

*The Sustainable Thurston project is an opportunity to shape this region's future as well as the actions and responsibilities to achieve it.*

## Land Use, Transportation, and Climate Change

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White Paper  
January 2013



## Land Use, Transportation, and Climate Change White Paper

The Sustainable Thurston planning process engaged dozens of people from across many different sectors in exploring study topics and developing white papers for the Sustainable Thurston Task Force. For many of these groups, it was the first time that practitioners, experts, and interested stakeholders came together to discuss these topics. In many regards, they were literally starting from scratch in preparing background to inform Task Force deliberations.

Transportation and land use were different.

That is because local jurisdictions in the Thurston region have been engaged in State-mandated Growth Management Act planning activities since 1990. The region is 20 years into implementation of those visions and plans. As we were advised repeatedly during interviews with local staff, “we’re not starting from scratch” when it comes to coordinated transportation and land use planning.

How then to convey in an accessible way the myriad relationships of local and regional comprehensive planning processes? Providing an exhaustive level of detail might satisfy some of the policy wonks and community activists who have been involved in these processes since the 1990s but it would alienate newcomers to the comprehensive planning process. Alternatively, focusing on the most basic aspects of the Growth Management Act and tailoring content to those unfamiliar with the planning process would frustrate the many people with a good understanding of the basics.

In the end, we opted for a middle approach. We attempted to tell the story of fundamental relationships between transportation and land use, their connection to climate change, and the underlying philosophies guiding local and regional decision-making. We used [video](#) and [infographics](#), backed up by the planner’s ubiquitous [powerpoint presentation](#). We presented these materials in October 2011 to the Task Force. The content and format proved effective; infographics and video have become a mainstay of the Sustainable Thurston communications strategy.

This draft paper completes the package.

Again, the focus is on those fundamental relationships between transportation and land use and the philosophical underpinnings of the shared vision that has guided local and regional efforts for more than 20 years. It is peppered with endnotes and links to more information, and includes meaty resources. It also points people in useful directions if they are interested in finding out more or how to get involved in their local communities.

In-depth interviews with agency staff and others keenly interested in this essential transportation – land use intersection provided critical input to this paper. There is a remarkable depth of knowledge, experience, and commitment to local and regional planning in the staff and citizenry of this region; it is humbling to attempt to communicate those collective insights. That said, they had little opportunity to review the final direction of this paper or its conclusions. Omissions and errors should be fully credited to the author.

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## Introduction

Thurston residents have more choices today about where to live and how to get around than at any time in the past. This is due in large measure to decisions made twenty or more years ago about what kind of place Thurston County should be in the future.

The great places that welcome, nurture and inspire us don't just happen. They are the result of visions, plans, investments, individual actions, outside forces, and more than a little serendipity. Since their very earliest days, communities in the Thurston region have worked together to create neighborhoods, cities, towns, and rural areas that reflect this region's values over time, preserving what works well and improving on those things that can be better.

This paper focuses on the ways in which two intersecting elements of place – transportation and land use – shape decisions we face today and the choices we'll have tomorrow. It offers an overview of the framework and big ideas guiding transportation and land use decision-making. It looks at some achievements and challenges, and suggests opportunities for accomplishing more community objectives. This paper also speaks to the most direct linkages between how a community is built, the travel options it supports, and climate change.



Sustainable Thurston is revisiting existing visions and community aspirations, revalidating what works and is consistent with current values, and identifying areas of concern or new areas of community interest. It is a multi-disciplinary exploration, with direct and indirect linkages between every one of the topic areas under consideration. Many of those linkages relate back to the kind of place that transport and land use policy are shaping. This paper aims to stimulate further thinking about those complex inter-relationships that underlie places throughout the region, today and tomorrow.

### A Bit about “Us”

Sustainable Thurston is about the places people know in Thurston County today, and the ones people will know in the future. Understanding a little bit about the people who call Thurston County home is useful when considering the issues explored in this Sustainable Thurston process.

- About 270,000 people call Thurston County home in 2012: 46% live in an incorporated city or town; 21% live in unincorporated “urban growth areas,” parts of unincorporated Thurston County that will be annexed into a city within the next 20 years; and 33% live in rural Thurston County<sup>1</sup>.
- The Thurston region grew a lot between 2000 and 2010 – in those ten years Thurston County's population increased by 44,900, to 252,264 people. As has been true since 1960, most of Thurston County's growth between 2000 and 2010 came from net in-migration (77%) – more people moved to the region than moved away from it – and the rest (23%) was from the natural increase resulting from more births than deaths<sup>2</sup>. In-migration is expected to remain the primary source of population growth in the future<sup>3</sup>.

- Despite the housing boom that kicked off this past decade, it was not the region’s biggest growth decade. In terms of sheer numbers and growth rate, 1970 heralded an unprecedented decade of growth for the region. Between 1970 and 1980, Thurston County grew by 47,375 people, from 76,900 to 124,264 people. That’s more than a 60% increase in population in just ten years! 84% of the growth in that decade came from net in-migration. During that time, most people moved to unincorporated Thurston County so that by 1980, only 42% of the region’s entire population lived in cities, down from the high of 53% when the decade began. There has never been a stronger decade of growth in the region<sup>4</sup>; development patterns associated with that decade still have a pronounced influence on today’s communities.
- While Thurston County continues to be an employment draw for people from surrounding counties, an ever-larger share of Thurston County’s work force commutes to jobs outside the region. Currently, about 1 in 4 employees who live in Thurston County commute to jobs elsewhere. Pierce County is the number one destination, attracting over 62% of those commuters<sup>5</sup>; Joint Base Lewis-McChord (JBLM) accounts for a significant number of those Pierce County trips<sup>6</sup>. Today, more people commute to jobs outside the region to work than work locally for State government. That is expected to continue into the future as people are attracted by the range and affordability of lifestyles in the region that are relatively close to good-paying jobs to the north<sup>7</sup>.
- As is true across the country, average household size in Thurston County continues to decrease. In 1960, the average household size was 3.11 persons per household; in 2010, it was 2.46 persons per household. This corresponds to fewer households with children. Roughly 1/3 of households in the region have children at home; this compares to almost half of households in 1970<sup>8</sup>. This trend is expected to continue into the foreseeable future.
- Also consistent with national patterns, Thurston County will rapidly grow “older” over the next twenty years. Today’s population aged 65 or older represents about 12% of the population; that is expected to increase to 19% of the population by 2035. This will put new strains on households and on jurisdictions working to accommodate the needs of an aging population.
- Changing demographics bring with them major changes in lifestyle influences at the other end of the generational spectrum. The “millennial generation” refers to those people born between the late 1970s/early 1980s and early 2000s or so (there are no hard dates such as there are for the Baby Boom generation). Representing about 1/3 of the U.S. population, they are not following in the footsteps of previous generations. This generation grew up with computers and the internet. Often characterized as technologically savvy, fluent in communications and digital media, progressive and politically active<sup>9</sup>, optimistic, entrepreneurial, tolerant, and civic-minded, the Millennials show little interest in suburban lifestyles and traditional career paths. They grew up in the suburbs and demonstrate little desire to return. The largest generation in America’s history is redefining the “American



Dream”, flocking to metropolitan areas, foregoing drivers’ licenses, postponing marriage and child-rearing, and fostering a burgeoning “creative class” that is highly sought after by successful companies. If market studies and research analyses are correct, Millennials are already an economic force of their own despite spending much or all of their young adult lives weathering the Great Recession<sup>10</sup>. This generation is something of a wild card in Thurston County’s future. Will the region be able to attract and retain this generation over the next two decades? Or, will this generation take its creativity, technological competency, and economic clout to urban communities offering lifestyles that this region has yet to achieve? The answer may depend on how Thurston County grows. For forecasting purposes the region assumes there will not be an exodus of this generation from the region but time will tell if this is an accurate assumption.

- Looking ahead, this region is planning for another 120,000 people over the next quarter century. The plan is for most of that growth – about 87% of it – to locate in cities and towns and urban growth areas; the rest will locate in unincorporated rural Thurston County. This will mean more homes throughout the region, the majority of them designed and built for these changing demographics. In fact, about 1/3 of the housing stock that will be available in 2035 will be built between now and then<sup>11</sup>. Where and how those homes are built is the focus of community planning efforts across the region and a key topic of interest in this Sustainable Thurston process.

## We’re Not Starting from Scratch

This region has a long history of coordinated planning. Long before the Washington State Legislature passed the Growth Management Act in 1990<sup>12</sup>, jurisdictions throughout the Thurston region were working together in an effort to curb runaway suburban development that was rapidly changing the character of rural Thurston County.

In response to the siting of The Evergreen State College far outside any city limits into what was then rural Thurston County, government agencies voluntarily came together in 1967 and agreed to coordinate planning efforts through a newly-established organization called Thurston Regional Planning Council. Through this cooperative regional planning process, short-term and long-term growth boundaries were established in 1988, two years before passage of growth management legislation at the state level would require such boundaries.

Sub-area plans from the 1970s and 1980s shaped how places like the Cooper Point peninsula (1972), NE Thurston County (1977), Rochester (1978), the Lacey Environs (1978), Black Lake/Littlerock/Delphi (1981) and the Nisqually Valley (1991) responded to growth pressures they were experiencing. A master plan was developed for Meridian Campus (1986), a long-range plan prepared by private sector investors with a long-term stake in how the region grows. Inter-local agreements resulted in inter-governmental agencies like Intercity Transit (1981) and the LOTT Clean Water Alliance (1976)<sup>13</sup>.

All of these efforts laid the groundwork for the current era of growth management activities expressly aimed at shaping how communities throughout the Thurston region grow over time.

## Growth Management Act

Passage in 1990 of the Growth Management Act<sup>14</sup> (GMA) marked the beginning of a new era of coordinated planning in Washington State. The State Legislature found that uncoordinated and

unplanned growth posed a threat to the environment, sustainable economic development and quality of life<sup>15</sup>. Instead of centralizing all decision-making at the state level, GMA relied on Washington’s strong tradition of local government control and regional diversity to meet core statewide objectives<sup>16</sup>. GMA provided a framework within which communities could decide for themselves the best direction for their futures and how to get there.

Under GMA, cities and counties must plan for their future and develop a strategy for how they’ll grow and evolve over time<sup>17</sup>. Those strategies must address social and built environments (schools, streets, parks, and other essential public facilities) as well as the natural environment (wetlands, shorelines, prairies, and other sensitive areas). GMA delegates authority to local communities to decide their own urban growth boundaries that meet certain criteria. These boundaries define official “growth management areas” within which the majority of future growth will be accommodated. This includes each incorporated city and that area outside each city that will be annexed to accommodate its growth over the next 20 years. Keeping suburban residential development inside urban growth areas is an effective way to preserve rural and natural resource lands. GMA specifies that consideration must be also given to water resources, economic development, and public safety. Public engagement is required when developing or updating plans, as is coordination between jurisdictions in the region<sup>18</sup>.

The products that come out of GMA – County-wide Planning Policies<sup>19</sup>, local Comprehensive Plans, and the Regional Transportation Plan – reflect each community’s vision and values while addressing state requirements. These plans served as the framework within which government developed and administered its policies for the last twenty years, from day-to-day decisions about development approval and delivery of services like police and fire response, to big-ticket public investments. This framework in turn shapes private sector<sup>20</sup> investment decisions and the resulting choices people across the region have in deciding what kind of a neighborhood or community they want to live in. The underlying vision and supporting policies are periodically updated so they remain relevant as communities grow and evolve over time, responding to shifts in core values and emerging issues.



### Countywide Planning Policies

Countywide Planning Policies (CWPP) are the foundation of all growth management planning in the Thurston region. These policies describe how each jurisdiction will plan for future growth in a way that is consistent and coordinated with other jurisdictions in the region. The CWPP address:

- Urban Growth Areas;
- Promotion of Contiguous and Orderly Development & Provision of Urban Services;
- Joint County and City Planning Within Urban Growth Areas;
- Siting County-Wide & State-Wide Public Capital Facilities;
- Analysis of Fiscal Impact;
- Economic Development & Employment;
- Affordable Housing;

- Transportation; and
- Environmental Quality.

