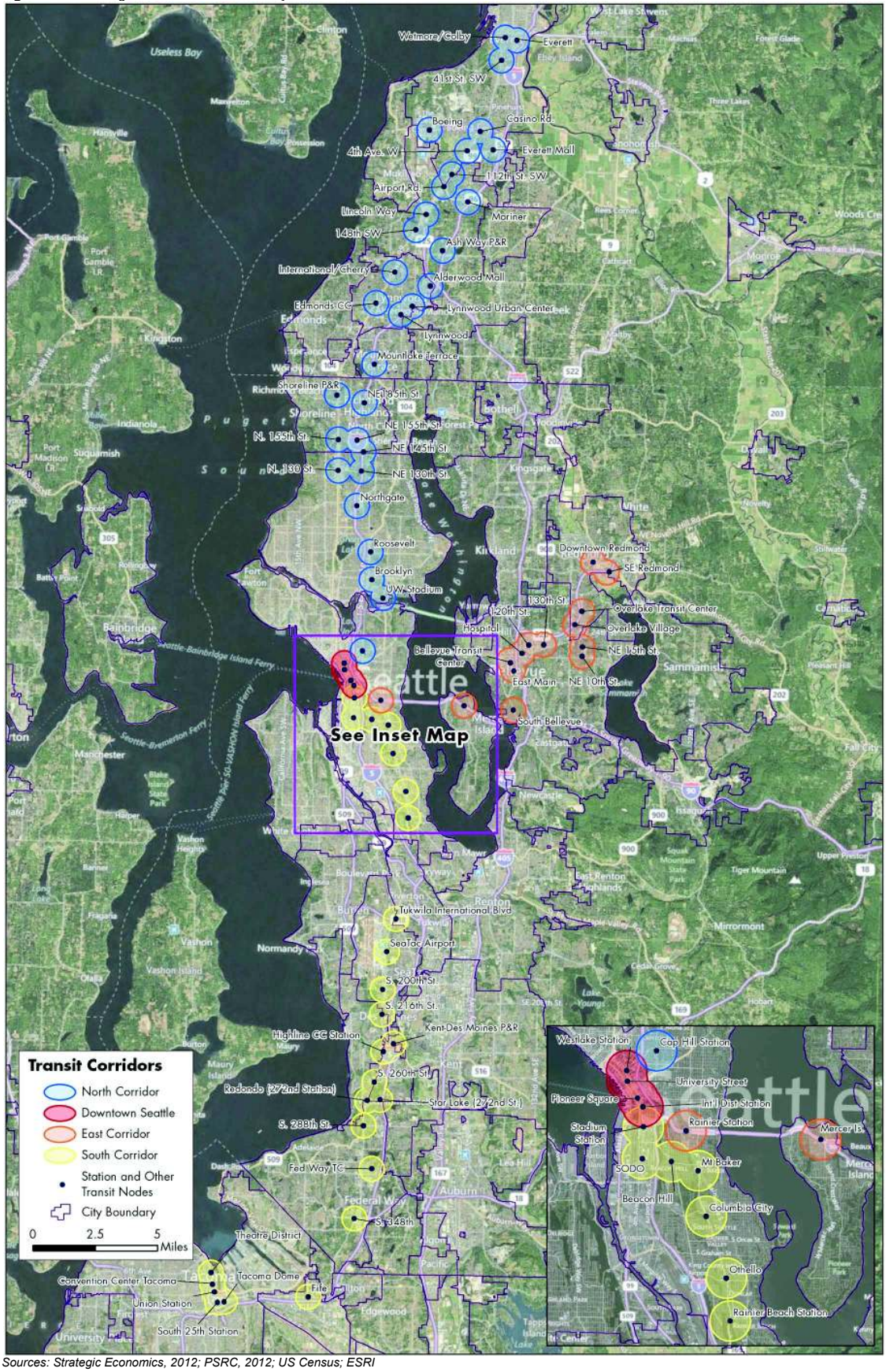
[1] Strategic Economics, an urban economics and planning consultancy, and Reconnecting America, a transit advocacy and research non-profit, have an ongoing partnership through the national Center for Transit-Oriented Development (TOD), and frequently collaborate on planning, policy and implementation efforts related to transit-oriented development.

A second foundational step is prioritization, both regarding which types of actions to take first and which locations to target for initial regional investment. The Partnership has successfully articulated an extensive list of actions, strategies and tools that support its three main goals:

- Accommodate more of the region's residential and employment growth near high capacity transit;
- Provide housing choices affordable to a full range of incomes near high capacity transit; and
- Increase access to opportunity for existing and future community members in transit communities.

Programs and activities that support these goals must be strategically prioritized in order to be advanced. Chapter II provides frameworks that clarify need and opportunity and make recommendations regarding priorities by study area. Chapter III makes recommendations regarding programs that may be advanced most effectively at the regional scale. Chapter IV makes recommendations to staff regarding additional steps to assist the Partnership in determining priorities and strategic program design.

Figure 1: Seattle Light Rail Corridors and Study Areas



Sources: Strategic Economics, 2012; PSRC, 2012; US Census; ESRI

III. IMPLEMENTATION NEEDS BY STUDY AREA

This chapter provides an overview of the key actions and appropriate tools for supporting growth of equitable transit communities in the study areas. The focus of implementation varies by study area. Actions and tools are grouped into four main areas of activity: real estate development intensification, transit-supportive public realm infrastructure, housing choice/affordability and community development. These categories broadly encompass the many kinds of improvements and programs needed to achieve the regional vision of equitable community growth discussed throughout the Growing Transit Communities Partnership coalition-building process.[2] The basic purpose of each area of activity is as follows:

- **Real estate development intensification**. As described in **Appendix A**, a robust body of academic research correlates higher intensity residential and commercial development with greater use of transit, particularly fixed guideway transit. Research also suggests that the most straight-forward way of improving access to jobs and other destinations while reducing travel time is to increase the number of households living within walking distance of light rail and bus rapid transit. Achievable densities will vary by market demand and local vision, but the majority of study areas should be able to support a greater intensity of residential development over time with new light rail and supporting public realm investments. Recommendations that fall under this category include regulatory reform, comprehensive station area planning, various types of transformative development projects, public real estate asset development and creation and use of funding mechanisms and finance tools that leverage higher density development.

- **Transit-supportive public realm infrastructure.** The quality of the walking environment is critical to the use of transit and general neighborhood vitality and safety. Many GTC study areas outside of the urban cores and historic downtowns have basic deficits in sidewalk capacity, safety and frequency of pedestrian crossings, street connectivity, and bike access. For Puget Sound communities to benefit from transit investment, commercial arterials and suburban neighborhoods that were designed around use of cars must be retrofitted to support higher density development and walking or biking to transit. Other prominent regional sustainability programs such as the Bay Area's Transportation for Livable Communities program have focused on these types of improvements. Study area recommendations that fall under this category include identification and prioritization of key pedestrian improvements, feasibility assessment and use of funding mechanisms appropriate to local market conditions, linkage of adjacent public realm improvements to real estate development projects and attraction of outside subsidy to more significant projects.

- **Housing choice / affordability**. The GTC Partnership's vision for growth near transit includes housing opportunity for households at all income levels, and particularly, to ensure that existing lower-income residents are not compelled to re-locate away from their communities should local rents accelerate with new investment. As discussed in previous reports, this is critical given that lower-income households are more likely to use transit and because the lower cost of transit, in comparison with vehicle ownership, offers greater value to households with less income. The new Link light rail lines will also expand access to a wider range of employment options for existing and new lower-

[2] These categories are in keeping with the three framework goals identified through the stakeholder process: accommodate growth, provide affordable housing choices and increase access to opportunity. Strategic Economics has distinguished between real estate development intensification and public realm infrastructure because these are distinct areas of activity from an implementation perspective, and because the need to improve suburban walking environments alongside of new higher density development is often overlooked given insufficient funding sources and tools.

income households along the corridor. The inclusive housing implementation strategies recommended here differ based on the housing need, real estate market strength and access to job and educational opportunity found in each study area. Recommendations include:

  - Inclusionary strategies that extract value from new market-rate development in locations with established markets for higher density housing. For example, density bonus programs or facilitated developer agreements to build low and moderate-income housing into new projects.
  - Priority targeting of local and new regional subsidy to study areas with high opportunity or where accelerating real estate markets are likely to displace current residents in the near future. Recommended new regional subsidy tools, discussed in Chapter III, include development of an equitable TOD financing gap fund.
  - Attraction of subsidized *catalytic* affordable mixed-use projects to areas with weak markets for higher-density housing and low opportunity. Such projects would include ground-floor uses that expand community access to employment, educational, or health opportunities, or expanding needed commercial services, while also pioneering higher-density development types.

- **Community development.** Many study areas include commercial districts and neighborhoods where community development and revitalization activities will be needed in order for residents and businesses to fully reap the benefits of the light rail investment and grow as transit communities. Broadly defined, community development is the process of helping a community to strengthen itself and support its residents and businesses in achieving their full potential. The Partnership has been referring to this area of need as improving access to opportunity. Potential programs and improvements include a variety of economic development strategies, including workforce development and small business assistance, and expansion of community, health and/or educational services and facilities.

Given the diversity of physical form, social and economic conditions, and level of market support for higher density development across the Puget Sound region, the study areas differ in their need for support or improvement in each of these areas. While it is beyond the scope of the regional GTC Partnership effort to proscribe detailed implementation strategies for each of the 74 study areas, this chapter lays out an implementation framework that sorts the study areas into eight categories of approaches to implementation that generally fit their local context and provide guidance on key priorities and tools for each area.

A. ANALYTIC CONTEXT

Strategic Economics has divided the study areas into eight groups that suggest similar approaches to implementation. These groupings were derived by adapting the transit community typology developed with GTC stakeholders so that it groups study areas by those characteristics that determine what kinds of support and investment are needed.[3] This typology, developed with support from staff and the Center for TOD and described in detail in **Appendix B**, is comprised of two sets of analytics evaluating the study areas based on characteristics of people and place. The "people" analytics measure the degree to which a transit community's social infrastructure supports residents so that they may succeed and thrive, as well

[3] Place types are categorizations of a large number of places (e.g. station areas, communities, or districts) based on shared characteristics. A given *typology* – or system employing the use of place types – can include anywhere from 3 to 15 unique place types and an average typology has 5 to 7 place types. The characteristics of communities falling within a given place type can help illuminate shared issues or barriers, strategies to overcome these barriers, typical or desired performance on a range of measures, and particular types of investments that are needed.

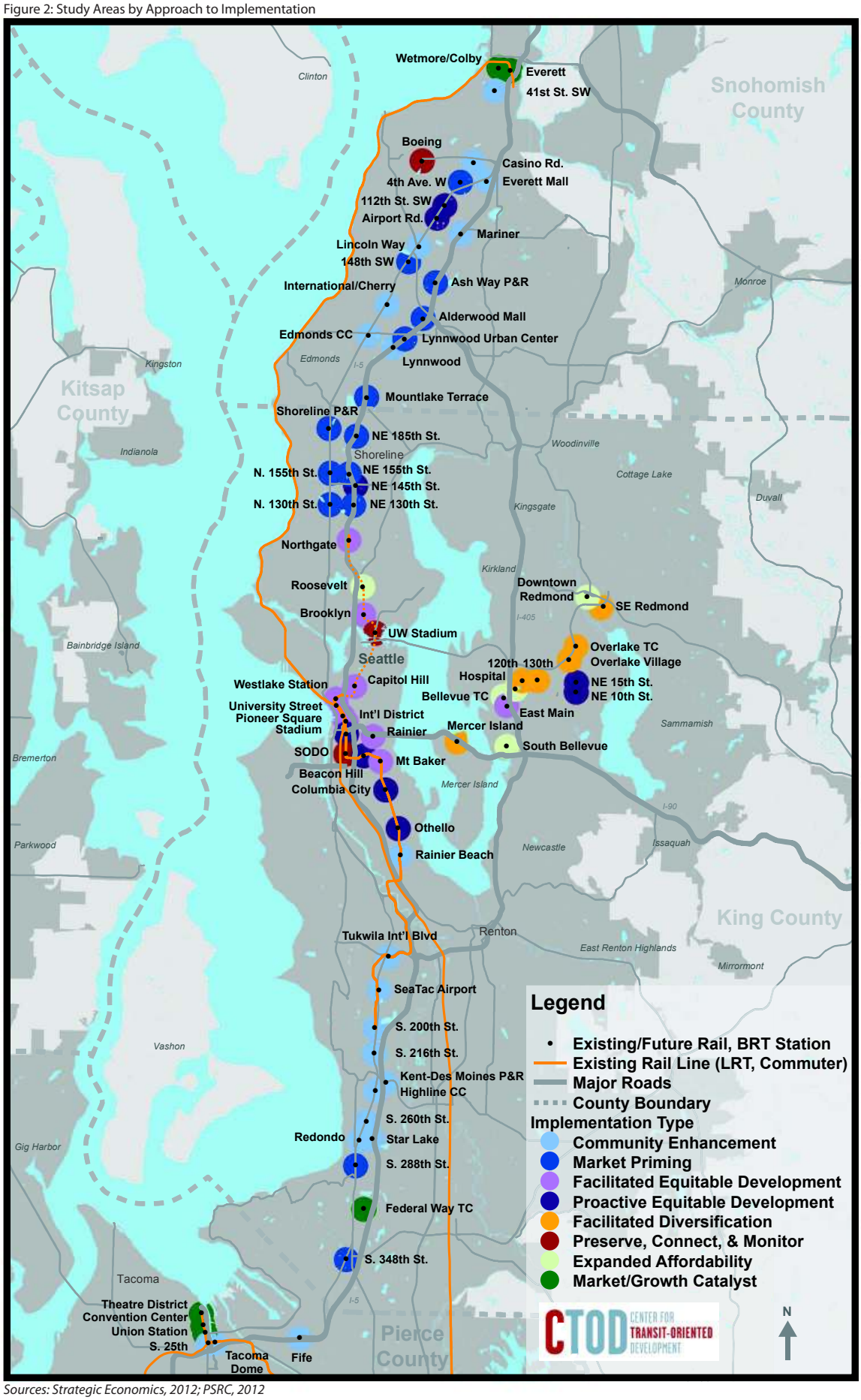
as the likelihood that growth pressures will present a risk of displacement. The "place" analytics measure the degree to which a transit community's physical form and activity support dense development and walking, as well as the strength of the local market for higher-density residential development. Based on scoring across these four measures, Strategic Economics worked with GTC staff to combine study areas into groups with broadly similar needs and opportunities, suggesting the same approaches to implementation.