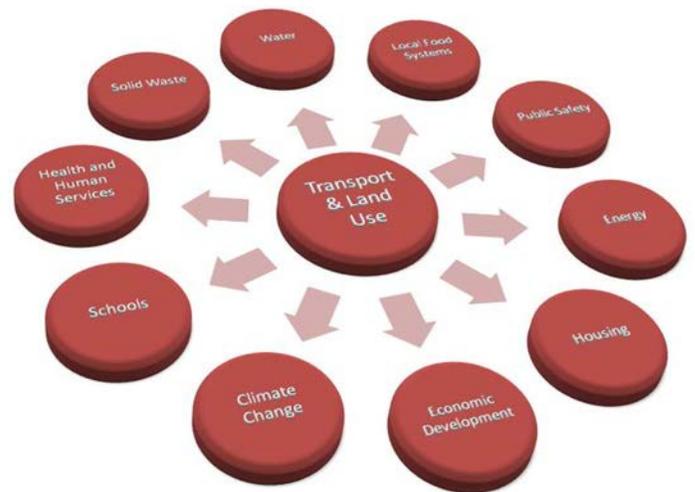
The CWPP also contain “Process Policies” regarding 1) Population Projections and Urban Growth Areas; and 2) Review of these CWPP Policies.

The Countywide Planning Policies were ratified by all seven cities and towns before adoption by Thurston County on September 8, 1992; the intent of policies was clarified by the jurisdictions in August 1993. In July 2002 the CWPP were amended for the first and only time since adoption ten years earlier, to describe the process by which a sufficient 20-year supply of land in Urban Growth Areas was to be determined, and to stipulate the process by which a review of the CWPP can be requested. Sustainable Thurston is the first comprehensive review of all the Countywide Planning Policies since that time.

These policies serve as barometers for whether local and regional plans are consistent and comply with certain aspects of growth management legislation<sup>21</sup>. Full text of the Countywide Planning Policies can be found in the Appendix.

This Sustainable Thurston paper is concerned with two particular aspects of the state-mandated growth management planning process – transportation and land use. Jurisdictions within the Thurston region are almost twenty years into implementation of the long-range plans developed within the framework of the Countywide Planning Policies. The plans aim to nurture and encourage great places that meet community needs for generations to come, places that are resilient in the face of inevitable uncertainties that the future holds.

How transportation and land use come together in the Thurston region affects virtually all of the other topics explored by the Sustainable Thurston Task Force and its panel experts. So what are local and regional plans trying to accomplish? This paper summarizes the visions that shaped how this region has grown over the last 20 years, and identifies some specific transportation and land use strategies that support those visions. This background will be helpful in assessing long-term sustainability needs and strategies. It will be useful in understanding whether changes to those adopted visions are needed or additional measures are required to meet long-term community objectives.



### A Word about ‘Vision’

This paper takes great license in attempting to articulate a summary vision that represents all local and regional land use and transportation plans in the region. Visions, guiding principles, and core values have shaped local and regional planning for over 20 years, each described in the vernacular of the respective communities at the time they were developed. That is where most vision details reside, at the local jurisdiction and neighborhood level, in the Comprehensive Plans that inform public policy and local decision-making and which guide zoning ordinances, development regulations, and public and private

investments. Despite concerted word-smithing, any effort to describe a singular vision in detail will be thwarted by the diversity of lifestyles and aspirations that exist throughout Thurston County and which are reflected in locally-adopted plans. Somewhat like beauty, the details of a vision are in the eye of the beholder.

For that reason, this paper avoids going into too many details about specific visions – the more detail, the more there is to disagree about. Details about the plans for residential neighborhoods, city centers, transit corridor districts, small cities, and rural areas – the places that are the foundation of adopted visions across the region – are best left to the individual plans that describe them for each community and to the people who live in those communities. This paper focuses instead on the foundation of those visions and their relationship to each other and to other Sustainable Thurston topics. The goal is to stimulate interest in the ideas that informed how the region has grown to date and the planning processes that will influence what the Thurston region is like in 2035.

## A Choice of Places and Lifestyles

Just like individuals have visions for the future that guide their life decisions, so too do communities have visions that describe the kind of place they aspire to be. Each jurisdiction in Thurston County has a vision on which its Comprehensive Plan is based (see Resources for links to each Comprehensive Plan). Those visions – crafted through thousands of hours of public input in the early 1990s and periodically updated – reflect core community values and describe characteristics that jurisdictions strive to achieve as they evolve over the years and decades. The details of each vision vary by jurisdiction but what they share in common is the intent to meet today’s needs without jeopardizing tomorrow’s opportunities, and to retain and build upon the characteristics that make each community unique.

Adopted visions describe places that offer a range of lifestyle choices that reflect the diversity of this region – places that provide different types of housing and travel options to meet different needs and desires over time:

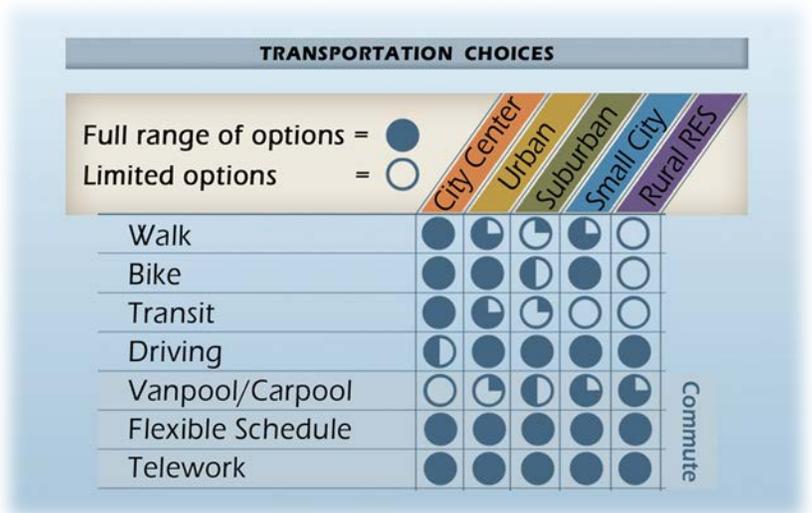
- **Dynamic city centers** will offer urban lifestyle choices that don’t exist today, featuring a range of high quality, multi-story housing, employment, and commercial opportunities within walking distance of each other in pedestrian-oriented settings. These will be the most urban of places in the region. Walking, transit, and biking may be more convenient than driving for those who live and work here. These places will offer the option of truly “car-lite” lifestyles for people of all ages and abilities, where car ownership is more of a choice than a necessity.
- **Urban transit corridors** refer to the premier Intercity Transit service corridors with 15-minute or better service frequencies. Future corridor investments will transform a select handful of transit-oriented **districts** on these corridors into vibrant, urban mixed-use neighborhoods offering a range of residential, service, retail, and civic opportunities. Short, one-seat transit rides connect these districts, enabling people to easily partake of a wealth of corridor activities without having to rely on a car.
- **Residential neighborhoods** range from older, close-in neighborhoods adjacent to city centers to 1970s and 1980s era cul-de-sac subdivisions to new subdivisions with sidewalks and a mix of housing types. Many neighborhoods will feature parks or other neighborhood amenities. Over time more residential neighborhoods will have small-scale retail or commercial services located

within or adjacent to residential areas though most will continue to rely on larger commercial centers nearby. Neighborhoods located on major suburban corridors will have access to basic transit service while those located adjacent to urban transit corridors will be a short walk from very frequent transit service. Biking and walking will be options for lots of people, though driving will continue to be the only practical mode of travel for most people.

- Vibrant, resilient **small cities and towns** will offer an increasing range of housing, retail, service, and medical opportunities served by street and trail systems that afford good walking and biking options for local trips, though most trips out of town will still require a car. Over time, economic development will increase the range of employment opportunities in these small cities so that more people have the opportunity to work locally. These centers will capture an increasing share of rural residential shopping and business trips, meeting basic daily needs while strengthening local economies.
- Pastoral **rural residential** lifestyles at very low densities will accommodate rural resource activities like farming, timber harvest, lumber production, mining and agri-tourism, and will be served by safe roads that facilitate car and truck travel with wide shoulders for walking and biking. Small commercial centers will continue to provide basic services at key crossroads and in rural communities. Fixed-route bus service will not be an option in these areas, though carpooling and vanpooling will offer good commute options. Measures like teleworking and compressed work weeks will generate maximum benefit for these residents that tend to do the most driving.

Inherent in adopted visions is the understanding that each type of place will be served by an appropriate mix of transportation facilities and services, recognizing that one size does not fit all when it comes to either lifestyle choices or travel options. This is the basic intent of the places envisioned in adopted plans.

It is not now, nor has it ever been the intent, to impose one type of lifestyle on all residents of this region. For many decades, jurisdictions have worked to ensure a range of lifestyle opportunities for their residents, recognizing that different people want and need different options at different times in their lives. Many successes have been realized in this effort and many lessons have been learned along the way; some things have been much harder to achieve than originally expected. While those challenges tend to shape current effort, they do not negate the overall intent of diverse lifestyle opportunities today and in the future.



## Planning for Our Shared Future

Planning is the process a community engages in to shape and guide growth and development today and into the future, typically with the goal of maintaining and improving quality of life. Good plans shape good decisions. Planning is guided by community visions, constrained by property rights enshrined in the U.S. Constitution, and subject to market forces and other external factors. The resulting plans serve as a roadmap, helping a community realize its goals in a deliberate way instead of simply hoping that things will occur as envisioned.

The planning process is a continuous process. Community values change, new issues emerge, and experience often points to more effective strategies for accomplishing shared objectives. This requires plans and planning processes to evolve as they mature, to adapt to changing conditions, and to be updated periodically to maintain currency and relevance.

While it is heavily dependent on demographics, socio-economics, science, mapping, and technical analysis, planning is as much an art form as it is a science. Planning for our shared future reflects the aspirations of residents and businesses; it engages the citizenry in describing a community vision and a path for getting from “here” to “there”. Planning must strike a balance between the needs and desires of those who live and work here today with the needs of those who will live and work here tomorrow. It must be at once aspirational but also pragmatic in its consideration of existing conditions and forces.

A successful planning process inevitably faces difficult trade-offs and competing interests and values. Were there no choices to be made, there would be little need for plans. Successful plans are the foundation of successful implementation strategies. Realizing the visions described in our plans requires careful translation of those visions into implementing regulations and thoughtful alignment of public policy and investments with the market mechanisms that will bring visions to fruition.

Plans reflected in this paper are the big visionary plans that serve as a framework for transportation and land use decision-making at the local and regional levels. It describes philosophical underpinnings of the Regional Transportation Plan and local Comprehensive Plans.

Those big plans in turn yield more detailed systems plans, sub-area plans, neighborhood plans, corridor plans, zoning ordinances, design standards, and investment strategies specific to each individual community in the region. Every one of those more detailed plans is replete with specific implementation measures that guide day-to-day decisions of government, influence private sector investments, shape how the community looks and functions, and move the community closer to – or further from – its shared vision.

*Plans are only good intentions  
unless they immediately  
degenerate into hard work.*

*Peter Drucker*

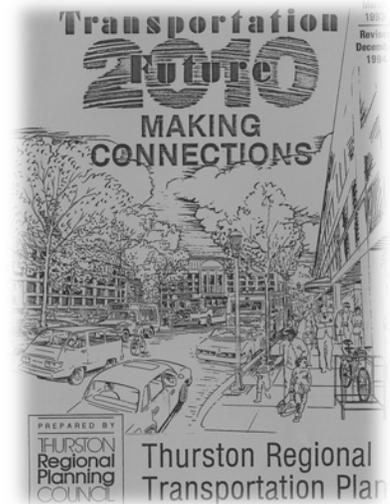
Readers are strongly encouraged to get involved in their local and regional planning processes, to learn details of the plans that shape their communities and the many ways to participate in these on-going, collaborative processes. It is hoped that the foundational ideas described in this section spark interest in finding out more details of how these core concepts are translated through the various decisions that continue to shape how this region grows and the opportunities it provides.