B. APPROACHES TO IMPLEMENTATION

Strategic Economics recommends the eight following approaches to implementation in the study areas: *community enhancement*, *market priming*, *facilitated equitable development*, *pro-active equitable development*, *facilitated diversification*, *market/growth catalyst*, *expanded affordability* and *preserve, connect and monitor*. Each of these implementation approaches, their focus and the characteristics of study areas included each approach is explained below and includes prioritized strategies for real estate development intensification, transit-supportive public realm infrastructure, housing choice / affordability, and community development. Lead and supporting actors in implementing each strategy are also identified, where possible. Each approach represents a generalized description of best practice as it relates to each of the station area types. Within the region currently, some of the strategies will already have been adopted in part or whole within selected station areas. The approaches are intended to provide guidance both to communities with a recent history of planning for and implementing TOD as well as to communities for whom these strategies are new.

Figure 2 on the following page maps the study areas by approach to implementation so the reader can see how they are distributed. For many of the actions recommended here to be implemented at the local level, new supporting county, regional or state-level tools or policy changes will need to be developed; these broader changes and initiatives are described in Chapter III.

Figure 2: Study Areas by Approach to Implementation



Sources: Strategic Economics, 2012; PSRC, 2012

Implementation Approach #1: Community Enhancement

The *community enhancement* approach focuses on community development strategies and facilities that expand opportunity and social activity. There are 21 study areas, including five current stations, whose characteristics point to this approach to implementation. Located in the South and far North corridor, these are long-term opportunity areas facing many challenges to implementing TOD given their auto-oriented environments, weak markets, and limited access to opportunity.

Study areas included in this category are as follows: the North Corridor - Lynnwood Transit Center, Edmonds Community College, International/Cherry, Mariner, Lincoln Way, Everett Mall, Casino Road, 41st St SW; the South Corridor - **Rainier Beach, Tukwila International Blvd, SeaTac Airport**, S 200th St, S 216th St, Kent-Des Moines P&R, Highline Community College, S 260th St, Redondo, Star Lake, Fife, **Tacoma Dome, South 25th St**. Boldface indicates current stations.

Community Development

Community development strategies should be top priority for these study areas. While they all have significant deficits in access to opportunity, closer assessment is needed to understand each area's particular challenges and community priorities for investment.

- **Implementation Priority #1:** Community needs assessment regarding economic, health, education, housing and community services and outreach regarding local priorities for enhancement. Identify partners, subsidy sources and implement programs to meet priority needs. *Potential lead actor: PSRC or local jurisdiction as convener, supporting actors: key stakeholders and providers in particular area of opportunity.*

Development Intensification & Housing Choice / Affordability

Community enhancement study areas are unlikely to attract new higher density development in the near-term (0 to 5 years) or even mid-term (5 to 15 years) without subsidy. While they currently have plentiful affordable *market-rate* housing, with a few exceptions most have relatively little permanent, high-quality, income-restricted housing. Other locations with weak or non-existent multi-family markets, such as the Ohlone-Chenowyth light rail station in San Jose, California, have succeeded in priming the market for higher density, market-rate units by building high-quality permanently affordable projects that begin to establish a more urban context for development while building long-term affordability. Subsidized mixed-use projects can also include ground-floor uses that expand community access to employment, educational, or health opportunities, or needed commercial services.

- **Implementation Priority #2**: Develop transformative, mixed-use, affordable housing projects (i.e. tax-credit projects) with anchor community, educational/vocational or health facilities that can pioneer higher-density construction types. Formulate and implement strategy to attract grant and low-cost investment. *Actors: local jurisdiction, partner institutions, housing non-profits, county housing finance agencies, community development finance institutions.*
- Implementation Action: Tailor zoning/development controls to better support use of transit and attract investment; streamline permitting and approval processes to minimize regulatory burden. *Lead actor: local jurisdiction, supporting actors: PSRC may recommend a range of target densities for various place types, sustainability and affordable housing advocacy groups can support regional goals by participating in local adoption processes*.

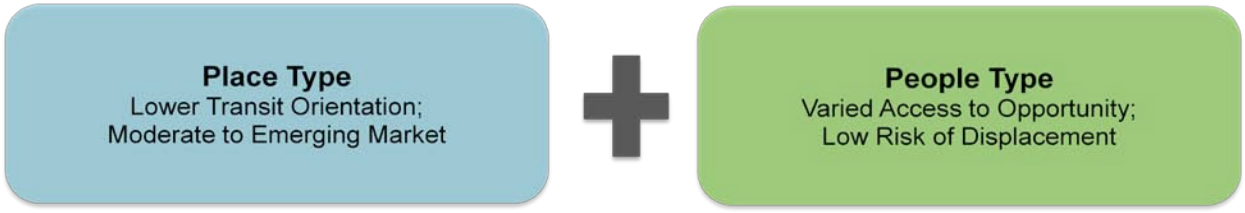
Transit-supportive Public Realm Infrastructure

At the same time that these study areas have significant need for pedestrian improvements, their weak markets make local funding mechanisms that extract value from new development or rising property values infeasible. Such improvements should be prioritized for local capital improvement project budgets; depending on the degree of development capacity in the area and impact of proposed improvements (see **Chapter IV: Next Steps**), these areas may be prioritized for regional transportation enhancement funding.

- Implementation Action: Develop a list of pedestrian, multi-modal access and transit-linked public space improvements. Identify one to two top priority investments linked to the anchor project that are most likely to positively impact vitality, formulate & implement funding strategy. *Actors: local jurisdiction, transit agencies, PSRC.*

Implementation Approach #2: Market Priming

Study areas in need of *market priming* would benefit from comprehensive planning and key infrastructure improvements in order to attract pioneering, market rate TOD. Found primarily in the mid-North corridor, 14 study areas fall into this category of implementation approach, none of them current stations. These are mid-term opportunity areas with moderate to emerging markets and weaker urban form.



Study areas included in this category are as follows: the North Corridor - N 155th St, NE 185th St, Shoreline P&R, Mountlake Terrace, Lynnwood Urban Center, 4th Ave W, NE 155th St, Alderwood Mall, NE 130th Street, N 130th Street, Ash Way, 148th Street SW; the South Corridor - S 288th St, S 348th St.

Development Intensification & Transit-supportive Public Realm Infrastructure

These study areas need comprehensive station area planning that addresses land use, urban design, and multi-modal access and defines a pathway for successful higher-density real estate investment. While the market in these locations is stronger than in those study areas requiring a community enhancement approach, it is still just beginning to emerge. Jurisdictions that wish to attract TOD must do the outreach and educational work necessary to build acceptance for density and identify community priorities, as well as devising funding strategies to pay for the necessary supporting improvements to the public realm that benefit everyone. Depending on the study area, community development needs may also require evaluation and integration into the planning process.

- **Implementation Priority #1:** Comprehensive station area planning to guide and integrate high-quality real estate and public realm development. *Lead actor: local jurisdiction, supporting actors: transit agencies, community and advocacy groups, property owners, PSRC.*
- **Implementation Priority #2:** Adoption of zoning/development controls to better support use of transit; expedition of approvals and elimination of discretionary review for development that fulfills station area planning requirements. *Actor: local jurisdiction.*
- **Implementation Priority #3:** Determine and pursue funding strategy for priority public realm improvements identified through plan. Study areas requiring market priming should be priority locations for use of tax-increment finance, which captures additional tax increment from rising property values for local investment. Where financially feasible, pedestrian and public space improvements should be required of real estate development projects. Perform feasibility studies to determine appropriate local funding mechanisms, as necessary. *Lead actor: local jurisdiction, supporting actors: property and business owners, developers, PSRC.*

Housing Choice / Affordability

Communities in this category are currently at low risk of residential displacement; however, this may change over time if the local real estate market accelerates with light rail investment in the 2020s.

- Implementation Action: Maintain housing affordability; monitor housing market and affordability to lower income households. *Actors: local jurisdiction and PSRC.*

Community Development

Communities in study areas in need of market priming have varied access to economic, educational and other areas of opportunity.

- Implementation Action: Where called for, include detailed assessment of community needs, additional outreach to appropriate stakeholders & integrate appropriate strategies into station area planning. Form coalitions to address identified deficits in economic, health, education, housing and community services. *Lead actor: local jurisdiction, supporting actors: key stakeholders and providers in particular area of opportunity.*

Implementation Approach #3: Facilitated Equitable Development

Implementation activity in these study areas should focus on enabling & leveraging a strong market for growth and broad affordability. Study areas in need of facilitated equitable development are either current or future diverse mixed-use centers with good access to opportunity and emerging to strong markets for higher density development. Some are at high risk of displacement; others have significant subsidized housing but will still have difficulty meeting demand from lower income households given the desirability of these locations. There are 10 study areas including five current stations in this category; they are located in central Seattle and the inner portions of the light rail corridors.

Study areas included in this category are as follows: Central Seattle - **Westlake, University St, Pioneer Square, International District**; East Corridor - Rainier Station, East Main. North Corridor: Capitol Hill, Brooklyn, Northgate; South Corridor - **Mount Baker**. Boldface indicates current stations. Unlike the other study areas in this category, Rainier and Mount Baker station areas are not currently diverse mixed-use regional centers, but have strong potential to become such places given their locations and excess development capacity. These two study areas will need more comprehensive planning, as well as greater investment in public realm and transportation improvements.

Housing choice / Affordability

Households in these locations display demographic and economic characteristics of communities at higher risk of displacement of existing residents. While the five Downtown Seattle station areas have a large number of subsidized affordable housing units (1,500 per study area on average) which provides a bulwark against displacement of existing extremely and very low income households, there is high demand from households at all income levels to live in these job and service-rich locations, including low and moderate-income households that cannot afford market-rate housing and do not qualify for subsidized units.

- **Implementation Priority #1:** Inclusionary strategies that leverage market-rate investment to build low to moderate income units (e.g. density bonus programs, inclusionary housing requirements, facilitated development agreements, joint development where public assets exists, value capture tools aimed at affordability). *Lead actor: local jurisdiction, supporting actors: developers, property owners, sustainability and affordable housing advocacy groups can participate in local adoption processes.*
- **Implementation Priority #2:** On-going targeting of new subsidy investments to these high opportunity locations. *Actors: Local, county and state housing finance agencies, supporting actors: affordable housing advocacy groups and non-profit housing developers.*

Development Intensification & Transit-supportive Public Realm Infrastructure

These station areas vary in their need for community outreach and regulatory reform to support development intensification, as well as the degree of investment needed in the public realm to support new higher-density development. Given the strength of the market in most locations, value capture tools should be a viable means to pay for needed planning and improvements unless such investments are at such as scale as to be regionally significant.

- **Implementation Priority #3:** Tailor zoning and development controls around transit, i.e. reducing parking requirements, integrating housing into employment areas, and requiring active ground floors. *Actor: local jurisdiction, supporting actors: PSRC may recommend a range of*

target densities for various place types, sustainability and affordable housing advocacy groups can support regional goals by participating in local adoption processes.

- Implementation Action: Identify and develop a public real estate asset disposition and intensification strategy to help facilitate development objectives, including affordable housing. *Lead actors: Public agencies with real estate holdings; supporting actors: sustainability and affordable housing advocacy groups.*
- **Implementation Priority #4:** Use of value capture tools (e.g. local improvement districts, density bonus programs and development agreements) to support pedestrian, multi-modal access, and public space improvements. Funding of feasibility studies necessary to determine viability of such strategies and identify path to implementation. *Lead actor: local jurisdiction, supporting actors: property and business owners, developers, PSRC.*
- Implementation Action: Attraction of state and federal discretionary funding sources for projects of regional significance. *Lead actor: local jurisdiction, supporting actors: legislative representatives.*

Community Development

These areas generally provide a high level of local opportunity to residents and businesses, but may need strategic investments over time to maintain their vitality.

- Implementation Action: Economic development policies and incentives that retain and expand jobs in these key employment centers. *Lead actor: local jurisdiction, supporting actors: business owners.*
- Implementation Action: On-going targeting of supportive social and health services to these activity centers. *Actors: local, county and state community services agencies.*
- Implementation Action: Evaluation of pipeline development and growth trends among households with children to ensure adequate educational access in growth centers. *Lead actor: school districts, supporting actors: city or PSRC demographers.*

Implementation Approach #4: Proactive Equitable Development

The *proactive equitable development* approach focuses on supporting an emerging market for higher-density development while preserving affordability & leveraging community benefits from growth. These places are in transition with accelerating markets and diverse communities at risk of displacement and require a more proactive approach to equitable growth. There are nine such study areas, including four current stations located in Southeast Seattle.

Study areas included in this category are as follows: East Corridor - NE 15th Street, NE 10th Street; North Corridor - Airport Road, 112th Street SW, NE 145th Street; South Corridor - **Stadium Station, Beacon Hill, Columbia City, Othello**. Boldface indicates current stations.

Development Intensification & Housing Choice / Affordability

Similar to study areas in need of market priming, these areas are in need of comprehensive station area planning, but these efforts should focus on housing needs & community development, in addition to guidance of real estate and public realm investment.