## Transportation

This overview of comprehensive planning in the Thurston region starts with transportation planning and the Regional Transportation Plan, or RTP. The RTP adopted in 1993 put into place the fundamental land use and transportation framework that informed subsequent development of local Comprehensive Plans and that is still in place today.

The 1993 RTP was not the region's first coordinated transportation plan, but it was the first plan adopted after passage of the Growth Management Act. The 1993 RTP, which planned for a forecast year of 2010:

- Identified an urban network of **high-density corridors** and city centers served by frequent transit service.
- Formalized a regional commitment to **multi-modal transportation** – that is, a transportation system that supports all forms (modes) of travel. This resulted in locally-adopted street standards that include sidewalks and bike lanes and which emphasize street connectivity, close coordination between transportation and land use decision-making, and comprehensive and coordinated investments in trails, transit, and the retrofit of old infrastructure to include non-motorized facilities.
- Put **land use** squarely in the forefront of the regional transportation planning process, making connections between different types of land use activities and places and the transportation system needed to serve them, and describing the importance of urban density and building design in supporting alternatives to driving alone.
- Emphasized the importance of a **well-connected street grid** and the problems associated with increased development of a cul-de-sac network.
- Set aggressive goals for **reducing drive-alone travel**, relying on a combination of measures that included demand management and commute trip reduction strategies in addition to non-motorized infrastructure, transit, and supportive land use policies.



Subsequent updates to the Regional Transportation Plan added to these concepts as thinking about transportation choices and trade-offs evolved with on-the-ground experience. Today these regional concepts are echoed in local Comprehensive Plans and processes.

- **Limits to Street Widening:** Maximum street widths for arterials limit mid-block cross-sections of the largest streets to two general-purpose lanes each direction with a center turn lane or median. This prevents excessive street widening from undermining other community livability objectives and minimizes the phenomenon of “induced demand<sup>22</sup>,” whereby widening streets generates more traffic until that additional capacity is consumed and the congestion is worse than before the street was widened.
- **Strategy Corridors:** Building off the concept that there's a practical limit to street widening, strategy corridors are designated where street widening is no longer an option. These corridors

are exempted from “concurrency requirements” that would result in wider streets or growth dispersed to the urban fringes where driving is the only travel option. The emphasis is instead on improving operational efficiency and multi-modal accessibility through enhanced, proactive land use coordination, recognizing that these urban corridors are the best location for compact, urban mixed-use neighborhood districts where alternatives to driving are viable options.

- **Strategic Transit Service:** Offering high quality, frequent, fixed-route service along key urban corridors enables transit to play an important role in regional transportation by providing a viable, efficient travel option for more people. In many ways, these premier transit corridors are prototypes for possible high capacity transit in the distant future, if this region were ever to grow in size to justify such service. Targeted rural transit investments through innovative community partnerships tailor service to the specific needs of small cities and tribes. An aggressive vanpool program strategy provides cost-effective commute options for people where fixed-route service is not practical.
- **System Efficiency:** Restricting street widths makes operational efficiency a *de facto* priority. Technological improvements, system redundancy, and street connectivity are all means of improving system efficiency and alleviating or postponing the need for costly capital projects. An emphasis on signal programs and coordinated corridor operations between cities and transit is key to making the existing urban system operate as efficiently as possible, reducing wasted capacity and increasing overall reliability. Meanwhile, taming the speed of state highways that serve as “main street” in small cities and towns increases system efficiency and helps the rest of the network to function well while preserving small city character. And a suite of efficiency measures will help I-5 move more people and goods using the infrastructure that is already in place.
- **Managing Demand:** Recognized as important in the 1993 RTP, demand management and trip reduction were elevated in importance over time as system efficiency became paramount. School-based programs were added to promote Safe Routes to School and active transportation activities like the “Walk and Roll” program. Commute Trip Reduction programs were expanded to more employment sites, and innovative programs targeted to the special needs of small and rural communities are being developed. Reductions in free parking where there are good transit and walk options help shift demand to non-auto modes. Within twenty years options like congestion pricing will likely be used to encourage more efficient modes and travel times on high-demand facilities like I-5.
- **Social and Environmental Health:** Public health considerations were added to regional transportation policies, recognizing the direct link between active lifestyles and air quality with a myriad of public health objectives. Climate change was formally acknowledged as an area of concern with specific targets established for reducing impacts attributed to transportation.
- **Analysis Framework:** Transportation analyses are based on forecasts derived from locally-adopted land use plans and reflect regionally agreed upon growth assumptions and distributions



based on those land use plans<sup>23</sup>. Congestion analysis looks at the entirety of commute periods and not just the most congested “peak hour” of travel. Models are being expanded to enable better analysis of demand management measures, High Occupancy Vehicle lanes, and technology advances. A unified regional model is used for regional analysis as well as by local agencies, ensuring use of consistent and coordinated assumptions across the region.

- **Funding Priorities:** Funding emphasis was placed on the care and upkeep of the existing network as a priority over general-purpose capacity projects, keeping life cycle costs as low as possible and making the system safe and efficient for all users, regardless of mode. This region has not spent discretionary federal funding on general-purpose capacity projects since 1998. This region encourages all project types in its federal funding awards, including transit, bike, walking, and travel demand, in addition to standard preservation, safety, and efficiency projects.

More people in the Thurston region have more travel choices available to them today than they did when the Growth Management Act was passed in 1990. The policy framework laid out by the Regional Transportation Plan and carried out through local plans and processes provides structure and flexibility in meeting on-going needs and responding to emerging issues and opportunities. It rewards close coordination between local and regional entities, traditional and non-traditional partners, and cities and transit. Established policies and processes put a high priority on taking care of what we’ve already built, and making the existing system as safe and efficient as possible before making it bigger. Much work is still needed to fully realize the vision of a truly multi-modal transportation system that offers the widest range of travel choices to the people who live and work here, but a lot of progress has been made.

## Land Use

The State’s Growth Management law requires local jurisdictions to develop Comprehensive Plans<sup>24</sup> (Comp Plans) that address numerous considerations such as affordable housing, economic development, infrastructure and utilities, shoreline protection, and transportation. Perhaps the most critical element, though, is the mandatory land use element. Every other element of the Comprehensive Plan is influenced one way or the other by the community’s vision for how and where it will grow, the ways in which it will use its finite supply of land to meet current and future needs.

Every single jurisdiction in the Thurston region has a Comprehensive Plan, from tiny Bucoda to Thurston County. In addition, there are “joint” plans for the unincorporated urban growth areas of each city that ensure development in these areas is compatible with the cities into which they’ll be annexed in the future. Because Comp Plans are developed within the framework of the Countywide Planning Policies, they are inherently consistent with one another across the region. Consistency does not mean they are the same or even similar, but it does mean that the plans work in concert and share similar core considerations with those from other jurisdictions across the region.



Comp Plans are amended regularly and periodically go through major updates. The point of these amendments and updates is to ensure each plan remains current, and is consistent with other plans and

forecasts in the region. Updates reflect changes in community values, new governing legislation, fiscal realities, and the lessons learned from previous experiences in plan implementation.

Each local jurisdiction's comprehensive land use plan is the foundation for subsequent local planning and development regulatory processes. The vision upon which each Comp Plan is based guides government decisions about where and how to accommodate growth in population and jobs. It informs public investments in transportation, parks, utilities, and services. It describes the way in which jurisdictions will address the effects of growth on existing neighborhoods and businesses through level of service standards, zoning, and design standards. In short, the detailed community vision underpinning each comprehensive land use plan is the basis for implementing regulations that govern the physical and spatial form of new development. That is why the Comp Plan is so important. Development regulations and public investments must be consistent with the Comp Plan, ensuring that the shape and design of growth reinforces the values inherent in the vision and contributes to each community's unique sense of place.

While they all comply with state GMA laws, Comp Plans reflect the unique opportunities and characteristics of each jurisdiction and the values as expressed by its residents when the plans were adopted or updated. That said, there are several key concepts that will be found in plans across the region:

- **Neighborhoods** are a primary building block of cities and towns. Many neighborhoods were in place long before comprehensive land use plans were developed; many more have been or will be shaped by these plans. Neighborhoods come in different sizes and forms. Those that have been built since passage of the Growth Management Act discourage the inefficient cul-de-sac form that characterized residential development in the 1970s and 1980s, favoring a more traditional and efficient gridded street pattern that maximizes neighborhood connectivity. Paramount to all local Comp Plans is the need to protect the character of existing neighborhoods while accommodating new neighborhoods. Note that most Comp Plans do not include specific neighborhood plans; often that is a finer level of detail than can be accommodated. However, more cities are promoting neighborhood-based planning as a means of applying Comp Plan principles to the unique needs of different neighborhoods.
- Many of the neighborhoods described in Comp Plans include a **mix of housing types**, similar to older-style neighborhoods from the early 20<sup>th</sup> century. This means that new and future neighborhoods are likely to include single-family homes as well as townhomes, duplexes, and granny flats. Even within a single-family neighborhood there are likely to be different sizes and types of homes instead of generic, one-size-fits-all house types.



- Over time, **increased densities** in residential neighborhoods are being realized, achieving more of a modern suburban or urban character than the sprawling suburbs of the 1970s and 1980s. This more efficient land use pattern minimizes the suburbanization of rural areas and maximizes the value of public amenities like streets, parks and trails. Increased density is also requisite for fixed-route transit service, which requires a minimum of seven units per acre for the most basic of services.
- There is and will continue to be a need for **multi-family housing** like apartments, townhomes, and condominiums. Comp Plans help identify when and where it is appropriate for these higher-density housing types to be located. While large complexes are often situated away from single-family neighborhoods, smaller scale complexes can often fit within the fabric of a diverse residential neighborhood, adding to its vibrancy and enhancing housing opportunities for a wider range of people. It is common for multi-family housing to be located between commercial corridors and single family neighborhoods.
- Often, it is some type of multi-family housing that is envisioned for **mixed-use neighborhoods** and districts, where neighborhood-scale commercial services are within walking distance of homes. The higher concentration of residential activity is better for business than traditional single-family neighborhoods since it means that more people will live within walking distance, reducing reliance on drive-by traffic. Occasionally a jurisdiction has the luxury of planning for a mixed-use neighborhood from the ground up when there is a sufficiently large parcel owned by a single entity and located in an appropriate place<sup>25</sup>. More often than not, though, new mixed-use neighborhoods will be the result of careful integration of residential activities into existing commercial areas and commercial activities into select residential areas. Both types of retrofit require particular attention to design details, circulation patterns, public spaces, and parking requirements. Jurisdictions are learning the very slow and difficult process these types of retrofits entail.
- Residential communities rely on **commercial uses** for their support. Comprehensive Plans describe where commercial activities are to be located. This often depends on the type of use – for example, retail or service or eating establishment – as well as the scale of the building. Large buildings and intensive uses – a big box retailer, for example – are incompatible with residential uses whereas smaller scale activities like a coffee shop or a day care facility may be an appropriate activity adjacent to residential areas. Increasingly cities are working to ensure that basic daily needs can be met within a reasonable distance from residential neighborhoods. Sometimes referred to as “ten-minute neighborhoods,” this concept is based on the idea that people should be able to access basic services within ten minutes of where they live. For some parts of the region that may be a ten-minute walk, transit trip, or bike ride but for others it will be a ten-minute drive. Different residential



neighborhoods will have different access to essential commercial services by virtue of their location, even as communities grow and mature and are shaped by progressive comprehensive planning objectives.

- Considerations for **rural residential** uses are quite different than in cities and towns. Comprehensive Plans strive to maintain the character of rural areas by decreasing residential densities. Rampant suburbanization of rural areas from the 1970s through the early 1990s encroached on working agricultural and forest lands, congested old farm-to-market roads, and transformed the character of much of rural Thurston County. Today, Comprehensive Plans limit rural residential densities in most areas to no more than one unit per five acres; one unit per ten acres and one unit per twenty acres are more in keeping with rural character and are in place in some areas.
- **Rural communities** are the exception to the rural residential density rules. Officially termed Limited Areas of More Intensive Rural Development, or LAMIRD, Thurston County has numerous communities that are recognized by name but which are not incorporated nor are they part of a city or town. Some examples include Rochester, Boston Harbor, Steamboat Island, and Scott Lake. Long before the Growth Management Act was passed, these places assumed the character of distinct rural places complete with residential neighborhoods, small retail and service businesses, eating establishments, and other activities that support rural lifestyles and economies. While they serve important functions in the rural community fabric, most of these places are limited in how much they can grow due to limited infrastructure; septic systems and wells in particular limit the kind and intensity of activities in these areas. These same limitations serve to maintain their rural character. These LAMIRDs are identified as such in the Comp Plan.
- Rural land use activities addressed in the Comp Plan include **rural resource lands** – agricultural, forestry, mining, and aquaculture. The vision is that these types of activities should continue to exist and flourish in the Thurston region. Important rural resource lands require special zoning to keep residential activities from encroaching on them and possibly displacing them. It is not uncommon for people to move to a rural location because of the rural lifestyle it affords and then complain bitterly about the activities associated with working farms or forest lands. Sometimes residential uses are incompatible with rural resource land activities. The Comp Plan articulates the importance of these activities and helps preserve this aspect of our rural economy by designating them as priority uses in certain areas.
- Cities and County alike must plan for other important land use activities associated with **manufacturing and industry**. While the nature of manufacturing and industry has changed immensely in the last 100 years, there are still many reasons to consider where these



activities should be located. Comp Plans designate areas appropriate for manufacturing and industry based on several criteria including utilities, water, and adjacent land uses. An important factor is the transportation system needed to serve that industry. Truck, rail, ship, and aviation all serve this region's industries. Thoughtful consideration of where key infrastructure is located and the kind of products used for manufacture or produced for shipment is necessary to ensure designated locations can actually support economically-viable enterprises. Much of the region's manufacturing is small scale and low impact, making it compatible with adjacent commercial, recreation, and other non-residential activities.

These features summarize the most fundamental aspects of this region's land use vision as embodied in local Comprehensive Plans, and which are encapsulated in the five generalized place types used in Sustainable Thurston.

### **Other Relevant Plans**

The focus of this paper is on the fundamental land use and transportation vision reflected in local and regional plans mandated by the Growth Management Act. There are many other relevant plans and planning efforts that have bearing on the way this region grows, and the opportunities and choices it faces. Following is a brief introduction to several of those plans.

#### **Confederated Tribes of the Chehalis Reservation**

The Chehalis Tribe has developed plans that guide planning and investment decisions in southwest Thurston County. The Comprehensive Plan and Zoning Ordinance (2004) provides assurance that current and future land use activities on tribal lands are compatible, protect the Tribe's natural resources, and preserve the cultural interests and welfare of all members. More recently, the Grand Mound 10-Year Development Plan (2009) describes the Grand Mound community's vision and provides a foundation for future planning efforts by Thurston County. It is intended stimulate cooperation, investment, and public-private partnerships to improve Grand Mound. Developed by the Tribe at the request of Thurston County, the Grand Mound plan recognizes that the area is in a period of transition. Community dialogue and careful planning can harness the economic opportunities associated with sewer and transportation infrastructure investments and the proximity of Great Wolf Lodge.

#### **Nisqually Indian Tribe**

The Nisqually Tribe's Community Vision Plan serves as a comprehensive plan to guide community and economic development activities over the next 20 years. The theme, "Learn from the Past, Look to the Future", builds on the experience gained since adoption of the 1995 Vision Plan to better understand and plan for future opportunities. In addition to economic development activities on the reservation, the Tribe recently purchased hundreds of acres of prime real estate – the Gateway project site at Hawks Prairie – that it plans to develop into a destination lifestyle center<sup>26</sup>.

#### **Intercity Transit**

As the region's public transportation agency, Intercity Transit maintains short- and long-range plans that guide its provision of services. The 2013-2018 Strategic Plan lays out system service priorities in light of projected revenues and funding uncertainties<sup>27</sup>. The agency is currently in the process of updating its short- and long-range system plans. These plans provide near-term and long-term guidance on system expansion and types of services offered. The long-range plan takes into consideration changes in land use patterns over time and the role these changes may play in the types of services offered.

## Port of Olympia

In 2012, the Port of Olympia completed its Vision 2025: Strategy Plan, updating the previous long-range plan developed in 1995. The Strategic Plan describes Port facilities and lines of business. It also lays out the targets and principles governing its business decisions as well as specific strategies and measures of success. The Plan acknowledges that the Port must be nimble and flexible in its efforts to create economic opportunities. To that end, the Plan identifies examples of future opportunities that it may pursue on its own, and with local and regional partners.

## Washington State Department of Transportation

Though the emphasis of this paper is on local and regional efforts, the Washington State Department of Transportation (WSDOT) is an important partner at both the local and regional levels. WSDOT develops and maintains the State's transportation plan, Moving Washington. This plan lays out the State's strategy for creating an integrated, "21<sup>st</sup> century" transportation system and the principles that will guide its transportation investments. The 2030 Washington Transportation Plan provides guidance on six policy issues identified by the Legislature. WSDOT also maintains various modal plans that provide project-specific guidance for its investments in highways, non-motorized facilities, rail, aviation, etc. WSDOT is also responsible for important plans and studies, such as corridor studies (formerly called Route Development Plans) that inform decision-making on SR 507, SR 510, and SR 12, and major interchange studies such as the I-5/US 101 study and the Lakewood/I-5 interchange study. Results of a recent I-5 Value Planning Study, from Tumwater to Marysville, should be available early in 2013. WSDOT is an active partner with local and tribal government in the development of studies and projects related to state facilities and routinely invites local and regional agencies to participate in its study efforts.

## Washington State Department of Enterprise Services

The Department of Enterprise Services (formerly General Administration) is responsible for location decisions affecting the region's largest employer, state government.

The State is not just the largest employer in the region it is also the largest landowner. The siting and design of state office buildings – both leased and owned – has a major impact on local communities. Enterprise Services works with Lacey, Olympia, Tumwater and Thurston County to identify opportunity sites for future development of state facilities. Preferred Development and Leasing Areas describe where future state offices will be located<sup>28</sup>. The goal is for all future facilities to be built in downtown areas and urban centers with good transit service. The State recognizes the need for viable travel options for its employees and clients and the impacts that location decisions have on parking demand, local infrastructure, and congestion; travel demand management considerations are factored into all site designs. The intent of State policies is to support growth management principles, transportation demand objectives, the Comprehensive Plan goals of Lacey, Olympia, Tumwater, and Thurston County, and the Regional Transportation Plan. The goal is to ensure that the growth of state government does not contribute to urban sprawl.

“...state government facilities should conserve existing urban resources, infrastructure and services, and encourage the development and redevelopment of central business districts and other mixed-use designated urban centers.”  
*Master Plan for the Capitol of the State of Washington, Principle 3 – Community Vitality*

## **JBLM Growth Coordination Plan**

Several jurisdictions and agencies from throughout Thurston County participated in development of the Joint Base Lewis-McChord Growth Coordination Plan, “a regional collaboration dedicated to building thriving military communities.” JBLM is a significant influence on this region. It is an example of an active duty military base that was once outside of any urban area but which is now surrounded by urban communities. The intent behind the highly-collaborative Growth Coordination Plan and subsequent follow-up activities is to nurture a mutually beneficial relationship between JBLM and its surrounding communities through careful planning and coordination to ensure that local facilities, infrastructure and services are adequate to meet the area’s needs, and well as to ensure that the South Sound region is taking full advantage of the military asset in its midst. Growth coordination planning addressed ten disciplines, including: land use; transportation; economy; housing; education and child care; public safety; utilities and infrastructure; health care; social services; and quality of life. An immediate outcome of the planning effort was formation of the South Sound Military Communities Partnership, in which several representatives from the Thurston region are actively participating.

## **From Vision to Reality – How the Big Picture Translates into Implementation Details**

Comprehensive Plans, in and of themselves, do not turn a community’s vision into reality. Local and regional plans provide the basis for implementing regulations like zoning and development standards, for public investments in infrastructure and services, and for detailed sub-area and market studies. In turn these influence private sector decisions about what to invest in and where, as well as consumer decisions about where to live and how to get around and business decisions about where to locate.

How those visions translate to details can mean the difference between a vision that comes to fruition versus one that is little more than wishful thinking. Government has a strong influence on what gets built where through its implementing regulations and development process. While government can influence private sector investment decisions, though, it cannot force a developer to build something that does not pencil out. Sometimes it is necessary to dig deeper than a Comprehensive Plan or Regional Transportation Plan allows to understand and address barriers that impede some aspects of a community plan. One such illustration of this relates to urban corridors in the Lacey-Olympia-Tumwater area and can serve as an example for other planning efforts.

- In 2004, regional policy makers questioned whether adopted plans were effective in shaping how the region was growing. The *Vision Reality Task Force* (VRTF)<sup>29</sup> convened to evaluate in an objective, data-driven way whether the region was growing as called for in local and regional plans. Policy makers developed indicators directly related to key transportation and land use objectives and used these to evaluate development and travel trends since plan adoption. At that time they concluded there was a disconnect between vision and reality. They recognized that perhaps some of these indicators required more time before they could see changes and so agreed to revisit the indicators in five years.
- In 2009, review of updated indicator data revealed that while the region was making progress on some of its objectives, there was a growing disconnect between what was envisioned for the region’s premier transit corridors in terms of mixed-use development, and what was actually happening. Nothing was happening. It’s not that the wrong type of development was occurring; it was that no development was occurring.

This led policy makers to convene the *Urban Corridors Task Force* (UCTF)<sup>30</sup> to dig into details about the cause of this disconnect and notably, to make recommendations on how to

address the problem. UCTF members spent two years exploring in depth the land use and transportation policies governing development along priority transit corridors, the development tools and implementing mechanisms available to local agencies for achieving transportation efficient land use<sup>31</sup>, and private sector market forces that govern lending policy and risk assessment as well as the relationship between neighborhood density and commercial activities<sup>32</sup>. They concluded their work by developing a set of recommendations for local jurisdictions along the corridor. Finalized in 2012, the recommendations set forth a series of modest, moderate, and mighty measures Task Force members would carry forward to their respective agencies in order to achieve adopted land use objectives. Lacey, Olympia, Tumwater, and Thurston County have signed a joint resolution endorsing these recommendations and committing to pursue them.

- Even though it was a detailed study effort, the UCTF process could only point to more detailed information and analysis needs. As a result, several follow up activities identified during the UCTF process have been completed or are underway. These include: commercial and housing market analyses to understand the likely development potential of select districts along the corridor<sup>33</sup>; case studies of comparable communities engaged in similar community development activities; detailed analysis of Capitol Boulevard and its redevelopment potential<sup>34</sup> and infrastructure needs of the Martin Way corridor in Olympia<sup>35</sup>; studies for priority transit-oriented districts that will result in development regulations and investment strategies tailored to the unique needs of the Brewery District in Tumwater<sup>36</sup> and the Woodland District in Lacey<sup>37</sup>; training resources for local planners on a zoning alternative called Form Based Code; a walkability audit of priority transit-oriented districts<sup>38</sup>; and various public and policy maker forums. Each activity generates greater understanding of specific issues facing the corridor and each of the individual locations, providing details that could only be hinted at in the bigger UCTF process. This work will enable jurisdictions to better navigate the nuanced world of community development with strategies more likely to succeed than to fail.



- In late 2012 an Urban Corridor Communities Partnership was initiated by the mayors of Lacey, Olympia, Tumwater, and the Board of County Commissioners. Still in a formative stage as of the writing of this paper, the Partnership committed itself to provide leadership in moving UCTF recommendations forward and ensuring close coordination with Intercity Transit and other public and private sector stakeholders.

This is but one illustration of how a broadly-defined vision works its way to on-the-ground implementation details and actual realization.