- **Implementation Priority #1:** Comprehensive station area planning to outreach to local communities, guide and integrate high-quality real estate and public realm development, identify housing and community development needs and priorities and steps towards implementation. Include development feasibility assessment to determine whether development can pay for additional community benefits. *Lead actor: local jurisdiction, supporting actors: transit agencies, community and advocacy groups, property owners, PSRC.*
- **Implementation Priority #2:** Adoption of zoning/development controls to better support use of transit; expedition of approvals and elimination of discretionary review for development that fulfills station area planning requirements. *Lead actor: local jurisdiction.*
- **Implementation Priority #3:** Multi-pronged housing affordability strategy: priority target for equitable TOD site acquisition or gap finance tool; priority subsidy target; evaluation of preservation opportunities; inclusionary strategies where feasible. *Actors: local jurisdiction, housing finance agencies, community development finance institutions, foundations, housing advocacy groups and non-profit housing developers.*

Community Development

Communities in study areas in need of proactive equitable growth have varied access to opportunity.

- Implementation Action: Where called for, include assessment of community development needs in station area planning, perform additional outreach to appropriate stakeholders & integrate appropriate strategies into plan. Form coalitions to address identified deficits in economic, health, education, housing and community services. *Lead actor: local jurisdiction, supporting actors: key stakeholders and providers in particular area of opportunity.*

Transit-supportive Public Realm Infrastructure

Study areas vary in the degree of improvement needed in the walking environment to support use of transit.

- Implementation Action: Through station area planning process, develop a priority list of pedestrian, multi-modal access and transit-linked public space improvements. *Actors: local jurisdiction and transit agencies.*

- Implementation Action: Priority target area for tax increment finance tool. Other value capture tools where feasible. Funding of feasibility studies necessary to determine viability of such strategies and identify path to implementation. *Lead actor: local jurisdiction, supporting actors: property and business owners, developers, PSRC.*

Implementation Approach #5: Facilitated Diversification

The *facilitated diversification* approach to implementation focuses on leveraging a stronger market to diversify land uses, make public realm improvements and expand affordability. These study areas are currently either employment uses or single-family neighborhoods with little mixing of uses and low intensity of development. They also have limited housing choice, either through lack of housing or affordability. At the same time, they have stronger markets for TOD and near-term potential to grow as equitable transit communities; several are poised for transformation via recent planning efforts. There are six study areas with no current stations in this category of implementation approach, all of which are in the East Corridor.

Study areas included in this category: East Corridor - Mercer Island, 120th Station, 130th Station, Overlake Transit Center, Overlake Village, SE Redmond. While the study areas that include primarily single-family neighborhoods, such as Mercer Island, will have different community visions given the difference in capacity for change, the following strategies and tools are still recommended given these areas needs and opportunities.

Development Intensification

These study areas require comprehensive station area planning that addresses integration of uses, urban design, and multi-modal access and defines a strategy for creation of affordable housing.

- **Implementation Priority #1:** Comprehensive station area planning to outreach to local communities, guide and integrate high-quality real estate and public realm development and identify strategies for provision of affordable housing and steps towards implementation. *Lead actor: local jurisdiction, supporting actors: transit agencies, community and advocacy groups, property owners, PSRC.*
- **Implementation Priority #2:** Adoption of zoning/development controls to better support use of transit; expedition of approvals and elimination of discretionary review for development that fulfills station area planning requirements. *Actor: local jurisdiction.*

Transit-supportive Public Realm Infrastructure & Housing Choice / Affordability

Tools that capture value generated by new development and rising property values to help pay for public realm improvements and affordable housing are needed to ensure equitable access to new transit investments in these areas.

- **Implementation Priority #3:** Use of value capture tools (i.e. local improvement districts, density bonus programs and development agreements) to support pedestrian, multi-modal access, and public space improvements. Funding of feasibility studies necessary to determine viability of such strategies and identify path to implementation. *Lead actor: local jurisdiction, supporting actors: property and business owners, developers, PSRC.*
- **Implementation Priority #4:** Inclusionary housing strategies that leverage market-rate investment to build low to moderate income units (i.e. density bonus programs, inclusionary housing requirements, facilitated development agreements, joint development where public assets exists, value capture tools aimed at affordability). *Actor: city, supporting actors: developers, property owners, sustainability and affordable housing advocacy groups can participate in local adoption processes.*

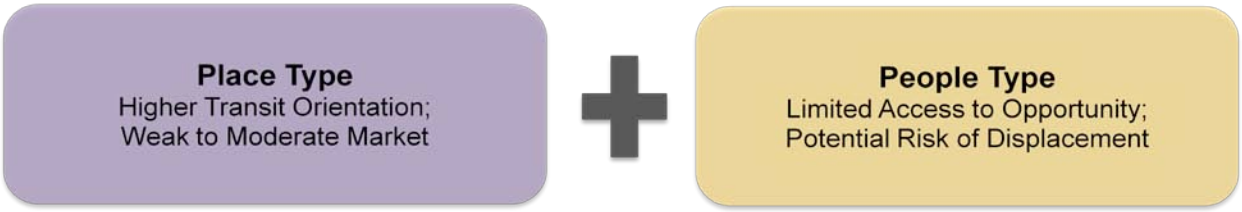
Community Development

These study areas have good access to opportunity and may need little in the way of community development investments other than assuring continued adequate services for new households.

- Implementation Action: Ensure adequate commercial, open space and community services for new households via station area planning process. *Actor: local jurisdiction.*

Implementation Approach #6: Market/Growth Catalyst

The *market/growth catalyst* implementation approach focuses on economic development strategies and investments to expand the local job base, fulfill development potential and expand opportunity. Study areas in need of this approach are largely older city centers that have good urban form, but moderate markets for TOD. As smaller employment clusters at the terminus of the light rail corridors, they are regional priority areas for job expansion and renewal. There are six study areas, including three current stations located in downtown Tacoma and Everett, in this category of implementation approach.



Study areas included in this category: North Corridor - Wetmore/Colby, Everett Station; South Corridor - Federal Way TC, **Union Station, Convention Center Tacoma, Theatre District.** Boldface indicates current stations. Federal Way Transit Center differs from the other study areas in that it is a local activity center rather than a regional job center and will need significant pedestrian realm improvements to support use of transit.

Community Development & Development Intensification

With the exception of Federal Way TC, market/growth catalyst study areas have physical environments that are supportive of higher density development and walking. They have moderate market demand but are not in close proximity to the major central job concentrations that drive market demand for housing and provide local employment opportunity. Both Tacoma and Everett have had success in attracting leading employers in industries that prefer transit-rich locations (education and medicine). Development policies, institutional partnerships and job retention and attraction incentives that build on this success to expand the local job base should be pursued.

- **Implementation Priority #1**: Regional priority areas for job expansion and renewal. Economic development policies and incentives that retain and expand jobs in these smaller employment centers. *Actors: local jurisdictions, PSRC, institutions, business leaders.*
- **Implementation Priority #2**: Identify transformative development projects with job-generating ground-floor uses and opportunities for long-term investment by key public and private partners. Formulate investment strategy. *Actors: local institutions, partner institutions.*

Transit-supportive Public Realm Infrastructure

- Implementation Action: Priority target areas for tax increment finance tools. Prioritized improvements should link catalytic development projects to light rail. *Lead actor: local jurisdiction, supporting actors: property and business owners, developers, PSRC.*
- Implementation Action: Attraction of state and federal discretionary funding sources for more broadly significant projects. *Lead actor: local jurisdiction, PSRC, supporting actors: legislative representatives.*

Housing Choice / Affordability

These areas currently provide both more permanent affordable housing than most other study areas outside of Seattle and a fair amount of market-rate housing choice. Should the market accelerate, these areas may over time be at risk for displacement.

- Implementation Action: Target subsidy investments to mixed-use projects driven by commercial uses. *Lead actors: Housing finance agencies, supporting actors: affordable housing advocacy groups and non-profit housing developers*

Implementation Approach #7: Expanded Affordability

Implementation of the GTC regional vision in these areas should focus on capturing value from strong markets and targeting of subsidy to expand affordability. These places are highly desirable, walkable neighborhoods or centers with greater access to economic and educational opportunity. At the same time, market-rate housing is unaffordable to lower income households and there is relatively little subsidized housing. There are five study areas and no current stations that call for priority expansion of affordability; these study areas are located in the East Corridor and North Seattle.

Study areas included in this category: East Corridor - South Bellevue, Bellevue Transit Center, Hospital, Downtown Redmond; North Corridor - Roosevelt. Unlike the other study areas in this category, South Bellevue has lower transit orientation as it is made up equally of a single family neighborhood and the Mercer Slough. Given its limited in-fill development opportunity, however, significant planning efforts or public realm improvements to support density are lower priority. The area's current lack of permanent or market-rate affordable housing, as well as its wealth of community opportunity make inclusion of affordable housing GTC's top priority for the study area.

Housing Choice / Affordability

These study areas provide great access to economic, educational and other opportunity and are highly desirable places to live. Their strong markets also provide opportunity for leveraging value from new development toward affordable housing. Both inclusionary strategies that capture market value to build affordability for lower and moderate income households and targeting of subsidy for extremely low & very low income households should be prioritized.

- **Implementation Priority #1**: Inclusionary strategies that leverage market-rate investment (i.e. density bonus programs, inclusionary housing requirements, facilitated development agreements, joint development where public assets exists). *Lead actor: local jurisdiction, supporting actors: sustainability and affordable housing advocacy groups can participate in local adoption processes.*
- **Implementation Priority #2:** Targeting of new subsidy investments for extremely low and very low income housing. *Lead actor: housing finance agencies, supporting actors: affordable housing advocacy groups and non-profit housing developers.*

Development Intensification

- Implementation Action: Tailor zoning and development controls around transit, i.e. reducing parking requirements, integrating housing into employment areas, and requiring active ground floors. *Lead actor: local jurisdiction, supporting actors: PSRC may recommend a range of target densities for various place types, sustainability and affordable housing advocacy groups can support regional goals by participating in local adoption processes.*
- Implementation Action: Identify and develop a public real estate asset disposition and intensification strategy to help facilitate development objectives, prioritizing affordable housing. *Actors: Public agencies with real estate holdings; supporting actors: sustainability and affordable housing advocacy groups can support intensified use of public assets with equity components.*

Transit-supportive Public Realm Infrastructure

- Implementation Action: Use of value capture tools (i.e. local improvement districts, density bonus programs and development agreements) as needed to support pedestrian, multi-modal access, and public space improvements. Funding of feasibility studies necessary to determine viability of such strategies and identify path to implementation. *Lead actor: local jurisdiction, supporting actors: property and business owners, developers, PSRC.*

Community Development

- Implementation Action: Provision of supportive services with expansion of housing choice. *Actors: local jurisdiction, funding agencies, social service providers, affordable housing advocacy groups and non-profit housing developers.*

Implementation Approach #8: Preserve, Monitor & Connect

This implementation approach preserves the existing job base in regional industrial or institutional employment centers that perform a vital role in Puget Sound's economy. The introduction of housing in these areas may harm job opportunity and is not recommended. Transit access improvements are needed where appropriate to support commuting by light rail. Study areas requiring preservation, monitoring and connection include Boeing, UW Stadium & SODO.

SODO & Boeing stations are currently lower and moderate intensity industrial employment centers with key roles in the regional economy; UW Stadium is a mixed lower and higher intensity institutional job center and entertainment destination with limited opportunity for intensification. Transitioning these locations to mixed transit-supportive uses and densities would involve displacement of industrial firms and jobs and other current regional uses, which are generally incompatible with intense development. Conversion of these industrial and institutional uses to transit-supportive uses and densities is inconsistent with adopted regional and local policy. As regional manufacturing and educational centers, transportation access to these opportunity-rich areas is important to the regional economy.

Transit-supportive Public Realm Infrastructure

- **Implementation Priority #1**: Strategies to improve local and regional transit access for commuters should be strengthened. *Lead actor: local jurisdiction, supporting actors: transit agencies, local employers and PSRC.*

IV. REGIONAL PROGRAM RECOMMENDATIONS

Local implementation of many of the activities described in the previous chapter necessitates regional and state-level coordination and support, including steering of existing funding sources toward study areas, creation of new funding programs and development of new local funding mechanisms. This chapter recommends a variety of policy changes and new programs needed to support growth of equitable transit communities in the Puget Sound region. A few of these recommendations, including creation of a tax-increment finance and other value capture funding mechanisms and targeted regional equitable housing fund, are already underway as part of the GTC Partnership effort. Recommendations are organized by the same four categories of improvement or program used for discussion of the implementation approach by study area: real estate development intensification, transit-supportive public realm improvements, housing choice / affordability and community development.

DEVELOPMENT INTENSIFICATION

Development and adoption of zoning and land use regulations are a local responsibility. Policies at the state, multicounty, and countywide levels provide the overall growth framework and guidance to local jurisdictions. For example, the State Growth Management Act and PSRC's VISION 2040 call for compact growth in urban areas and centers. Local regulations accommodate that growth through regionally established targets, from which local jurisdictions determine growth areas within their boundaries and work with neighborhoods to achieve sufficient growth capacity. At the regional level, however, grant and technical assistance programs that support targeted growth near light rail can help local governments attract and improve new higher-density development in the study areas. Funding of transit expansion and transit-related improvements may also be made contingent on progress toward regulation that allows higher-density growth. The following three programs are recommended; all three are for lead implementation by the Metropolitan Planning Organization, Puget Sound Regional Council.