## Climate Change, Transportation and Land Use

People throughout the world contribute to the production of greenhouse gas (GHG) emissions found in the atmosphere, but how much is generated and the source of emissions differs from place to place. Washington State is responsible for about 100 million metric tons of GHG emissions<sup>39</sup>. This is less than a tenth of a percent of the estimated 6.8 billion metric tons of GHG emissions released in the United States each year<sup>40</sup>.

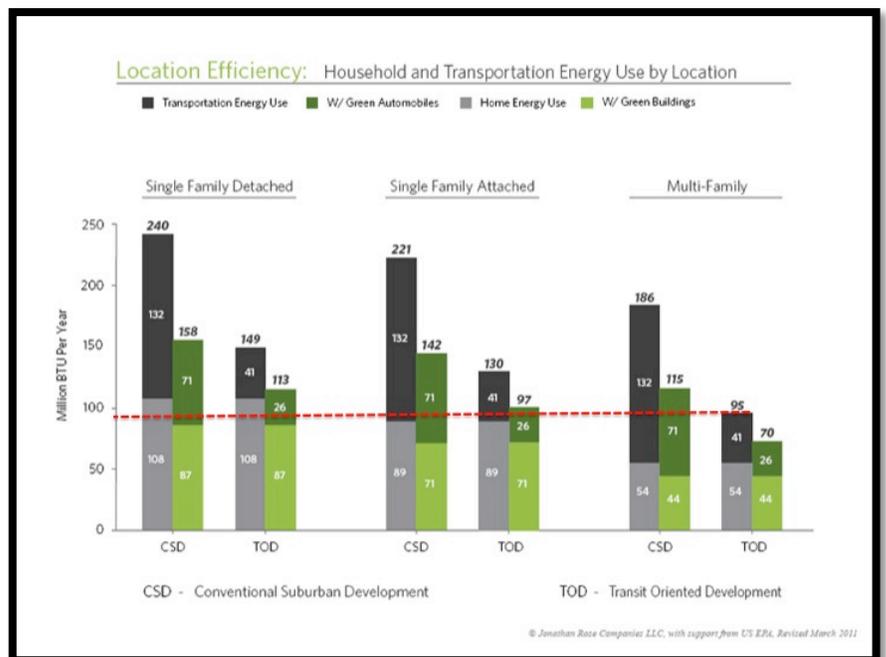
In much of the rest of the country, coal burned to generate electricity is responsible for the majority of GHG emissions. In Washington most of our electricity comes from hydroelectric dams, which are not a major source of emissions though they do take their toll on salmon. However, people in Washington drive more than many people elsewhere in the country. The vast majority of that driving is done with internal combustion engines, which generate GHG emissions. For these reasons transportation is the primary source of GHG emissions in Washington State, accounting for about 45% of emissions statewide<sup>41</sup>. That is why transportation is such a focus for climate change mitigation in this state.

Some are counting on vehicle technology, especially electric vehicles, to resolve this problem but It will take decades for electric vehicles to make a significant penetration into the market. Analysis by the Departments of Commerce and Transportation suggest that despite aggressive measures to introduce electric vehicles and provide the necessary charging stations, market penetration will be very slow<sup>42</sup>. Certainly there are good reasons to support electric vehicle technology, but that will have little impact on GHG emissions for the foreseeable future.

It turns out that reducing GHG emissions associated with transportation is in large part a land use issue. As noted earlier, the ability to walk or take transit or ride a bike has everything to do with how we build our communities. It also affects how far we have to drive to meet basic daily needs. For most people, driving will continue to be the only viable travel option for most purposes. Building our communities so that those distances can be a little shorter is good for reducing GHG emissions while at the same time reducing out-of-pocket travel costs, too.

This point is underscored by a U.S. Environmental Protection Agency study, *Location Efficiency and Housing Type – Boiling it Down to BTUs*<sup>43</sup>. This carefully referenced study compared four variables – conventional drivable versus transit-oriented walkable locations; conventional construction versus green building; single-family versus multi-family housing; and conventional versus hybrid vehicles. This graph summarizes the results.

The analysis clearly found that while all four variables are important – walkable location,



green construction, multi-family housing, and hybrid vehicles – walkable location is perhaps the single most influential factor in terms of household energy consumption<sup>44</sup>.

Measures cited as highly effective at reducing transportation-generated GHG emissions include: walking, biking, transit, and ride-sharing; travel demand management; compact, walkable neighborhoods; and measures that promote system efficiency such as signal timing improvements and user pricing. Interestingly, all of these concepts except system pricing were adopted by jurisdictions in the Thurston region back in the 1990s, long before climate change became a mainstream concern. That is because the land use and transportation measures that minimize impacts on climate change are the same ones that help to make communities more livable and provide more opportunities today and in the future.

## Has Planning Made a Difference?

Jurisdictions in the Thurston region have made great progress over the last twenty years in realizing many of the places envisioned in their Comprehensive Plans and associated transportation goals:

- **Residential Choice** - Large- and small-scale residential development resulted in a wide range of lifestyle choices for suburban living that has accommodated most of the population growth since 1990. These attractive neighborhoods feature amenities that were never included in most older suburban neighborhoods, neighborhood amenities like sidewalks, neighborhood parks, street trees, undergrounded utilities, connected streets, and dedicated open space. Some are fortunate enough to be located adjacent to one of the region’s major trail corridors. Most are located near arterials and collectors that have bike lanes.
- **Rural lifestyles** – While still feeling suburban development pressure in some areas, rural lifestyles have been preserved in many parts of Thurston County. Though residential encroachment creates some problems, there are still active farms and timber production in the rural County because of difficult decisions made to protect these activities. Even though most rural residents do not make their living from their land, much of rural Thurston County still “feels” rural in character. Policies governing residential development have helped to prevent the total suburbanization of most areas outside of established growth boundaries.
- **Gentle densification** - Appropriately-scaled infill and granny flats are gradually adding housing units to existing neighborhoods where there is already infrastructure in place and without taking away from the character of the neighborhood.
- **Complete streets** - Long before the term “complete streets” entered the planning lexicon, jurisdictions in the Thurston region had integrated pedestrian, bicycle, and transit facilities into their street standards. Anywhere from 30% to 60% of the cost of street projects in the Regional Transportation Plan are attributed to non-motorized facilities. In addition the region continues to build a remarkable trail network that will eventually connect every community to each other and to Puget Sound. The term ‘transportation’, when applied in the Thurston region, refers to all modes of travel and not just cars as appropriate to the type of place.
- **Urban transit** - Urban communities in the Thurston region enjoy a range of transit services, from basic 30-60 minute bus service to high-frequency corridors with 15-minute service frequencies, to inter-regional express service between Thurston and Pierce counties. In 2009,

Intercity Transit was recognized by the Federal Transit Administration as the best medium-sized transit agency in the country. This is due to the residents of the metropolitan area who have supported tax increases targeted to transit, and to the often difficult but strategic decisions made by the Intercity Transit Authority about what service to run where and when.

- **Demand management** - Managing travel demand to improve overall system efficiency is a cornerstone of local and regional strategies. Successful education efforts by TRPC expanded the State's Commute Trip Reduction laws to all state agencies regardless of size. At the other end of the demand management spectrum, school-based 'Walk and Roll' and 'Safe Routes to School' programs are getting more students to school on foot and by bike, and reducing the number of cars making drop-offs or pick-ups at schools. These school-based programs have ancillary health and education benefits that make this a high-value effort.
- **Development Mitigation Fees** - Since the 1990s, jurisdictions have required developers to pay their fair share of costs associated with improving the transportation system as a condition of development approval. This includes impact fees (Lacey, Olympia, Tumwater, Yelm), on-site and frontage improvements (all jurisdictions), and SEPA mitigation (all). Thurston County plans to implement impact fees on rural development in 2013. Developers have built many miles of sidewalks and bike lanes where they were missing on existing streets and roads as part of required frontage improvements. Development fees are routinely used by jurisdictions to leverage grants that pay for the share of project costs not attributable to new growth (on average, 40% - 60% of project costs), stretching limited local funds further than they could otherwise.

The effects of plans and policies on transportation can be looked at in many different ways. In terms of commute mode share, 30% of all work trips in 2009 were made by some alternative to driving alone: carpool (11.3%), transit (8.1%), vanpool (3.9%), biking or walking (5.3%), or a mix of travel modes (1%)<sup>45</sup>. This is only possible because of coordinated land use plans, targeted infrastructure investments, and a strong community commitment to reliable transit service. Had the region continued to develop as it had in the early 1990s, only 40% of today's population would live within ¼ mile of existing transit services today compared to 45% that actually live so close<sup>46</sup>.

Another measure of effectiveness is the change in vehicle miles traveled over time. The daily Vehicle Miles Traveled per person in Thurston County – what is referred to as per capita VMT – has been declining steadily since the 1990s. In fact, the Thurston region has already exceeded its 2020 goal of reducing per capita VMT to 1990 levels. 1990 per capita VMT was 29.5 miles per day. That is, 29.5 miles driven for every man, woman and child in the region. In 2000 the per capita VMT was 26.1 miles; in 2010 it was 25.4 miles per capita<sup>47</sup>. This region implemented transportation and land use efficiency measures with passage of the Growth Management Act. While it is difficult to say how different this region's travel patterns would have been without those policies in place, what is evident is that over time people are doing more while driving less. More people are using alternatives to driving for more of their trips and car trips are getting shorter in length. This translates to a decrease in per capita vehicle miles traveled since the early 1990s.

The effects of plans and policies on land use are reflected in the amount of developable land that was not consumed and that is still available for future needs. Had this region continued to grow in the style of community development in favor in the early 1990s, an additional eight square miles of land would have been consumed by now.

Growth management efforts have reduced the amount of impervious surface 35% from what it would have been under the old styles of community development. An additional 700 acres of impervious surface would have required treatment to reduce stormwater runoff and protect drinking water<sup>48</sup>.

Growth managed wisely is a finite resource that can help the region's communities achieve their objectives. It can help rectify existing deficiencies, increase opportunities, and mitigate long-standing issues. It can enhance overall quality of life in ways that reduce the impacts of today's decisions on tomorrow's choices. Growth can be – it should be – more of an asset than a liability. That is the aim of on-going local and regional planning processes.

## Challenges and Opportunities for Achieving Our Vision

An important function of the foundational papers for the Sustainable Thurston project is taking stock of outstanding challenges and identifying opportunities to address them. With 20 years of coordinated transportation and land use planning under the auspices of GMA and several more years preceding that, there is a rich experience from which to draw.

Despite all the accomplishments, there are many issues that confound realization of the visions embodied in local and regional plans. Some aspects of these visions have turned out to be harder to achieve than originally anticipated. Other challenges are simply emerging as a natural consequence of better understanding the nature of local community development dynamics. Some result from disconnects between transportation or land use and other topics under consideration in the Sustainable Thurston process. Still others represent emerging issues on the far end of the planning horizon for this process, but which will take time to understand and reconcile.

In an effort to organize a large number of issues into a meaningful array, this paper sorts them into five primary challenges:

Challenge 1 - How will we pay for what we need and want?

Challenge 2 - How will we reduce our environmental impacts?

Challenge 3 - How will we address regional coordination problems?

Challenge 4 - How will we achieve the “walkable urban” component of our vision?

Challenge 5 - How will we preserve long-range opportunities for future generations?

Each challenge identifies specific issues. Each issue is accompanied by a modest and a mighty measure describing opportunities to overcome the issue and help address the challenge.

The following tables present these challenges, issues and opportunities.