Education and Outreach: Peer-based sharing and technical assistance

Building community support for TOD can be challenging, particularly in suburban communities that have not previously had higher-density development. PSRC can assist local government planners in this work by initiating low or no-cost activities such as peer information exchanges or partnering with non-governmental associations and member jurisdictions to produce educational materials that can be used during local outreach processes. Denver Regional Council of Governments created a TOD educational program that includes a Planner Idea Exchange, website (http://tod.drcog.org/), TOD Best Practices workshop series, and a "Who is TOD in Metro Denver?" study. The workshop series is largely an Urban Land Institute project, with assistance from DRCOG; the TOD study was paid for with contributions from local governments and one developer; the cost of the Planner Idea Exchange is the price of a dozen bagels. **It is recommended that, at minimum, PSRC initiate an on-going peer networking exchange for staff at cities working on GTC study areas.**

PSRC could also provide targeted technical support to local jurisdictions, looking to its existing resources as a means of better supporting local planning.[4] Through the recession and fiscal retrenchment, many jurisdictions have lost planners and other staff and may not recover capacity for some time. PSRC has extensive regional data resources and considerable staff expertise in use and analysis of this data and

[4] Other MPOs have developed specialized areas of technical assistance depending on their particular regional or state needs. The State of Georgia has administrative requirements for use of grants including federal transportation funding that can be overly burdensome for small transportation enhancement projects. The Atlanta Regional Commission has hired an engineer to conduct design review for local jurisdictions and a project manager to act as a liaison to the state department of transportation for advancement of projects within their Livable Centers Initiative.

could expand the support it provides to its members to include analysis targeted to the GTC study areas that is relevant to understanding development potential and community needs (e.g. demographic, economic and real estate trends and benchmarks).

Comprehensive Station Area Planning & Funding Strategy Grants

Many GTC study areas are in strong need of comprehensive station area planning in order to identify, integrate and prioritize many inter-related improvements and programs. *Market priming*, *proactive equitable development* and *facilitated diversification* approaches to implementation all hinge on a strong framework plan. Together these approaches apply to 30 study areas, including four current stations and an additional six slated for construction by 2030. Some of these areas have either recently had or will soon be undergoing comprehensive planning. However, many still need a framework plan that integrates physical and community development needs and goals into a single vision. Others need supporting feasibility assessment that identifies appropriate tools and resources for implementing these goals and reducing barriers to development.

Several other leading regional TOD or sustainable development programs have local station area planning as a primary objective and funding use, including the Bay Area and Atlanta. After an initial phase of issuing many smaller technical assistance grants for design of individual capital projects, the Bay Area Transportation for Livable Communities (TLC) program shifted its emphasis to one or two large comprehensive station area planning grants of up to $750,000 per year that encompass environmental review and implementation strategies. Other metropolitan planning organizations (MPOs), such as the Twin Cities Met Council and Portland Metro fund development feasibility and funding strategy studies of up to $100,000 each as part of their TOD or sustainable development programs. The intent behind these grant programs is not just to pay for development of visions and plans but to assist jurisdictions in determining how plans will be implemented and initiate the process of doing so.

Strategic Economics recommends that PSRC develop a station area planning and funding strategy grant program as a first priority of the GTC initiative. Station area planning grants should explicitly require funding strategy components, so that jurisdictions have a road map for implementation of plans. Study areas that need *market priming*, *proactive equitable development* and *facilitated diversification* approaches to implementation and where stations will be built by 2030 should be prioritized for the first five years of the program.[5] Many federal transportation funding sources allocated through PSRC's Unified Planning Work Program may be used for transportation-related planning, including station area plans, market studies, station access studies, and technical assistance programs, and should be evaluated as potential funding sources.[6] Other metropolitan planning organizations that have included transportation-related land use planning as a major component of their regional sustainable development programs have allocated between approximately $1 and $2 million annually to this use.

Local Development Regulation Guidelines or Requirements

GTC grant programs should be directed towards jurisdictions that demonstrate need, progress and commitment toward achieving the programs' main goals: accommodating growth, expanding housing affordability and increasing access to opportunity in the study areas. A balance should be struck between rewarding larger jurisdictions that are making progress toward achieving GTC goals in part due to historic

[5] Some study areas within the *facilitated equitable development* approach, such as Rainier study area, may also be prioritized for grants.

[6] Transportation planning funding sources allocated through the UPWS include Federal Highway Administration Planning grants, Federal Transit Administration Planning Grants, State Regional Transportation Planning Organization Planning & Long-range Planning Grants, Special Award Planning Grants, and Non-Federal Match.

land use patterns and stronger markets and incentivizing and supporting smaller suburban jurisdictions that face significant challenges to implementing equitable TOD. For this reason and based on best practices (see **Appendix A**, pages six to seven), **Strategic Economics recommends that PSRC work with local jurisdictions to develop a forward-looking range of minimum regulatory density thresholds that acknowledges the significant difference in potential between study areas.**

Currently, PSRC's guide to station area planning recommends residential densities of 10 to 20 dwelling units per gross acre and a minimum employment density of 50 jobs per acre. Other MPOs have created residential density targets that vary for urban cores, city centers and suburban centers (see below). Strategic Economics recommends a similar approach for the GTC program: development of minimum zoned density thresholds that vary by basic place type and that are among a range of criteria for grant applicants.

Figure 3. Sample of Gross Residential Densities from Station Area Planning Guidelines

	Urban Core (Downtown)	City Center	Suburban Center
MTC Station Area Planning Manual	16-60 du/acre	10-30 du/acre	5-20 du/acre
City of San Diego TOD Guidelines		17-30 du/acre (avg) 12 du/acre (min)	13-20 du/acre (avg) 8 du /acre min)
Sacramento Regional Transit Guide to TOD	36 du / acre (min)	¼ mile: 20 du / acre (min) ½ mile: 15 du / acre (min)	¼ mile: 15 du / acre (min) ½ mile: 10 du / acre (min)

Note: San Diego's TOD Design Guidelines provide net densities; they have been converted to gross densities using an average gross-to-net ratio of 0.67.

Source: Strategic Economics

TRANSIT-SUPPORTIVE PUBLIC REALM IMPROVEMENTS

Improving the walking environment in most GTC study areas is critical to enabling residents to use transit and shop locally, as well as supporting higher-density development. Approximately 42 study areas have environments with weak transit-orientation and many more have moderately supportive environments. Given the extent of the planned Link light rail system into suburban areas, a majority of study areas will need significant improvements to support walking and biking to transit and the vitality of local commercial districts. Many study areas will also need upgrades in underground infrastructure to support higher density development. The cost of such public infrastructure investments can be substantial; a recent engineering cost estimate of the construction of the Central Corridor light rail line in Twin Cities, Minnesota found that the cost of needed below- and above-ground public infrastructure was approximately half the cost of the light rail itself.

In areas where the market for higher density development is strong or emerging, public realm improvements may be supported by funding tools that extract value from new development or rising property values. Study areas with weaker markets and/or more intensive need for public realm upgrades will require more subsidized support.

Light Rail Transit Enhancements Public Realm Grants

Given the extent of need for public realm improvements and the challenges associated with local generation of funds, Strategic Economics recommends creation of a regional capital grant program that targets pedestrian and other transit access improvements in the light rail station areas. Other regional TOD and sustainable development programs have emphasized these types of investments: the Bay Area TLC program has funded over 100 projects improving streetscapes, transit access, pedestrian safety and bike connectivity across the region. While small in scale, project sponsors indicate that these types of improvements have enhanced their community's sense of place and quality of life, in addition to improving access to transit.[7] Other regional programs have also funded non-transportation infrastructure projects needed to support development of TOD, including utilities and storm-water management upgrades.

Most of these programs have been funded by federal transportation funding streams that can be used for transportation enhancements: Federal Surface Transportation Program (STP) funds, Congestion Management and Air Quality Improvement Programs (CMAQ) Funds, and Federal Transportation Enhancement Act (TEA) funds.[8] The Twin Cities' Livable Communities Program is funded by a regional property tax levy, authorized in the Livable Communities Act. In recent years, both the Bay Area and Atlanta metropolitan planning organizations have dedicated approximately $15 to $25 million annually to these types of investments through their regional sustainable development programs.[9]

These programs provide only a portion of funds for particular improvements; local match is required. However, these regional grant programs usually provide the first committed money towards a project, thereby incentivizing the use of other funds. Most regional capital grant programs of this type also require that grantees meet a series of requirements related to progress on other components of the over-all sustainability program, i.e. comprehensive planning or threshold housing density regulations, induced transit ridership, and housing affordability goals. Atlanta Regional Commission has created Equitable Target Areas that receive priority for funding based on an index of demographic indicators.

Given the need to first identify and select priority local improvements, Strategic Economics recommends that the station area planning grant program be established prior to a capital grant program. While it may not be necessary to require comprehensive station area planning to receive a capital grant, applicants should demonstrate both technical evaluation and community endorsement of projects. Both growth and equity impacts should also be given consideration, given the GTC Partnership's goals. It is also recommended that the capital grant program focus initially on above-ground improvements to streetscape and transit access.[10]

[7] The Atlanta Regional Council and Twin Cities Metropolitan Council also fund these types of improvements through their sustainable development programs.

[8] While some programs including Bay Area TLC Program and North Central Texas Sustainable Development Program have exchanged federal transportation funds for locally-generated sources that are less restricted and used them to fund broader public realm improvements, the original source of funding is CMAQ or STP funds.

[9] See "Incentivizing TOD: Case Studies of Regional Programs Throughout the US," Strategic Economics, for more information, http://www.psrc.org/assets/8921/IncentivizingTODCaseStudies.pdf.

[10] Use of federal transportation funding sources for utilities and other underground infrastructure is complex, and has involved swapping of funds for local sources in other regions. Because of this and because these improvements are more directly tied to impacts from new development, the program should focus first on the more straight-forward and visible access improvements with broad community benefit.

If a GTC public realm grant program demonstrates success in improving transit access, use and community vitality, Sound Transit may also consider expansion of the Sound Transit 3 capital improvements package to include related access and streetscape improvements.

Advancement of Value Capture Tools

New light rail real estate investment can transfer value to near-by property and development that benefits from the increased access it provides; mechanisms that capture a portion of this value to provide other local improvements and community benefits are known as value capture tools. However, research has shown that new development and increases in property value occur unevenly within light rail corridors.[11] New development is most likely to locate near downtowns and other employment centers. City-led planning processes, infrastructure investments, and other public sector efforts have also been found to play an important role in influencing the location of development.

For study areas with strong markets in proximity to employment centers, value capture tools that derive funding from new development or all beneficiary properties can help pay for key public realm improvements. Study areas requiring *facilitated equitable development*, *facilitated diversification* and *expanded affordability* approaches to implementation may be able to support these types of extractive funding strategies.[12] Other study areas with moderate or emerging markets may not yet have strong enough demand for TOD to pay for significant improvements. These areas may benefit from use of tax-increment financing (TIF), which captures additional property taxes generated by rising property values over time and establishes bonding capacity on those future revenues which may be used to pay for improvements in the near-term. Study areas appropriate for TIF include those requiring *market priming*, *proactive equitable development*, and *market catalyst/growth* approaches to implementation.[13]

- **Impact Fees & Developer Agreements**

Some tools such as developer impact fees or developer agreements extract value only from new development; study areas with significant additional development capacity and strong markets may be able to pay for key improvements through such tools. The City of Portland, Oregon has implemented a multi-modal system development charge (impact fee) within select light rail station areas that has successfully generated funds for streets, transit and non-motorized facilities such as pedestrian and biking improvements. Unfortunately, Washington State's Growth Management Act (GMA) restricts the imposition of transportation impact fees to vehicle-related road improvements only. While the City of Seattle has created an alternative voluntary basis for such a fee**, amendment of the GMA is needed to allow multi-modal improvements as mitigations for transportation impacts.[14]**

Developer agreements are most successful in helping provide community benefits where a comprehensive station area planning process has determined which improvements and programs are of greatest utility and

[11] *Rails to Real Estate: Development Patterns Along Three New Transit Lines*. Center for Transit Oriented Development, 2011. Strategic Economics is a partner in the Center for TOD & firm staff are authors of this report.

[12] Some central study areas requiring *proactive equitable development*, such as Columbia City, may also be able to support these types of tools. In all cases, feasibility assessment is necessary to determine the viability of such tools.

[13] Other study areas, such as Rainier and Mt. Baker, may also be appropriate for TIF given their intense physical improvement needs and nascent TOD markets.

[14] Although the City of Seattle could not impose an impact fee through an ordinance, it has developed an impact mitigation payment program to fund multi-modal facility needs under the State Environmental Policy Act's "voluntary agreements" provision. The City asks developers to fund planned multi-modal transportation facilities through voluntary development impact mitigation payments. However, the establishment of this program involved many complex technical steps and has been compromised by state time limits on use of funds given the amount of time it takes to accumulate sufficient funds for a project. "Multi-Modal Impact Fees," Donald R. Samdahl, Fehr & Peers/Mirai, 2010, and personal correspondence, Marshall Foster, Department of Planning and Development, City of Seattle, December, 2012.

priority to the local community, and a financial feasibility assessment has established what a given development project can afford to pay. Pioneering projects, i.e. the first project establishing a higher density construction type and urban form, are usually high-risk and often require additional higher cost equity investment as the lack of comparable projects discourages commercial debt. Development that follows on the heels of a successful pioneering project can benefit from this proof of market demand via lower interest rates on investment, and may be able to afford greater community benefits. Extractions are also less burdensome to development projects when they are collected at occupation, rather than at permitting, when such fees must be financed and increase the cost of financing. **Successful public sector negotiation of developer agreements is challenging and is recommended as a focus for peer networking and technical assistance efforts.**

- **Benefit Assessment Districts**

A second type of value capture tool, benefit assessment districts, involves local adoption of additional fees or taxes to help pay for specific improvements. Benefit assessment districts assess properties in proportion to the benefit conferred by an improvement; Washington State's Local Improvement District (LID) is a benefit assessment tool and has been used successfully to pay for a variety of larger local infrastructure projects, including the South Lake Union streetcar. Formation of a LID allows issuance of bonds in anticipation of assessment revenue; this allows construction of facilities in advance of payment, unlike impact fees or developer agreements, which are pay-as-you-go project by project. Financing of many smaller improvements, such as those typically needed to retrofit auto-oriented environments to support higher-density development and use of transit, via LIDs is possible but challenging given the more diffuse nature of these improvements. **Funding of feasibility studies for LIDs and other applicable assessment districts (i.e. business improvement districts) should be supported through the previously recommended GTC specific plan and funding study grant program.**

- **Tax Increment Finance**

Tax increment finance, or TIF, has been used successfully in many other states to support public realm improvements and other public benefits[15] that catalyze private sector investment in areas in need of revitalization. While it has been criticized for being used too expansively in states such as California[16], it is one of few options for generating new local funding in places unable to support more burdensome mechanisms. It is most justifiably used for a limited duration of time in a restricted number of locations that have special need for and ability to leverage public investment. It is particularly appropriate for those GTC study areas where there is opportunity to reap broad public benefit from new investment but key additional improvements are necessary to unlock this potential.