## Challenges and Opportunities for Achieving Our Vision

Challenge 1 - How will we pay for what we need and want?		
Issue	a. Modest Measure	b. Mighty Measure
1. Jurisdictions are hard pressed to pay for the maintenance and upkeep of transportation infrastructure like streets, trails, and bridges. If we can't afford to maintain and take care of what has been built, we can't afford to rebuild it.	a. Raise local revenue and dedicate it to system preservation. Utilize Transportation Benefit Districts to generate additional funds that can be dedicated to maintenance and preservation activities.	b. Take a regional approach to caring for the regional trail system. This could be in the form of a single jurisdiction that is contracted for basic trail maintenance, or a regional foundation or non-profit organization. A regional strategy would consider efficiency and affordability, and look at long-term options to ensure funding stability.
2. Commercial growth and economic development envisioned for Rainier and Bucoda is limited by the lack of a public sewer system, restricting jurisdictions' abilities to generate revenue that supports basic community services.	a. Develop a sewer plan for Rainier and Bucoda that includes costs and potential funding sources.	b. Find resources to construct public sewer systems in Rainier and Bucoda.
3. Some portions of currently unincorporated urban growth areas may be too expensive to serve with urban levels of service and infrastructure due to environmental constraints.	a. Develop or update essential infrastructure plans (Coordinated Water System Plan; Sewerage General Plan; Regional Transportation Plan; Solid and Hazardous Waste Plans) and identify those areas that merit a closer evaluation of suitability for long-term urban growth.	b. Review growth management boundaries for their realistic potential to accommodate urban growth and infrastructure; if necessary revise those boundaries to exclude areas that are not practical for future urban growth.

<b>Challenge 1 - How will we pay for what we need and want?</b>		
<b>Issue</b>	<b>a. Modest Measure</b>	<b>b. Mighty Measure</b>
4. Local Thurston County sales tax revenue pays for all inter-regional express transit service between Thurston and Pierce Counties, increasing travel options for local residents and employees and removing vehicles from I-5 during peak periods but limiting the availability of funds to expand local service.	a. Explore partnerships with Sound Transit to share express service responsibilities between Thurston and Pierce Counties.	b. Pursue state funding support for inter-regional express transit service that relieves demand for additional interstate capacity.
5. Outdated or substandard infrastructure (streets, sewers, water) inhibits private investment where residential services can be provided most efficiently when the cost of upgrading or modernizing those facilities are assigned to new development.	a. Identify priority target areas for infill and redevelopment; develop a financing plan using existing and/or new mechanisms to bring infrastructure in those areas up to modern standards.	b. Implement infrastructure financing plan to bring outdated infrastructure in priority target areas up to modern standards.
6. Sufficiently large parcels for school sites are difficult to find within cities or are too expensive for school districts to buy. This forces districts to outlying areas that cannot be served by transit, and where distances are too far for walking or biking to be feasible for school children. This relegates teachers and students to auto-dependency and creates a huge and growing budget burden to provide school bus transportation.	a. Incorporate long-term school transportation expenditures and costs necessary to provide connecting infrastructure ( ¼ to ½ mile distance) into the budget equation for determining school site affordability during benefit-cost analyses when evaluating potential new school sites.	b. Explore strategies like appropriate public-to-public land swap opportunities to create suitably-sized parcels for new schools close to existing residential neighborhoods, or where there is convenient access to high-frequency transit service.

<b>Challenge 1 - How will we pay for what we need and want?</b>		
<b>Issue</b>	<b>a. Modest Measure</b>	<b>b. Mighty Measure</b>
7. Some standards for rural residential development are more lenient than urban standards, creating an uneven playing field between the costs for rural and urban development. Failure to capture the true cost of rural development undermines efforts to attract more growth into urban areas and protect what remains of Thurston County’s rural character from further suburbanization.	a. Take a consistent approach to transportation impact fees region-wide, ensuring that growth in rural Thurston County helps to pay for its impacts on rural roads and city streets.	b. Impose the same stormwater treatment and well-head protection requirements for rural residential development as is required in urban areas. Evaluate the efficacy of water permitting requirements and pursue changes if warranted.
8. Transportation costs can severely impact housing affordability when residents must drive long distances to meet basic daily needs. Rural and suburban residents drive many more miles per year than their urban counterparts and so are most vulnerable to the impacts of fuel price increases on their overall household budgets.	a. Encourage more appropriately-scaled commercial and retail activity centers in the region’s south county cities and rural communities to provide near-by destinations for rural residents.	b. Work to establish “ten-minute neighborhoods” that offer most suburban and small city residents an array of basic services within 10 minutes of where they live.
9. Transportation accounts for 2/3 of the region’s fuel consumption. Future fuel price volatility will negatively impact municipal, transit, school transportation, and household budgets and cut into the ability to pay for other essential needs and services.	a. Continue to work on achieving land use patterns that reduce the need to drive for more people by either enabling shorter vehicle trip distances or making alternatives to driving reasonable options. Public sector co-benefits include greater fuel efficiency per capita in delivering public services.	b. Whenever possible, locate local government buildings accessed by the public on or adjacent to corridors served by regular or high frequency fixed-route transit service, or within compact, walkable small city centers.

<b>Challenge 2 - How will we reduce our environmental impacts?</b>		
<b>Issue</b>	<b>a. Modest Measure</b>	<b>b. Mighty Measure</b>
1. Rural residents drive more miles per capita than urban-area residents. While an increasing number of urban residents can reduce their vehicle miles traveled through transit, walking, and biking, the nature of rural travel makes these options impractical for most rural residents.	a. Establish park-and-pool facilities with low-cost, high-value investments that increase vanpool and carpool options in the small cities and rural communities, expanding travel options that enable more rural residents to reduce their driving miles.	b. Explore the potential for creating a south county telework center - perhaps co-located with a small-business incubator, library, or other appropriate use – that provides residents with the technological capacity to telecommute or engage in on-line education activities without having to drive to a larger urban area. Rainier’s fiber optic cable may be an untapped resource in this regard.
2. Auto-dependent community patterns inhibit active travel choices, promoting sedentary lifestyles that are sending obesity and other chronic health conditions soaring.	a. Integrate public health considerations into land use and transportation goals and policies in local and regional plans.	b. Integrate walkability of the surrounding neighborhood into school siting decisions, and put a priority on safe and convenient access to the building entrance for non-motorized travelers when designing school buildings.
3. Motor vehicle emissions contribute to air pollution, which disproportionately affects the very young, the very old, and those with respiratory diseases.	a. Promote integration of electric vehicle infrastructure into residential building codes, and public and private facilities. Ensure that zoning regulations accommodate charging facilities for the public where needed.	b. Achieve the region’s adopted reductions in per capita VMT by attaining: 1990 levels by 2020 (achieved); 30% reduction of 1990 levels by 2035; and 50% reduction of 1990 levels by 2050.
4. Transportation accounts for 47% of greenhouse gas emissions in Washington State. Greenhouse gas emissions are a major contributing factor to climate change.	a. Develop a Greenhouse Gas Emissions Framework for integrating greenhouse gas emissions analysis into transportation decision-making for those factors under the control of local government.	b. Look for ways to incorporate greenhouse gas emissions calculations into traffic impact analyses to identify those land use proposals that will have a higher-than-average per capita impact on the region

<b>Challenge 2 - How will we reduce our environmental impacts?</b>		
<b>Issue</b>	<b>a. Modest Measure</b>	<b>b. Mighty Measure</b>
<p>5. Natural hazards – drought, wild fire, severe winter storms, floods, and landslides – can be expected to increase. Sea level rise will alter marine shorelines; changing weather patterns will potentially affect important natural resources and food supplies. Increasing frequencies of natural hazards will cause recurring disruptions to local systems, straining the capacity of communities to respond. Without near- and long-term investments in hazard mitigation and disaster resilience, public safety is increasingly at risk and economic recovery difficult to achieve. There is no cogent regional disaster recovery plan or framework to guide prioritization of critical infrastructure and promote economic recovery in the face of increasing severe weather events.</p>	<p>a. Develop a Climate Action Plan for the Thurston Region that identifies and addresses key vulnerabilities like transportation infrastructure, drinking water systems, energy and fuel distribution, food production, public safety, and emergency management. The Climate Action Plan should include mitigation measures as well as adaptation and recovery strategies to increase the disaster resilience of communities.</p>	<p>b. Implement priority recommendations identified in the Climate Action Plan and the Natural Hazards Mitigation Plan.</p>
<p>6. Fish passage barriers created by roadway culverts are a principle cause for the Chinook salmon’s listing as a Threatened species under the Endangered Species Act. At current funding levels it will take 50 years to address the backlog of culverts on public roads, with many more remaining on private roads.</p>	<p>a. Identify and restore degraded streams and shoreline habitats, targeting properties identified in local and regional restoration plans, and funding these actions through local, state, and federal resources.</p>	<p>b. Adopt local funding measures to finance local salmon recovery projects and establish a target date for the removal / remediation of all problem culverts.</p>

## Challenge 2 - How will we reduce our environmental impacts?

Issue	a. Modest Measure	b. Mighty Measure
<p>7. The US Fish and Wildlife Service announced proposals to list the Mazama Pocket Gopher and streaked horn lark as threatened and the Taylor’s checkerspot butterfly as endangered under the national Endangered Species Act. These species live in the region’s prairie habitat; they require plans to protect and manage habitat necessary for their survival. This creates uncertainty for property owners, businesses, and jurisdictions. While much of this habitat is in rural areas, significant portions of urban growth areas in Tumwater, Tenino, Yelm, and Rainier include prairie lands. These areas support a large share of the region’s industrial and manufacturing base and Port activities. These also include school sites, commercial lands, and residential neighborhoods. Displacing these activities from established urban areas will increase development pressures on rural lands.</p>	<p>a. Expedite development of habitat conservation and management plans that will preserve suitable tracts of rural lands and reduce uncertainty for property owners in the impacted urban areas and small cities where growth is anticipated.</p>	<p>b. Establish new conservancy partnerships, recognizing that sometimes development will occur on protected habitat, generating habitat mitigation fees in the process. Local land trusts are uniquely positioned to know of high quality properties that can be acquired with these funds from willing sellers. Thurston County can enter into long-term cooperative management agreements with the local land trusts (e.g. Capitol Land Trust and Nisqually Land Trust). In collaboration with the cities, the County would collect habitat mitigation fees from those developing habitat properties targeted for growth in local plans. The land trusts would be designated as the management entity for securing high value conservation property. The land trusts would use the mitigation fees and other fiscal resources to purchase and maintain high value conservation properties in rural Thurston County.</p>

<b>Challenge 3 - How will we address regional coordination problems?</b>		
<b>Issue</b>	<b>a. Modest Measure</b>	<b>b. Mighty Measure</b>
1. Demand for I-5 travel between Thurston and Pierce Counties during peak travel times exceeds highway capacity; widening I-5 will not happen within the next 20 years.	a. Advocate for the use of “hard shoulder running <sup>49</sup> ” to add an HOV lane between Thurston and Pierce Counties within the existing I-5 paved right-of-way.	b. Advocate for the use of congestion pricing between Thurston and Pierce Counties to encourage transit, vanpool, and carpool use on I-5 during peak commute periods, and target revenues to projects that enhance system efficiency.
2. State highways bisect rural cities and communities, resulting in high traffic volumes and speeds that discourage “main street” activities and walkability, and create real or perceived hazards in the vicinity of schools.	a. Engage the WSDOT in reviewing and refining street standards for state highways that serve as “Main Street” for rural communities (SR 507, SR 510, SR 12) or which abut school sites, including revisions to historic Route Development Plans.	b. Use transportation impact fees collected from development in rural Thurston County to help finance needed transportation infrastructure in cities like Yelm and Rainier on which this rural pass-through traffic relies.
3. Growth Management Act requirements compel local jurisdictions to develop long-range plans to guide growth, but entities like schools and fire districts have no such requirement and sometimes end up making location decisions that are inconsistent with locally-established growth plans.	a. Adopt policies that require regular coordination and collaboration between local jurisdictions and school districts and fire districts to ensure that short- and long-term growth strategies are consistent and keep public costs as low as possible.	b. Building off the model of County-City joint planning, establish joint plans between local jurisdictions and special purpose districts that will guide long-range growth and investment decisions for all parties.
4. Rapid growth in Thurston County and at Joint Base Lewis-McChord (JBLM) exacerbate conflicts between uses and strain local services. Inadequate coordination jeopardizes quality of life for the region, undermines the unique needs of an active military base in an urban setting, and neglects significant economic opportunities that can be realized by local businesses.	a. Improve policy coordination and formal information sharing between JBLM and government agencies, public works departments, planning departments, chambers of commerce, and economic development agencies. Participation in the South Sound Military Communities Partnership provides an important foundation for more extended coordination opportunities.	b. Conduct a Joint Land Use Study (JLUS) between JBLM and surrounding communities to understand and lessen impacts on residential and other sensitive lands off base and minimize encroachment into Clear Zones and Accident Potential Zones, including the potential for preserving valuable prairie habitat that can serve as a buffer between military and civilian uses while ensuring threatened species survival.