Washington State has had a series of limited TIF programs. Currently, the Landscape Conservation and Local Infrastructure Program (LCLIP, 2011) enables eligible cities in central Puget Sound to finance infrastructure investments with bonds issued on certain increases in local property tax revenues within the designated LCLIP.[17] The program also provides for the transfer of development rights (TDRs) from rural farm and forest lands to LCIP areas. It includes only the city and county portion of property tax increment. A draft ordinance creating a LCLIP in Downtown Seattle and South Lake Union, the first of its kind, is currently under review. Extensive fiscal modeling was performed to determine the feasibility

[15] Other states have requirements dedicating a portion of revenues to new affordable housing development, for example.

[16] Even with pass-through requirements for counties and school districts, TIF can suppress tax revenue flows to other taxing entities that provide key services if used too broadly.

[17] Revised Code of Washington (RCW) Chapter 39.108. Miki Gearhart, Research & Legislative Analysis Division, Washington State Dept. of Revenue, "Tax Increment Financing Type Programs in Washington," August 2011. The Local Revitalization Financing Program (2009) also allows the issuance of bonds for public improvements on the local share of property and sales tax increment, but has been little used since the state contribution limit was reached.

and benefits of LCLIP formation; this analysis concluded that inclusion of both Downtown and South Lake Union areas was needed to achieve a program size that would yield sufficient benefits.[18] This points to the difficulty of applying LCLIP program to other GTC study areas. Outside of Downtown Seattle and Bellevue, increases in development capacity and property values will be considerably smaller and it is unlikely that TIF will be viable without inclusion of some portion of state tax increment or other means of increasing revenue potential from such tools.

In keeping with efforts already underway through the GTC Partnership, Strategic Economics recommends advancement of an equitable transit communities TIF program aimed at financing key public improvements and affordable housing in select GTC areas. Study areas to be prioritized for TIF include those requiring *market priming*, *proactive equitable development*, and *market catalyst/growth* approaches to implementation.

HOUSING CHOICE / AFFORDABILITY

While the appropriate methods for delivering affordability and housing choice vary by implementation approach, almost all study areas will need investments in affordable housing to grow as equitable transit communities.[19] The following regional programs or coordinated regional and state-level efforts are recommended.

Targeting of Existing Affordable Housing Sources to Study Areas

As can be seen in **Figure 4**, distribution of existing permanent affordable housing among study areas is uneven. This distribution reflects local commitment to provision of affordable housing, as well as local, state and federal policies that steer available finance sources toward certain types of locations.[20] Many existing sources of permanent affordable housing financing, including tax credit allocations and HOME funds, may be steered towards study areas through alignment of local, county and state policies that endorse mobility and job and services access as a primary criteria of affordable housing location. The Affordable Housing Steering Committee and local housing finance agencies have already been successful in recommending changes to low income housing tax credit policies within King County. The new Washington State Housing Finance Commission policy for 2013 prioritizes both transit station areas and seeks to prioritize high opportunity areas in the next funding cycle. However, the policies are limited to King County and should be expanded to Pierce and Snohomish Counties to maximize the upcoming extension of light rail and other planned transit improvements. Further prioritizing of transit study areas and high opportunity areas will be critical to align investments throughout the region to create equitable transit communities. **Advancement of these changes is a key task for growth of transit communities in Puget Sound and on-going support of the regional coalition established through the Partnership is recommended.**

Advancement of Value Capture Tools

As described previously in discussion of funding of public realm improvements, various types of tools ranging from developer impact fees to benefit assessment districts to TIF can be used to capture value

[18] "Director's Report: Interlocal Agreement and Implementing Legislation for A LIPA for South Lake Union and Downtown," November 2012.

[19] The exceptions are the *preserve, monitor and connect* study areas where job preservation makes the introduction of housing undesirable.

[20] In some portions of the North and South Corridor it also reflects relative housing need, given areas with relatively affordable *market-rate* housing.

from new development or properties that benefit from transit and other public investments. Use of revenues derived from these tools also applies to other community benefits, foremost affordable housing, and **the previous recommendations to advance local use of these mechanisms should explicitly endorse use of revenues for affordable housing**. Other value capture tools such as density bonus programs that link affordable housing requirements to increases in density in designated areas have been used successfully in Washington State, despite state-level legal restrictions that inhibit city-wide inclusionary ordinances. **Use of density bonus programs in study areas should be supported through the feasibility and funding study component of the proposed station area planning program.**

Joint development of publicly-held property is another potential tool for leveraging private sector investment in study areas. Surplus property owned by Sound Transit through alignment acquisition has the most extensive potential for this strategy, but other public entities including housing authorities also own property in study areas. While transit agencies must generally consider fair market return as a component of property disposition, most large agencies now give equal weight to promotion of transit-ridership. Given the greater use of transit by members of lower-income households and regional mandates regarding equity, many transit agencies have policies or practices that favor inclusion of income-restricted units in joint development projects. According to a recent study, nine transit agencies including King County Metro have joint development policies that include affordable housing and six others practice inclusion of affordable units in the absence of written policy (see Case Study of LA Metro Joint Development Program).[21] **It is recommended that GTC Partnership staff at PSRC continue to work with Sound Transit and local housing agencies and advocates to advance support for inclusion of affordable housing in property disposition at the policy level.**

Equitable TOD Gap Finance Fund

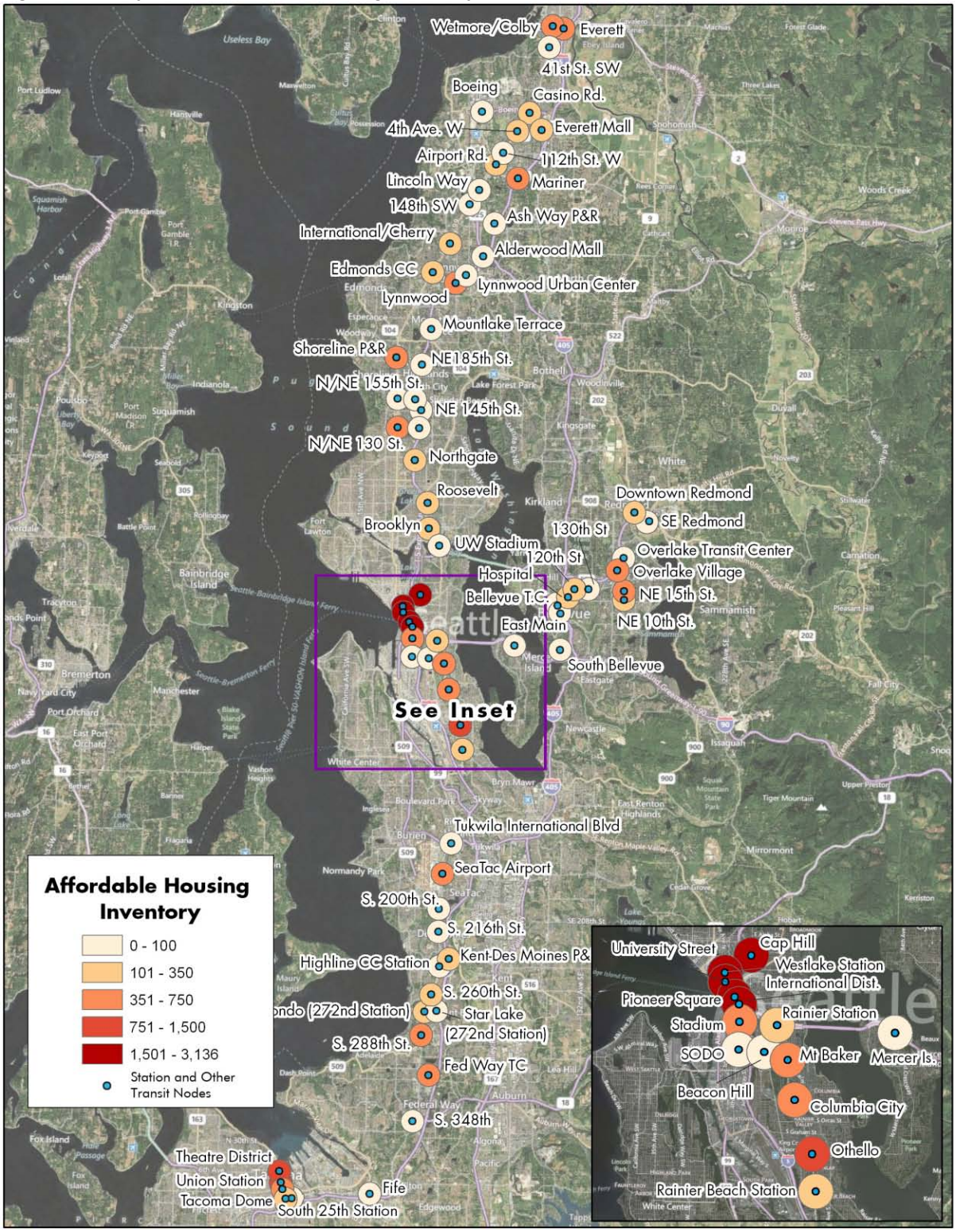
Development of a fund targeting affordable housing investment toward the GTC study areas is already underway as part of the Partnership effort. In keeping with other similar efforts, the fund was initially conceived as an acquisition fund focused on securing property near transit given that such developable opportunity sites are in limited supply and traditional permanent financing sources for affordable housing can make opportunistic acquisition challenging. Such targeted acquisition can also act as a tool for steering permanent finance sources toward transit locations. Other funds, including the Bay Area Transit Oriented Affordable Housing Fund (TOAH), have found that acquisition is just one of many finance gaps in provision of equitable TOD and have expanded the number of financial products offered in order to advance and enable these complex projects. Other products include pre-development, construction/bridge, and construction/mini-permanent loans, as well as leveraged loans for community/commercial facilities designed to be used with New Market Tax Credit (critical to equitable mixed-use projects with ground floor community or economic development uses). **It is recommended that design of the equitable TOD fund encompass multiple aspects of gap financing, rather than just acquisition, so that projects make it through permanent financing.**

The only other equitable TOD gap finance fund to achieve a regional scope of deployment is the Bay Area TOAH fund. This was enabled in part by use of regional transportation funds as critical top loss grant investment able to absorb default risk and shelter other debt investments. The Metropolitan Transportation Commission was able to make this unprecedented grant investment in part due to the maturity of the Bay Area transit system and its lesser capital investment needs, as well as the success of the 15-year-old Transportation for Livable Communities program in establishing a track record of public investment in TOD. **Given current demands on federal transportation funds eligible for transit investment in Puget Sound, i.e. the building of the LINK light rail system, the Partnership may**

[21] Robin Kniech and Melinda Pollack, FRESC and Enterprise, "Making Affordable Housing at Transit a Reality:Best Practices in Transit Agency Joint Dev elopement," 2009.

need to look more broadly for funding sources eligible for use in a gap financing fund. Potential sources include the foundation sector, a broadly-based capital fund-raising campaign, and possibly, coordinated county and/or city-level funds that facilitate use of local sources toward gap financing in transit locations.

Figure 4: Study Area Affordable Housing Inventory



Source: PSRC, 2012; ESRI; U.S. Census; Strategic Economics, 2012.

COMMUNITY DEVELOPMENT

The range of community development needs and potential program investments in study areas is diverse. The indicators used to assess access to opportunity include education, economic health, housing, crime, mobility, open space, and commercial services. As described previously, those study areas regionally identified as having lower access to opportunity will need to be examined at the local level in order to determine critical needs and community priorities. In particular, those study areas that fall within the *community enhancement*, *market priming*, *proactive equitable development*, and *market/growth catalyst* categories of implementation approach would benefit from both more detailed community needs assessment and outreach to local residents and businesses to identify key local issues and priority areas for improvement. Depending on the study area, economic development, education, housing, open space, commercial, community and / or health services may emerge as key areas of focus. **Station area planning and implementation strategies for study areas within these categories should include assessment and strategies that address these community needs.**

Many of the funding sources or institutions that oversee key aspects of opportunity are also locally determined, e.g. urban Community Development Block Grant Funds and school districts, and regional coordination of such resources is challenging. One opportunity for leveraging community development investments in Puget Sound transit communities is through support and financing of ground floor uses that expand local opportunity in mixed use affordable housing development projects. **Strategic Economics recommends that affordable housing projects going into study areas with lower opportunity include innovative community development or commercial concepts that address local priorities.**

Strategic Economics also recommends initial focus on that component of community development that has the greatest opportunity for regional coordination: economic development, particularly workforce training. PSRC supports regional economic development through the Prosperity Partnership, a business-based initiative to expand jobs and business growth in Puget Sound. Coordination of Prosperity Partnership efforts relevant to study areas with GTC Partnership efforts could expand each Partnership's impact. In particular, **coordinated efforts that link populations of low opportunity study areas with workforce development and educational programs aimed at jobs in growth industries are recommended.** County-level Workforce Investment Boards will also be a key stakeholder in such efforts.

V. NEXT STEPS

Previous chapters have laid out priority actions for each study area by implementation approach, as well as key regional programs or state-level advocacy needed to grow equitable transit communities in the study areas. Based on local needs and opportunity, or where strategically clear, Strategic Economics has made priority recommendations such as planning before capital investment. Additional prioritization is needed given the breadth of need, large number of study areas and inclusiveness of the Partnership's goals. Two levels of prioritization are needed: which programs to focus on and fund first, and which study areas to invest in first. The following additional steps are recommended to advance decision-making and program design:

- **Dedicate PSRC Staff to Regional Equitable Transit Communities Program Design and Implementation**

The GTC Partnership HUD grant and the participation of a cross-section of stakeholders have enabled the development of a broad vision and analytic framework for growth of equitable transit communities in Puget Sound. This vision will not implement itself, however. Dedicated staff is needed to work out the details of the regional program recommendations made in this report and elsewhere, further refine program priorities and targets as described below, and to administer the program.

- **Breadth of Need**

It is recommended that Partnership staff evaluate which activities to advance first in part based on the number of study areas that need different programs and investments, as recommended by implementation approach. As described below, study areas should be narrowed down to those funded by ST2.

- **Urgency**

Investments should be targeted toward study areas with nearer term transit construction, and therefore greater urgency of need and ability to leverage program investments. At a minimum, study areas included in ST2 should be prioritized for the first two to three phases of program implementation (i.e. six to nine years). Alternately, two tiers of priority should be established: station areas with stations to be built by 2020 and a second tier of all ST2 station areas. This tiered approach is particularly appropriate for capital improvement grants.

- **Development Capacity**

Additional development capacity is critical to a study areas' potential to leverage investments toward equitable growth. This measure is currently missing from the typological classification of study areas and should be included in evaluation of grant targets (other programs have included this as a component of regional significance). Investing in areas with little capacity for additional development is unlikely to leverage other investments toward equitable growth.

- **Demonstration of Need & Commitment to Partnership Goals**

Other regional programs have included a range of competitive performance metrics to evaluate grant applications. Criteria include adherence to program goals, project need, commitment to implementation, achievement of regional affordable housing & growth targets, adoption of transit-supportive development regulations, innovation, maximization of resources, coordination with other organizations and performance on an equity index.

- **Initial Areas of Program Focus will Change as the Program Evolves**

Given the extent of change and evolution of other regional sustainable development programs over time, it is recommended that the PSRC-based programs be conceived in two to three-year increments and that

program investments be evaluated annually, both through quantitative performance measures and interviews with grant recipients and local jurisdiction staff. This means that initial pilot programs may focus on components of the broad vision that have the clearest funding path and ability to demonstrate a successful track record, thereby establishing support for other program components that are more challenging to implement and require additional consensus-building beyond the Partnership.

APPENDIX A: LITERATURE REVIEW OF RESEARCH INTO TRANSIT-SUPPORTIVE DENSITIES

STRATEGICECONOMICS INC

MEMORANDUM

Date: November 21, 2012

To: Michael Hubner, PSRC

From: Shanti Breznau and Michelle Thong, Strategic Economics

Project: Growing Transit Communities

Subject: Literature Review of Transit-Supportive Residential and Employment Densities

INTRODUCTION

Intuitively, it seems logical that intensifying development near transit stations will increase transit ridership. There are several mechanisms by which increased density can shape demand for transit. Firstly, higher density development intensifies the origins and destinations served by the transit system, thus increasing the number of people living near transit who could potentially travel to transit-served destinations and expanding the number of jobs in those locations. Secondly, higher density development tends to increase congestion and reduce parking availability, thus increasing the cost of driving relative to taking transit.

The wisdom that "mass transit needs mass" (Bernick and Cervero, 1997) has been corroborated by several decades of academic and practitioner-oriented research exploring how the built environment influences travel behavior. At the same time, organizations and jurisdictions aiming to promote compact, transit-oriented growth have published design guidelines recommending specific zoning standards and urban design principles believed to support transit use.

This memo provides a brief summary of the current state of knowledge regarding residential and employment density thresholds required to support light rail transit. It is intended to guide PSRC staff and stakeholders in developing guidelines for existing and future light rail station areas in the Puget Sound. The first part of the memo provides an overview of academic research on transit-supportive densities, while the second part of the memo compares TOD density guidelines implemented by regional agencies in the United States.

Defining Density

Density, a measure of development intensity, is calculated by dividing the population or amount of development in a given area by the land area. *Net density* excludes land that is not developable for commercial or residential uses, whereas *gross density* uses the total land area.

In this literature review, we are interested in *employment density*, measured in employees per acre, and *residential density*, measured in persons per acre. The latter is also specified in terms of households or dwelling units per acre; in these cases, results are converted to persons per acre using the current U.S. average household size of 2.58.

Density measurements are highly dependent on the scale of the reference land area. Parcel-level densities, such as those calculated for specific TOD projects, are likely to be much higher than average neighborhood densities. In this discussion, we are primarily interested in density at the scale of a station area. A half-mile radius circle around a station location corresponds to approximately 500 acres.

Summary of Findings

Because the relationship between travel and the built environment is complex, and regions themselves vary greatly in their development contexts, the body of research in this field has not produced a consensus on universally-applicable threshold densities required to support transit. However, there is strong consensus on a several important aspects of the relationship between density and transit ridership. These findings are summarized below.

- **Large, dense concentrations of employment are critical in driving transit ridership for fixed guideway systems such as light rail**. These major job centers have historically been central business districts (CBDs) in urban downtowns, but there is evidence that sub-regional job centers can also play a key role in shaping transit demand, particularly if these job centers have certain characteristics of CBDs, such as high employment densities, walkable urban form, congestion, and lack of parking.
- **Minimum residential densities are required to support light rail; exact thresholds depend on service levels and cost effectiveness targets.** The studies cited in this report range in recommended minimum thresholds from 13 to 30 persons per gross acre.
- **Light rail ridership is positively correlated with station area residential densities.** Because studies vary considerably in their data sources and methodology, there is no clear consensus on the strength of the relationship. Studies cited in this report found that doubling the residential density of a station area increased boardings at the same station by between 15% and 59%.
- **Transit ridership is influenced by other aspects of the built environment that are closely inter-related with density**. Land use mix, street network characteristics, parking availability and urban design all factor into the travel behavior of station area residents and workers.

LITERATURE REVIEW

Evolution of Research

Over the past three decades, research has evolved considerably in its approach to quantifying the relationship between the built environment and travel behavior, resulting in over 200 empirical studies to date (Cervero and Ewing, 2010). This memo focuses on a subset of literature that specifically investigates the effect of density on transit ridership, as opposed to other transportation outcomes, such as vehicle miles traveled. Over a dozen studies were reviewed for this memo; the discussion hones in on the most useful findings from a handful of key studies, listed in **Figure 1**. Where possible, the memo focuses on findings that apply specifically to light rail. All of these studies apply multivariate statistical techniques to data from existing transit systems in the United States.

The earliest major work in this field was Pushkarev and Zupan's *Public Transportation and Land Use Policy* (1977), which established minimum residential densities required to make different transit modes cost-effective. Their work provided the foundation for much research over the next three and a half decades, and continues to serve as a reference point for both academics and practitioners.

The persistence of Pushkarev and Zupan's density thresholds seems to be due to several factors: firstly, subsequent research has largely corroborated their findings; secondly, the thresholds are straightforward and therefore readily quotable; thirdly, recent studies have largely refrained from making the simplifying assumptions necessary to establish such guidelines, focusing instead on quantifying the elasticity of

ridership with respect to density and other built environment variables.[1] In the mid-1990s, the Transit Cooperative Research Board funded a major research project to revisit, update and extend the findings of Pushkarev and Zupan's work. In the study, the researchers constructed cost and ridership models for light rail and commuter rail systems and ran the models on hypothetical transit corridors, leading to detailed findings regarding the relationships between CBD size, residential density, ridership and line costs (Parsons, Brinckerhoff, Quade & Douglas, Inc. et al, 1996). The authors are careful to note the absence of density thresholds in their findings, noting that such thresholds, while useful, are "no substitute for careful site-specific analysis" (E-8) and should only be used as a rough guideline for transit feasibility. Instead, the authors intend that the description of the effects of different variables on ridership will help to flesh out how a broad set of land use policies can support transit use.

Figure 1. Key Studies on the Relationship between Density and Transit Ridership

Reference	Objective	Built Environment Variables	Data Source
Pushkarev and Zupan (1977)	Identify minimum density thresholds at which transit becomes transit feasible.	CBD size in square feet Distance to CBD Residential density	1960 and 1970 decennial census data in 6 U.S. metropolitan regions.
Frank and Pivo (1994)	Test influence of built environment on work and shopping trip mode choice (single-occupancy vehicle, transit, or walking).	Land use mix Population density (gross) Job density (gross)	1989 travel activity survey from Puget Sound Transportation Panel, consisting of 1680 households and 28,955 trips.
Parsons, Brinckerhoff, Quade & Douglas, Inc; Cervero, Howard/Stein-Hudson Associates, Inc., & Zupan (1996)	Identify land use characteristics that can support cost-effective fixed guideway transit.	Number of CBD jobs CBD job density (gross) Distance to CBD Population density (gross)	Ridership and station-level data for 261 light rail stations in 11 metropolitan areas and 550 commuter rail stations in 6 metropolitan areas.
Cervero (2006)	Develop direct demand models of ridership for three U.S. fixed-guideway transit proposals.	Population density (gross) CBD employment and employee density Distance to CBD Station in CBD	Ridership and station-level data used in the national TCRP study listed above, as well as for San Francisco's BART heavy rail system and St. Louis' MetroLink light rail system.
Guerra and Cervero (2011)	Identify job and population densities needed to support more cost-effective fixed-guideway transit service.	Population density (gross) Job density (gross)	Investment, ridership and station-level data from 33 light rail, 22 heavy rail and 4 bus transit systems in 19 U.S. metropolitan areas.

Source: Strategic Economics

[1] Elasticity is a measurement of how a change in one variable affects another variable. It is calculated as the ratio of the percentage change in the dependent variable to the percentage change in the independent variable.

In the past decade, multivariate statistical analyses have proliferated, applying increasingly sophisticated statistical techniques to datasets (Cervero and Ewing, 2010). The most recent studies simultaneously estimate the effects of multiple environmental variables and control for confounding influences such as residential self-selection.

Interestingly, a recent study conducted by Guerra and Cervero (2011) has revisited the relationship between density, transit ridership and cost efficiency first investigated by Pushkarev and Zupan, and has been bold enough to propose updated density thresholds. A comparison of these findings is provided in the following section.

Research Findings

Connections to employment centers are crucial.

Large, dense concentrations of employment play a critical role in shaping demand for transit. Pushkarev and Zupan (1977) observed that high residential densities alone cannot support transit if the network does not connect residents to a major destination. Pushkarev and Zupan's model of transit networks was based on a monocentric model of urban development, in which a region's jobs are concentrated in a Central Business District (CBD) that typically also serves as the center of the transit network. Reflecting the importance of CBD employment to transit demand, Pushkarev and Zupan's transit-supportive thresholds specified both CBD size and residential density (Figure 2). According to their findings, light rail transit requires a central business district of at least 35 to 50 million square feet. Assuming that office space utilization is 250 square feet per employee, this figure would be equivalent to CBD employment of 140,000 to 200,000. Almost two decades later, the TCRP study to update Pushkarev and Zupan's work concluded that CBD employment density was strongly correlated with light rail ridership (Parsons, Brinckerhoff, Quade & Douglas et all, 1996), while the number of CBD jobs on its own did not have as strong of an effect.

Although many U.S. metropolitan regions have experienced a decentralization of employment, the monocentric model still describes dominant employment patterns and fixed-guideway transit networks in many U.S. cities, including Seattle, Portland and San Francisco. Furthermore, there is evidence that the role of job centers in supporting transit ridership applies to polycentric regions as well. TCRP Report 16 cities several case studies of U.S. cities where suburban job centers support transit use, although not necessarily to the same degree as the CBD. The report also suggests that as these subregional job centers increasingly resemble CBDs in terms of density, employment size, land use mix and urban design, they may drive more transit demand. Central Bellevue may be considered such a subregional higher density mixed use job center.

In terms of employment densities needed to support transit, the best guideline is provided by Frank and Pivo, who observed that **a significant shift in commute mode from single-occupancy vehicle trips to transit and walking occurs at job densities between 25 and 75 employees per acre and again at 125 employees per acre**. Frank and Pivo's observations were based on data from the 1989 Puget Sound Transportation Panel.

Minimum residential densities are required to support light rail; exact thresholds depend on service levels and cost effectiveness targets.

Pushkarev and Zupan recommend a net residential density threshold of 9 households per acre surrounding a CBD of 20 to 50 million square feet as a minimum required to support a light rail investment. Assuming an average gross-to-net density ratio of 0.67 (Guerra and Cervero, 2011) and utilizing the average U.S. household size of 2.58, this threshold corresponds to a gross density of 6 households per acre or 16

residents per acre. Interestingly, this standard is close to the threshold of 13 persons per acre at which Frank and Pivo (1994) observed a shift from single-occupancy auto use to transit and walking modes for shopping trips.

Guerra and Cervero (2011) imposed a higher standard of cost-effectiveness and established a threshold at roughly twice the densities identified by prior studies. According to their findings, light rail systems require 30 people per gross acre within a half mile of the station to be in the top quarter of cost-effective rail investments in the U.S.[2] At the same time, Guerra and Cervero observed that residential densities in most U.S. light rail station areas are well below the thresholds established by these earlier studies. Their data indicated an average household density of 4 households per gross acre or 10 persons per gross acre.

Figure 2. Residential Density Thresholds

Reference	Residential Density Threshold (Gross)
Pushkarev and Zupan (1977)	16 persons per acre in combination with a CBD of 35-50 million square feet of commercial space
Frank and Pivo (1994)	13 persons per acre
Guerra and Cervero (2011)	30 persons per acre to be in the top quartile of cost effective programs

Source: Strategic Economics

Light rail ridership is positively correlated with station area residential densities.