<p>5. More than 152,000 vehicles travel through the gates of Joint Base Lewis-McChord every day; more than 80% of those trips use I-5. Over 30% of base personnel live in Thurston County. Growing congestion and safety issues on I-5 threaten JBLM’s primary mission. Traditional demand management measures are limited in their ability to reduce single-occupancy vehicle congestion into and out of the base due to the high proportion of activity duty personnel and the requirements of base security.</p>	<p>a. Promote increased use of vanpools and carpools by JBLM personnel living in Thurston County through programs at Intercity Transit and TRPC, including adaptation of current vanpool requirements to better accommodate the needs of active duty personnel. Support these efforts by taking a leadership role in pursuing installation of dedicated HOV lanes at two or more security gates.</p>	<p>b. Pursue changes in Department of Defense policies that restrict the ability to implement demand management measures like parking pricing and flexible work schedules, and the funding of on-base shuttles. Policy changes should require that JBLM develop comprehensive demand management strategies to reduce reliance on the single-occupancy vehicle such as those developed at bases on the East Coast.</p>
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<b>Challenge 4 - How will we achieve the “walkable urban” component of our vision?</b>		
<b>Issue</b>	<b>a. Modest Measure</b>	<b>b. Mighty Measure</b>
<p>1. City centers and high frequency transit corridors are not attracting private sector residential investments. Less than 5% of residential units built since 1995 were located in centers or where excellent transit service is available.</p>	<p>a. Develop sub-area plans, <i>pro formas</i>, and appropriate development regulations for a select few priority transit-oriented districts. Conduct a planned action EIS to identify any critical issues and to make the investment and development process as predictable as possible in these high priority locations.</p>	<p>b. Explore ways to integrate location-efficiency into transportation impact fee structures, recognizing that residential and commercial development locating in city centers and on urban corridors served by 15-minute or better transit service is not auto dependent like that locating in more suburban and rural areas, and should not be subsidizing auto-oriented growth through impact fee structures.</p>

### Challenge 4 - How will we achieve the “walkable urban” component of our vision?

Issue	a. Modest Measure	b. Mighty Measure
<p>2. There is limited investment capital for high-quality, mixed-use infill and redevelopment, which is a high demand specialty niche within the development industry. Low land rents in Thurston County combine with federal lending criteria designating this as a secondary lending market to further inhibit this type of development, which is needed to meet future housing demands.</p>	<p>a. Identify and implement specific actions that can help offset external market forces and increase the attractiveness of select areas for transit-oriented development. Urban Corridors Task Force recommendations include refinement of regulatory tools, infrastructure and place-making investment strategies, and new development partnerships as candidate strategies to accomplish this.</p>	<p>b. Establish a locally-financed Community Lending Pool to provide capital for a limited number of high quality transit-oriented projects to help prove the viability of this market to major lenders.</p>
<p>3. Traditional zoning and development codes that work well for suburban residential and commercial development are not well-adapted for the complexities associated with mixed-use and infill development projects, discouraging this type of private sector investment.</p>	<p>a. Right size – and right price – parking, particularly in mixed-use locations with excellent transit, walk, and bike options. Where appropriate eliminate parking minimums, and encourage shared parking between uses.</p>	<p>b. Streamline the development review and permitting process for projects that support transit-oriented development objectives and are consistent with adopted public policy and design standards.</p>
<p>4. Urban travel options do not work well with suburban land use patterns. While there is increasing demand for urban travel options, public sentiment tends to oppose urban development. People have little experience with truly urban development projects in this region. “High density” is often blamed for poor or incompatible design requirements, fueling public opposition to appropriately-scaled urban infill and redevelopment projects that are consistent with adopted visions and support urban travel options. This in turn discourages future private investment in these projects.</p>	<p>a. Combine Visual Preference Surveys and urban design charrettes with market studies to expand public approval for urban development that can support urban travel choices – transit, biking, and walking – and is economically viable. Contract for design visualization imagery such as that developed by <i>Urban Advantage</i> to engage the public in visualizing before and after opportunities for one or two priority sites.</p>	<p>b. Review and update as appropriate local architectural and design guidelines to better accommodate urban infill and redevelopment projects with standards tailored to the constraints and opportunities of specific locations. Ensure design review procedures and boards are capable of effectively considering the unique needs of urban and mixed-use development. Consider hiring an urban architect specifically to support corridor development activities in the three urban cities, focusing on building design and the character and function of public spaces.</p>

### Challenge 5 - How will we preserve long-range opportunities for future generations?

Issue	a. Modest Measure	b. Mighty Measure
<p>1. Despite increasing interest in some sort of high capacity transit option in the Thurston region, the region’s small size and predominately suburban land use patterns will not support this type of transit investment for several decades to come.</p>	<p>a. Conduct an Alternatives Analysis, a specific type of robust, data-driven analysis used to determine what types of high capacity transit service an area can support in the future that is also a prerequisite to qualify for future federal transportation funding for such service.</p>	<p>b. Determine whether to pursue membership in the Sound Transit ‘Regional Transit District’ as a means of possibly acquiring high capacity transit service (commuter rail, light rail, bus rapid transit, etc) sooner rather than later. This should include comprehensive evaluation of the costs and benefits associated with such membership, as well as public and political support, financial capacity, and the potential for community support of the urban development such service would warrant.</p>
<p>2. Rapidly changing demographics are creating pent-up demand for smaller and more transit-accessible housing choices in walkable urban environments. The areas that can best support these lifestyle options are not attracting private sector residential investments, creating a gap in this region’s ability to meet future housing needs.</p>	<p>a. Pursue recommendations of the Urban Corridors Task Force to identify, understand, and address regulatory barriers that inhibit development of urban residential housing choices in priority transit-oriented districts. Share applicable strategies with small cities seeking to increase residential activity in their walkable city centers.</p>	<p>b. Working through the Urban Corridor Communities Partnership, pursue innovative public-private investment opportunities tailored to the unique needs of this region’s city centers and select transit-oriented districts.</p>
<p>3. Changing demographics will increase the demand for rural transit options as local populations age; traditional fixed-route transit service such as IT provides in the urban area is prohibitively expensive for rural areas and small cities.</p>	<p>a. Explore various models for providing rural transit service tailored to the needs of rural communities, and identify a viable strategy and potential sustainable funding sources.</p>	<p>b. Based on results of the analysis, implement a Rural Transit District tailored to the specific travel needs of rural Thurston County communities.</p>

<b>Challenge 5 - How will we preserve long-range opportunities for future generations?</b>		
<b>Issue</b>	<b>a. Modest Measure</b>	<b>b. Mighty Measure</b>
4. Conversion of large tracts of forested land to large-lot subdivisions is changing the rural character of Thurston County and depleting future resource-based economic opportunities.	a. Designate remaining viable forest lands as long-term resource lands to preserve this important aspect of the rural economy for future generations and maintain what remains of the region’s rural character.	b. Use Purchase of Development Rights (PDR) to acquire at market rates the residential development rights on priority forest lands to preserve their use as a future resource.
5. Comprehensive plans provide a good framework for articulating community visions but they cannot effectively fulfill either the finer-grained neighborhood detail that many residents desire, nor can they adequately address big regional issues that transcend any one jurisdiction or planning discipline.	a. Facilitate appropriate neighborhood-based planning activities that enable people to participate in visioning, evaluation, and decision-making at a more personal scale than a jurisdiction-wide plan can accommodate.	b. Conduct coordinated planning activities to address regionally-significant issues requiring heightened levels of inter-agency coordination. Examples of such activities may include watershed planning or regional transect-based planning <sup>50</sup> .
6. Between 1950 and 2008, Thurston County lost 90,000 acres of farmland – 75% of its agricultural lands – to development, changing the rural character of Thurston County and depleting future opportunities to strengthen local food systems.	a. Ensure rural zoning adequately identifies and protects remaining agricultural lands with long-term value for food production, and that urban zoning allows for urban agricultural activities.	b. Work with farm land trusts such as South of the Sound Community Farm Land Trust to secure, preserve, and steward working agricultural lands in Thurston County threatened by development and ensure access to productive farm land for future generations.
7. Not all parts of the metropolitan area can support fixed-route transit service, even though demand for such service is growing. Some locales have not yet grown enough to support urban transit; other locales will likely never have the mix and intensity of land uses to support fixed-route service. It is difficult for developers, employers and residents to predict when or if such service will be available in the future.	a. Develop area-wide land use and infrastructure targets for fast growing areas like Hawks Prairie and southeast Olympia that will serve as an indicator that new or increased fixed-route service is warranted in the near future. Targets should consider residential and employment densities, built form, and the sidewalks necessary to access transit, and provide some predictability about future service to Intercity Transit, local agencies, developers, and transit system users.	b. Facilitate creation of Transport Management Areas among interested stakeholders located where traditional fixed-route service is not yet feasible or never will be to develop and implement alternative models of employee-based service tailored to specific needs of each area.

**Challenge 5 - How will we preserve long-range opportunities for future generations?**

<b>Issue</b>	<b>a. Modest Measure</b>	<b>b. Mighty Measure</b>
<p>8. Despite County-wide Planning Policies that call for contiguous and orderly development, including the phasing of urban development and facilities outward from core areas, the region continues to see leapfrog development locating along the periphery of cities and urban growth areas while little or no growth is locating in areas already characterized by urban growth that have additional capacity and where urban services and facilities are already available.</p>	<p>a. Consider how infrastructure investments identified in Capital Facilities Plans and extension of public services support contiguous development that is phased outward from core areas and avoid exacerbating leapfrog development. This includes infrastructure that is paid for in whole or part by development.</p>	<p>b. Ensure all development locating in unincorporated urban growth areas conforms with all street standards of the adjoining city and minimizes the subsidy paid by future residents to retrofit these streets when these areas are annexed as planned.</p>

## Measuring Success

Performance measures are used to track progress over time in meeting established plan goals. They are indicators of how well policies and investments are working to achieve those goals. Good measures are:

- data-based and directly related to established goals
- easy to understand, replicable over time, and cost effective to maintain
- limited in number, because not everything that can be measured matters

Most importantly, good measures are empowering. They provide communities with the opportunity to test strategies over time, measure and learn from that experience and if necessary, adjust strategies to more effectively reach important goals. Note that sometimes the measure itself does not work as intended, in which case it should be replaced with a more effective measure.

### Measure What Matters

For decades, transportation measures fixated on congestion and number of vehicle crashes. The problem with these measures is that they tell a community nothing about why those things happen, or about other things it values like accessibility, travel choices, system efficiency, or travel time reliability. Often trying to solve a problem like congestion with street widening undermines other community objectives that aren't reflected in that measure. Traditional transportation measures provide no indication whether the efforts to coordinate transportation and land use decision-making are effective.

Similarly, land use measures employed in the Thurston region have focused almost exclusively on density – population density and employment density. As with traditional transportation measures, density is a poor surrogate for whether existing or proposed land uses are actually compatible with the intended travel choices. Density alone does not generate the community vitality and diversity of activities that characterize healthy places.

Thoughtful measures will avoid one-dimensional metrics like the number of miles of sidewalks. On the surface, it may appear that this would be a good measure of walkability but it completely neglects the surrounding land use patterns. Is there actually anywhere to walk to? Miles of sidewalks that don't connect near-by destinations do little to promote walkability.

It is much easier to deconstruct bad measures than it is to develop good measures. Good measures result from thoughtful, deliberative processes based on clear understanding of core goals and objectives. There is a wealth of information on the design and use of performance measures<sup>51</sup>, and at least as many examples of bad performance measures as there are of good ones.