A significant body of research in this field aims to quantify how a given increase in density will affect transit ridership, typically measured in station boardings for analyses at the station-level. Key findings on ridership elasticities with respect to density are summarized in **Figure 3.** The national study conducted for TCRP Report 16 found that doubling of gross population density within 2 miles of a light rail station increased boardings at the station by 59%.

Cervero later refined the study to control for transit service levels and whether or not the station was located in a CBD, resulting in a weaker effect. According to his model, doubling gross population density within 2 miles of the station would increase light rail ridership by 19%. Cervero also constructed similar models for specific U.S. cities and found similar values for elasticity ranging from 15% to 23%.

[2] Guerra and Cervero's original results are stated in terms of gross density. The authors cite an average gross-to-net density ratio of 67%.

Figure 3. Comparison of Ridership Elasticity With Respect to Density

Reference	Elasticity	Data Sample	Density Metric
Parsons, Brinckerhoff, Quade & Douglas et al. (1996)	59%	Light rail stations in 11 metropolitan areas and commuter rail stations in 6 metropolitan areas.	Gross population density within 2 miles of the station
Cervero (2006)	19%	Same as above	Gross population density within 2 miles of the station
Cervero (2006)	15%	St.Louis MetroLink	Gross population density within a 1/2 mile of the station
Cervero (2006)	23%	San Francisco Bay Area BART	Gross population density within a 1/2 mile of the station

Source: Strategic Economics

Transit ridership is influenced by other aspects of the built environment that are closely inter-related with density. While this literature review has focused on the influence of density, other factors such as land use mix, street network characteristics, parking availability and urban design also play a role in shaping the travel behavior of station area residents and workers. These characteristics are closely inter-related, making it difficult to isolate the effects of one variable. Dense places tend to feature a greater mix of uses and more walkable urban design qualities than low-density auto-oriented postwar development. **The studies described in this memo suggest that high densities are critical to transit effectiveness, but density alone it is not sufficient. Given the interdependence of built environment characteristics, policies that encourage a breadth of transit-supportive strategies may be more likely to be successful than policies that focus on one dimension.**

REGIONAL GUIDELINES

This section provides an overview of transit-supportive density guidelines provided by regional agencies and local jurisdictions in the U.S. In general, the recommendations are well above the minimum transit-supportive residential density thresholds established by academic research, while actual densities in most U.S. light rail station areas fall well below these thresholds (Guerra and Cervero, 2011). Site-specific residential densities for new multi-family TOD projects are likely to be much higher than recommended station area thresholds; however, in station areas that are largely built out, the overall effect of new projects on station area density will be slight.

In 1999, PSRC published a station area planning guide that recommends residential densities of 10 to 20 dwelling units per gross acre and a minimum employment density of 50 jobs per acre (p.24). Assuming an average household size of 2.6 persons per household, the low end of the residential density guideline is between Pushkarev and Zupan's and Guerra and Cervero's respective thresholds of 16 and 30 persons per acre.

Of the four metropolitan planning organizations (MPOs) with grant programs profiled by Strategic Economics for PSRC in the report *Incentivizing TOD: Case studies of regional programs in the United States*, only the Twin Cities Livable Communities Demonstration Account (LCDA) TOD Program has required minimum densities for grant recipients. Applicants for LCDA TOD grants are required to have net project densities of at least 30 households per acre or 50 employees per acre. The other three MPO programs profiled in the report—Portland Metro's TOD Program, MTC's Transportation for Livable Communities Program, and Atlanta Regional Commission's Livable Centers Initiative—do not impose minimum density requirements on grantees, although the evaluation process typically considers

commitment to transit-supportive principles, including density, pedestrian amenities and transit access. In interviews, program staff indicated that it was difficult to establish minimums given the variations in land uses and development contexts throughout the region.

It seems more common for regional organizations, including both MPOs and transit agencies, to issue design guidelines rather than to impose requirements on local jurisdictions. Often, residential density guidelines are provided for a range of station area typologies. **Figure 4** compares the gross residential density guidelines from a sampling of these documents.

Figure 4. Sample of Gross Residential Densities from Station Area Planning Guidelines

	Urban Core (Downtown)	**City Center**	**Suburban Center**
MTC Station Area Planning Manual	16-60 du/acre	10-30 du/acre	5-20 du/acre
City of San Diego TOD Guidelines		17-30 du/acre (avg) 12 du/acre (min)	13-20 du/acre (avg) 8 du /acre min)
Sacramento Regional Transit Guide to TOD	36 du / acre (min)	¼ mile: 20 du / acre (min) ½ mile: 15 du / acre (min)	¼ mile: 15 du / acre (min) ½ mile: 10 du / acre (min)

Note: San Diego's TOD Design Guidelines provide net densities; they have been converted to gross densities using an average gross-to-net ratio of 0.67.

Source: Strategic Economics

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APPENDIX B: STUDY AREA TYPOLOGY CONTEXT

MEMORANDUM

Date: November 26, 2012

To: Shanti Breznau and Michelle Thong, Strategic Economics

From: Sara Schott Nikolic, Puget Sound Regional Council

Project: The Growing Transit Communities Partnership

Subject: Final Transit Community Typology Framework and Methods

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The Growing Transit Communities Partnership strives to promote equitable transit communities throughout the central Puget Sound region that:

- Accommodate more of the region's residential and employment growth near high capacity transit;
- Provide housing choices affordable to a full range of incomes near high capacity transit; and
- Increase access to opportunity for existing and future community members in transit communities.

To facilitate this work, the Partnership has developed a transit community typology to link appropriate implementation strategies to transit communities based on the characteristics of the existing place and population.

A July 5, 2012 proposal memorandum from the Center for Transit Oriented Development (CTOD) informed the typology's framework and methods. The Partnership reviewed the proposed CTOD framework and methods at a series of stakeholder meetings and work sessions in July and August 2012. Based on stakeholder feedback received at those meetings, the Partnership made several changes to the proposed framework and methods. Most of these changes were minor—such as changing names of indices or measures to reflect language used by the Partnership or replacing an indicator due to availability of local data.

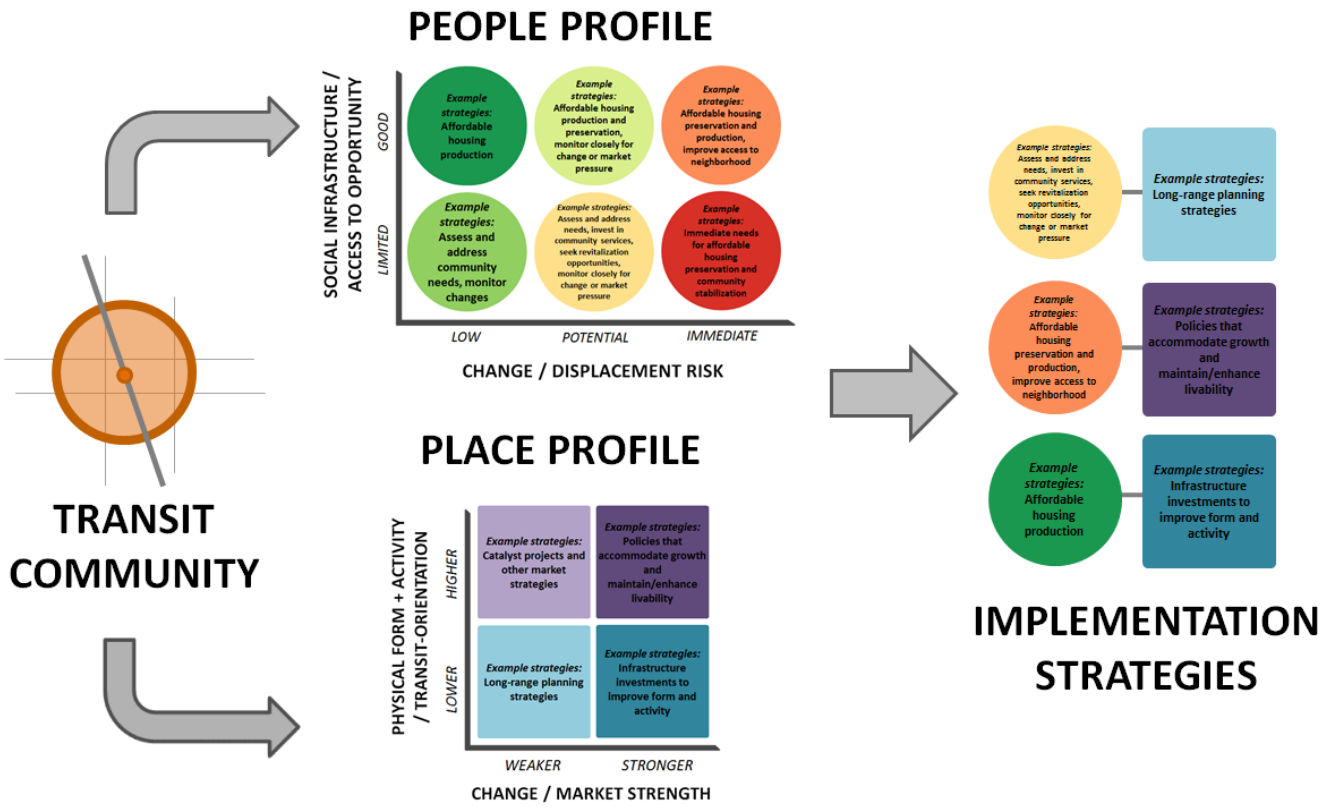
One notable substantive change involved the reframing of the proposed "Neighborhood Change" axis on the proposed People Profile to "Displacement Risk." This change better focused the axis to reflect the Partnership's priority to identify, reduce and mitigate the displacement of existing residents and businesses in transit communities, with particular attention to the community needs of low-income and minority communities. The "Displacement Risk" axis utilized many of the proposed indicators suggested by the CTOD memorandum, as well as additional indicators suggested by the stakeholder process, such as the percent of minority residents and the percent of cost-burdened households.

The following sections provide notes on the overall framework and methods, as well as the specific indicators and data sources used to develop the transit community typology.

Transit Community Typology Framework *overview*

The Transit Community Typology follows a two-matrix **PEOPLE + PLACE** framework proposed by the Center for Transit Oriented Development for the Growing Transit Communities Partnership in July 2012.

The **PEOPLE PROFILE** measures the degree to which a transit community's social infrastructure supports a community context in which residents may succeed and thrive (the **SOCIAL INFRASTRUCTURE / ACCESS TO OPPORTUNITY AXIS**) and the likelihood that growth pressures will present a risk of displacement and other negative impacts on communities (the **CHANGE / DISPLACEMENT RISK AXIS**).

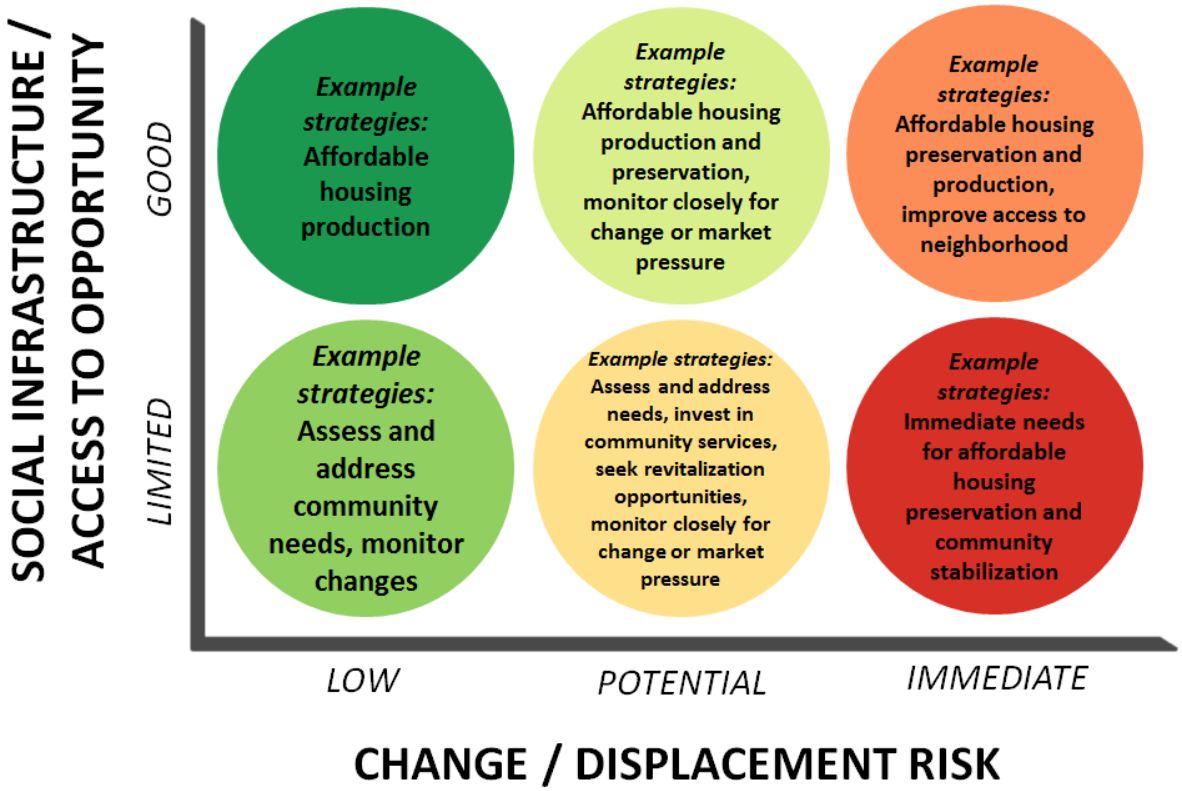


The **PLACE PROFILE** measures the degree to which a transit community's physical form and activity support a dense and walkable community (the **PHYSICAL FORM + ACTIVITY / TRANSIT-ORIENTATION AXIS**) and the likelihood that the community will change in the near to mid-term due to real estate market strength (the **CHANGE / MARKET STRENGTH AXIS**).

Where each transit community lands in the **PEOPLE** and **PLACE** profiles will suggest a set of strategies most appropriate for the needs of that community, while advancing regional and corridor objectives to accommodate growth near transit, provide affordable housing choices, and achieving equitable community outcomes.

PEOPLE profile: *overview*

The **PEOPLE PROFILE** measures the degree to which a transit community's social infrastructure supports a community context in which residents may succeed and thrive (the **SOCIAL INFRASTRUCTURE / ACCESS TO OPPORTUNITY AXIS**) and the likelihood that growth pressures will present a risk of displacement and other negative impacts on communities (the **CHANGE / DISPLACEMENT RISK AXIS**).



The **SOCIAL INFRASTRUCTURE /ACCESS TO OPPORTUNITY AXIS** measures the degree to which a community has conditions that allow community members to succeed and thrive. The index is based on the regional Opportunity Mapping exercise carried out by staff and the Kirwan Institute in 2011-2012 (*Equity, Opportunity, And Sustainability In The Central Puget Sound Region: Geography Of Opportunity In The Central Puget Sound Region*). The composite index includes five sub-measures: education, economic health, housing and neighborhood quality, mobility and transportation, and health and environment. For the purposes of the typology, performance on the **SOCIAL INFRASTRUCTURE (ACCESS TO OPPORTUNITY) AXIS** is classified as either **LIMITED** or **GOOD**.

The **CHANGE / DISPLACEMENT RISK AXIS** measures risk of displacement due to recent neighborhood change, current community risk factors, and current and future market pressure. Data used to quantify these factors relate to income, education, race and ethnicity, household type, housing tenure, and residential market strength. These data inform a classification of study areas into three broad nominal categories: **LOW RISK**, **POTENTIAL RISK**, and **IMMEDIATE RISK**. Low risk communities tend to be moderate to higher income communities and/or communities with lower market pressures. Immediate risk communities tend to have indications that displacement of lower income populations is underway, higher current market strength, and/or high number of community risk factors. Potential risk communities are those that have weak market strength

and therefore do not face imminent displacement risk; however they also exhibit numerous community risk factors that suggest needs for community stabilization efforts to avoid future displacement risk should market forces change.

When the two axes are taken together, the **PEOPLE PROFILE** may inform and direct a host of implementation strategies including community needs assessments and progress monitoring, affordable housing preservation and production strategies, and community stabilization and revitalization efforts.

SOCIAL INFRASTRUCTURE / ACCESS TO OPPORTUNITY axis: *data notes*

Methodology notes: Indicators are based on census tract geography, which in most cases does not correspond directly with the half-mile transit community nodes. Data for each indicator is an average from the census tracts that overlap or are within the corresponding study area. In order to combine data for different census tracts, each indicator is normalized to 100, where a score of 100 represents the highest level of access to opportunity among the 74 study areas. The average of the normalized indicator scores comprises each of the five sub-measures. The average of the five sub-measures comprise the overall composite index.

MEASURES	INDICATORS	DATA SOURCES
Access to quality **education** measures the quality of the elementary and high school resources within, or in close proximity of the study area	• Fourth grade WASL scores for math • Fourth grade WASL scores for reading • Percentage of elementary school students receiving free or reduced lunch • Percentage of elementary school teachers with a master's degree or higher • High school graduation rate	Washington State Report Card, Office of Superintendent of Public Instruction (OSPI), 2010-2011 school year *Data comes from the 3 schools closest to the census tract
Economic health measures the access to employment opportunities for residents of the study area	• Number of living wage jobs within a 15-minute auto commute or 30-minute transit commute of the study area • Unemployment rate	Puget Sound Regional Council Travel Mode (Traffic Analysis Zone (TAZ)) and Covered Employment Estimates. "Searching For Work That Pays", Report from Alliance for a Just Society, 2008-2010; American Community Survey, 2010
Housing and neighborhood quality measures the condition of housing and neighborhood attributes that contribute to a sense of safety and security	• Housing vacancy rate • Estimated housing foreclosure rate • Estimated rate of subprime mortgages • Housing conditions regarding overcrowding and presence of plumbing facilities • Estimated crime rate based on personal and property crimes relative to total population	US Census, 2010; HUD, 2010; Tetrad Computer Applications, Inc. 2010
Mobility and transportation measures the access and availability of affordable transportation choices	• Cost of the average auto commute to work from study area at $0.50 per mile • Percentage of study area within ¼ mile of express bus stops (15 min headways, peak hours) • Average transit fare for commute to work from study area • Percentage of commute trips by walking	Puget Sound Regional Council Travel Model, 2010; PSRC data collected from Transit Agencies, 2008-2010; American Community Survey, 2010
Health and environment measures the degree to which the community's attributes promote or diminish physical health	• Number of acres of parks or open space within the study area • Proximity of study area to toxic waste emitting location • Percentage of the study area that is in a 'food desert' without access to retail selling fresh and healthy groceries	PSRC, 2006; EPA, 2010; PSRC Food Policy Council & UW Report 2011

CHANGE / DISPLACEMENT RISK axis: *data notes*

Methodology notes: Recent trends in income, educational attainment, and household status are derived from a comparison of data for selected blocks and block groups that approximate the 74 study areas. Minor differences in geography exist between the 2000 and 2010 block groups. All American Community Survey data represents an average over the 2006-2010 reporting period. Income figures have been controlled to 2010 dollars.

Classification of study areas: Transit communities were classified into three nominal categories (Lower Risk, Lower Risk with Vulnerability, and Higher Risk) based on measures of recent demographic change and other community risk factors. In some cases, additional information provided important information on whether measured change may be due to other factors than displacement, and whether there may be displacement risk not indicated by the other measures. In order to be classified as **Immediate Risk**, transit communities had to exhibit transitional, strong or very strong residential market strength in combination with other risk factors. **Low Risk** transit communities needed to have either moderate to high current incomes or a weak to moderate residential market strength, without significant presence of other risk factors. Finally, the **Potential Risk** classification included transit communities with weak or moderate residential market strengths, and therefore low imminent risk of displacement, but which also exhibited high community risk factors, such as low household income and a high percentage of renters, that suggest the community may be vulnerable or threatened.

MEASURES	INDICATORS	DATA SOURCES
Indicators of **recent change** measure the extent to which displacement is or is not already occurring	• Change in median income (2000-2010) • Change in percentage with BA (2000-2010) • Change in percentage of non-family households (2000-2010)	• U.S. Census 2000 and ACS (2006-10) • U.S. Census 2000 and ACS (2006-10) • U.S. Census 2000 and 2010
Other **community risk factors** suggest whether or not a community may be at risk for displacement in the future	• Residential market strength index • Current median income • Percentage of renters • Percentage minority • Percentage of cost-burden households (>30% of income toward housing)	• Strategic Economics (2012) • ACS (2006-2010) • ACS (2006-2010) • U.S. Census 2010 • ACS (2006-2010)
Additional information about the community may provide important understanding of why change may be occurring	• 2010 population • 2000-2010 new housing units permitted • Light rail planning and development status	• U.S. Census 2010 • PSRC, 2000-2010

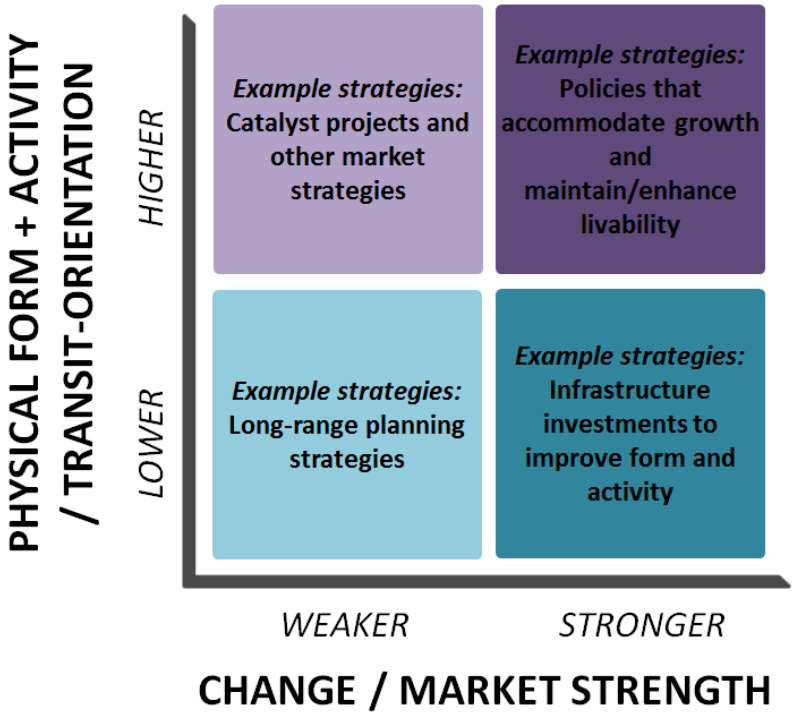
PLACE profile: *overview*

The **PLACE PROFILE** measures the degree to which a transit community's physical form and activity support a dense and walkable transit community (the **PHYSICAL FORM + ACTIVITY / TRANSIT-ORIENTATION AXIS**) and the likelihood that the community will change due to real estate market strength (the **CHANGE / MARKET STRENGTH AXIS**).

The **PHYSICAL FORM + ACTIVITY / TRANSIT ORIENTATION AXIS** measures the degree to which a community's place characteristics are transit-oriented—with a form and activity level that support a dense and walkable

community served by high-capacity transit. The composite index includes five sub-measures: pedestrian infrastructure, transit performance, physical form, population and proximity a mix of uses.

The **CHANGE / MARKET STRENGTH AXIS** measures the strength of the residential TOD market. This composite index was developed as part of the TOD Market Study conducted by Strategic Economics for PSRC earlier this year. The index, which was intended to evaluate the potential demand for residential transit-oriented development, includes measures related to the real estate market, employment patterns, density, and household income and size.



When the two axes are taken together, the **PLACE PROFILE** may inform and direct a host of implementation strategies including long-range planning efforts, market strategies, and policies and investments to improve physical form and support growth.

PHYSICAL FORM + ACTIVITY / TRANSIT-ORIENTATION axis: d*ata notes*

Methodology notes: Raw scores for each indicator were normalized to a 1-100 scale, and then averaged with other indicators to make up each sub-index. When appropriate, indicator scores were inverted (i.e., the lowest score became 100, and all other scores likewise inverted). When appropriate, significant outliers were capped at 100 in order to bring them within the set.

Transit communities were classified into **Lower Orientation** and **Higher Orientation** based on the midpoint in the range of scores.

MEASURES	INDICATORS	DATA SOURCES
Pedestrian connectivity measures the degree to which the community has the infrastructure to support high pedestrian activity	• Estimated percentage of existing road network with sidewalk coverage on at least one side of the road.	PSRC, WSDOT, Community Transit, Cities of Bellevue, Lynnwood, Mountlake Terrace, Shoreline, Seattle, Mercer Island, Bellevue, Redmond, Tacoma, and Tukwila.
Transit **performance** measures the availability of core and high capacity transit service within the community	• Total number of weekday daily core and high capacity transit runs through the study area • Total number of non-peak (midday, after 7pm, all day Saturday and all day Sunday) runs through the study area	PSRC, Metro, Community Transit, Everett Transit, Sound Transit, and Pierce Transit.

MEASURES	INDICATORS	DATA SOURCES
Physical form measures the degree the physical structure of the street grid supports smaller scale land-uses, and walking and biking activity	• Average block size in acres • Percentage of study area within the half-mile walkshed	PSRC, U.S. Census
Population measures the level of activity of people in the study area	• Total number of people living in the study area • Total number of covered jobs in the study area • Total number of full-time students enrolled at colleges or universities within the study area	2010 Census; PSRC; Washington State Employment Security Dept.; PSRC
Proximity measures the availability of a mix of uses that support a vibrant, walkable community	• Total number of retail and food service workplaces within study area	PSRC; Washington State Employment Security Dept.

CHANGE / MARKET STRENGTH axis: *data notes*

This composite index was developed as part of the 2012 Regional TOD Market Study conducted by Strategic Economics. The index, which evaluates the potential demand for residential transit-oriented development, includes measures related to the real estate market, employment patterns, density, and household income and size. Indicators described in the table below were combined into one composite residential market strength index. The results of that exercise were normalized on a scale of 0-100 for use in the typology matrices.

Transit communities were classified into two categories: **Weaker Market** (indicated by classification in the TOD Market Study into "Weak" or "Moderate" market categories) and **Stronger Market** (indicated by classification into "Transitional," "Strong," or "Very Strong" market categories).

MEASURES	INDICATORS	DATA SOURCES
Real Estate Market measures provide insight into existing and future market strength.	• Planned and proposed new housing units • Home sales • Apartment rents and vacancy rates • Condominium sales price	Units in pipeline: 2012 – 2014 Dupre and Scott; Gardner Economics Home sales: 2005-2012 Dupre and Scott; Gardner Economics Rental data: 2012 Dupre and Scott; Gardner Economics
Employment patterns measures of proximity to employment as a major factor influencing residential demand.	• Commute distance to major employment centers • Employment density (current and change over time)	U.S. Census Longitudinal Employer-Household Dynamics Data (2009) 2000, 2010 State of Washington; PSRC
Density measures indicate market strength for and community acceptance of multifamily or compact housing.	• Household density • Current inventory housing unit density	2010 U.S. Census; PSRC 2012 Dupre and Scott; Gardner Economics
Several **household characteristics** are correlated with stronger demand for new residential development, especially around transit.	• Household income • Household size	American Community Survey (2005-2009); PSRC