## Observations on Other Sustainable Thurston Topics

Transportation, land use, and climate change provide one of a dozen perspectives on Sustainable Thurston activities. Just as transportation, land use and climate change considerations are inter-related, so too are these inter-related with the other discipline panels. Following is an observation on each topic that illustrates this interconnectedness. The intent is to stimulate thinking about the relationships between transportation and land use and these other Sustainable Thurston objectives, and the potential long-term implications of seemingly simple day-to-day decisions.

**Economics:** To be economically viable without complete reliance on drive-by traffic, small, neighborhood-scale businesses require about 3,500 households to be located within ½ mile. Policies that increase residential densities in city centers, strategically located districts on urban transit corridors, and in some neighborhoods expand the potential for small, locally-owned businesses to start-up and succeed in serving these areas.

**Environment:** Reducing per capita growth in greenhouse gas emissions (GHG) is a primary objective of many climate change initiatives. Providing more housing choices for people to live where there are viable travel choices and where daily driving needs can be reduced is one way to curb growth in GHG.

**Land Use & Transportation:** Every one-dollar increase in fuel costs represents a \$1 million budget impact to Intercity Transit. As fuel costs increase more people expect to turn to transit for their travel needs at the same time IT may be forced to implement service cuts. Increasing housing choices for people in close-in urban areas where transit service is cost-effective will ensure more people have transit when they most need it.

**Housing:** Housing affordability is a function of housing costs plus travel costs. Cheap housing with high travel costs is not affordable. Housing that is located close to good transit service, or which is within close driving distance of stores and services enables those households to reduce their travel costs and better withstand fuel price volatility without foregoing other household needs like food, health care, and utilities.

**Energy:** Fuel consumption is central to travel considerations for most people. How often the gas tank has to be filled – and the impact of that cost on household budgets – is dependent on how far people must travel to meet their daily needs. In general, those living in rural Thurston County must drive half again to twice as much as those living in suburban and urban parts of the region, and so tend to consume much more energy for travel. These households are most vulnerable to the impacts of volatile fuel prices and supply.

**Food Systems:** Keeping rural Thurston County rural is a prime objective of local land use policies. This will enable the region to maintain and grow its agricultural resources. For those living in urban areas, being able to keep household travel expenses low can mean the difference for some between having enough money for food or needing food assistance.

**Health & Human Services:** Mounting evidence indicates that sedentary lifestyles are associated with a wealth of chronic health issues. Building communities that offer “active” travel choices like biking and walking helps to counter those health effects. Studies show that school children who get exercise such as that obtained by walking to school are better prepared to focus and learn in school.

**Public Safety:** Carefully designed streets and roads serving residential neighborhoods throughout the region help keep driver exposure to risks low. However, rural residents do experience much greater exposure to risk because of the higher number of miles driven annually and the higher travel speeds that produce the vast majority of injury and fatality crashes in Thurston County.

**Schools & Transportation:** The cost of fuel for school buses is staggering. Increasing affordable housing opportunities closer to schools where biking and walking are real choices can help reduce the growth in miles traveled by school buses and keep school transportation costs in check.

**Solid Waste:** Keeping the cost of refuse collection and disposal affordable depends in large measure on keeping the travel costs for that service as low as possible. The more spread out homes are, the more miles of travel a collection vehicle must travel to collect the waste and the more fuel it needs. Transportation-efficient land use patterns helps keep the cost of services like solid waste collection affordable.

**Water:** Stormwater runoff affects water quality, and it can divert water away from important recharge areas. Runoff is generated by impervious surface; streets, driveways, and parking lots are some of the biggest generators of stormwater runoff. Building communities in ways that reduce the amount of impervious surface that is needed helps reduce impacts on both water quality and quantity.

## Together, Shaping Our Future

Coordinated transportation and land use planning shapes how communities in our region grow, the lifestyles and jobs available to residents, the cost and quality of government services, and the impacts we have on our natural environment – today and in the future. This Sustainable Thurston process is revisiting, refining, reaffirming the core principles that have guided local and regional planning efforts over the last 20 years with an eye on the next 20 years and beyond. We’re planning to stay.

This effort will not end with completion of the Sustainable Thurston process for that is when the hard work begins – the hard work necessary to translate big community ideas and aspirations embodied in Sustainable Thurston into the detailed plans and future actions that will be carried out at the local and neighborhood levels. That is when the shared vision articulated by Sustainable Thurston is interpreted by each community into a finer-grained picture that can only be understood at the neighborhood or corridor or district level – the levels that matters to most people most of the time.

Values and ideas described in this paper have their genesis in other community planning processes that took place many years ago; in turn, they will be the genesis for new ideas that will be relevant many years in the future. In this way generations of people come together over the years and decades to shape our future in a process that seemingly has no beginning and no end. Together, we’re shaping our future.

## Resources

### Links to Select Local Plans and Planning Processes Underway

#### Bucoda

[Comprehensive Plan](#)

#### Lacey

[Comprehensive Plan](#)

[Woodland District Planning Process](#) (underway)

#### Olympia

[Comprehensive Plan](#)

[‘Imagine Olympia’ Comprehensive Plan Update](#) (underway)

[Transportation Mobility Strategy](#)

[Martin Way Corridor Planning Process](#) (scheduled to begin in 2013)

#### Rainier

[Comprehensive Plan](#)

#### Tenino

[Comprehensive Plan](#)

#### Tumwater

[Comprehensive Plan](#)

[Capitol Boulevard Planning Process](#) (underway)

[Brewery District Planning Process](#) (underway)

[Brewery Visioning Project and Action Plan](#)

#### Yelm

[Comprehensive Plan](#)

#### Thurston County

[Comprehensive Plan](#)

### Links to Select TRPC Regional Plans and Planning Processes Underway

[Thurston Regional Transportation Plan – Guiding Our Future](#)

[Sustainable Thurston Planning Process](#) (underway)

[Urban Corridors Task Force Project](#)

[Thurston Region Commute Trip Reduction Plan](#)

[JBLM / I-5 Congestion Relief Action Plan](#) (underway)

[Natural Hazards Mitigation Plan for the Thurston Region](#)

## Links to Other Relevant Plans

### **Confederated Tribes of the Chehalis Reservation**

Chehalis Comprehensive Plan and Zoning Ordinance

Grand Mound 10-Year Development Plan

(Reports are available for pdf download from the Tribe's planning department [website](#))

**Contact:** Amy Loudermilk, Transportation Planner  
[aloudermilk@chehalistribe.org](mailto:aloudermilk@chehalistribe.org)

### **Nisqually Indian Tribe**

[Community Vision Plan](#)

**Contact:** Joe Cushman, Director  
[cushman.joe@nisqually-nsn.gov](mailto:cushman.joe@nisqually-nsn.gov)

### **Intercity Transit**

[2013-2018 Strategic Plan](#)

**Contact:** Dennis Bloom, Planning Manager  
[dbloom@intercitytransit.com](mailto:dbloom@intercitytransit.com)

### **Port of Olympia**

[Vision 2025: Strategic Plan Update, 2013 - 2015](#)

**Contact:** Mike Reid, Senior Manager  
[miker@portolympia.com](mailto:miker@portolympia.com)

### **Washington State Department of Transportation**

[Moving Washington](#)

[2030 Washington Transportation Plan](#)

[WSDOT Modal Transportation Plans](#) (various)

[Corridor and Planning Studies](#) (various)

**Contact:** Ron Landon, Regional Program and Planning Manager  
[landonr@wsdot.wa.gov](mailto:landonr@wsdot.wa.gov)

### **Washington State Department of Enterprise Services**

[Master Plan for the Capitol of the State of Washington](#)

**Contact:** Michael Van Gelder, Real Estate Planner  
[mvangel@ga.wa.gov](mailto:mvangel@ga.wa.gov)

### **Joint Base Lewis-McChord**

[JBLM Growth Coordination Plan](#)

**Contact:** Dan Penrose, Program Manager  
[dpenrose@jblm-growth.com](mailto:dpenrose@jblm-growth.com)

## Select Readings on Climate Change

These resources are useful to those looking for logical connections between transportation and land use policies, and their effects on climate change.

[Cool Planning: A Handbook on Local Strategies to Slow Climate Change.](#)  
Oregon Transportation and Growth Management Program. 2011.  
<http://www.oregon.gov/LCD/TGM/docs/coolplanning101910.pdf?ga=t>

While this handbook is written for Oregon communities, most of the content is relevant to communities in the Thurston region. It lays out a number of strategies that local government can employ that use land use, community design, and transportation as tools to curb the growth of greenhouse gas emissions. It also includes useful, easy-to-read explanations of the relationship between transportation, land use, and climate change.

[Growing Cooler: The Evidence on Urban Development and Climate Change.](#)  
Reid Ewing, Keith Bartholomew, Steve Winkelman, Jerry Walters, and Don Chen. 2008.  
<http://www.smartgrowthamerica.org/documents/growingcoolerCH1.pdf>

This book explains how community development patterns can hurt or support climate change objectives, and concludes that if 60 percent of future growth occurs in compact, ‘smart growth’ patterns, it will result in significant reductions in transportation-related emissions in addition to many other side benefits. It is full of data from cities across the country about the impacts of different patterns of community development, and includes local, regional, state, and federal policy recommendations to better align our transportation, land use, and climate change goals.

[Driving and the Built Environment: The Effects of Compact Development on Motorized Travel, Energy Use, and CO2 Emissions.](#)  
National Research Council of the National Academies, Transportation Research Board Special Report 298. 2009.  
[http://www.nap.edu/catalog.php?record\\_id=12747](http://www.nap.edu/catalog.php?record_id=12747)

This study, commissioned as a part of the Energy Policy Act of 2005, examines the relationship between land development patterns and motor vehicle travel in the United States to assess whether petroleum use – and by extension greenhouse gas emissions – could be reduced through changes in development patterns.

[Moving Cooler: An Analysis of Transportation Strategies for Reducing Greenhouse Gas Emissions.](#)  
Cambridge Systematics. 2009.  
<http://www.movingcooler.info/overview>

This report was commissioned by a wide range of agencies and interest groups seeking objective information about the potential contribution of transportation actions and strategies to reduce the amount of vehicle travel that occurs, or to make changes to the transportation system and services that improve fuel efficiency. Strategies are addressed individually and as ‘bundles’ that illustrate the potential cumulative effects that can be achieved.

Land Use and Driving: The Role Compact Development Can Play in Reducing Greenhouse Gas Emissions – Evidence from Three Recent Studies. Urban Land Institute. 2010.

<http://www.uli.org/ResearchAndPublications/PolicyPracticePriorityAreas/Infrastructure/Land%20Use%20and%20Driving.aspx>

This report summarizes the land use findings from Moving Cooler, Growing Cooler, and Driving and the Built Environment. This is a concise summary of those three comprehensive studies, each of which independently demonstrate and conclude that compact development strategies can produce meaningful reductions in greenhouse gas emissions by 2050.

Leading the Way: Implementing Practical Solutions to the Climate Change Challenge – Appendix 4, Reducing Greenhouse Gas Emissions and Increasing Transportation Choices for the Future. Governor’s Climate Action Team, Transportation Implementation Working Group. 2008.

[http://www.ecy.wa.gov/climatechange/2008CATdocs/ltw\\_app\\_v2.pdf](http://www.ecy.wa.gov/climatechange/2008CATdocs/ltw_app_v2.pdf)

This multidisciplinary study looks at climate change mitigation from a Washington State-specific perspective. Appendix 4 is specific to the ways in which Washington communities can reduce greenhouse gas emissions through transportation policy, programs, and investments while increasing transportation choice and access.

Website of the Victoria Transport Policy Institute. [www.vtpi.org](http://www.vtpi.org)

This website provides a remarkable array of well-documented and insightful studies and reports. Of particular interest to those looking for connections between transportation, land use, and climate change, look at the various reports listed under the “Documents” tab. Many of the reports and studies on this site rely on basic economic analysis as the objective denominator to determine effectiveness.

## **Other Interesting Reads with Links to Summary Reviews**

[The Option of Urbanism – Investing in a New American Dream](#), by Chris Leinberger.

[Walkable City – How Downtown Can Save America, One Step at a Time](#), by Jeff Speck

[Traffic – Why We Drive the Way We Do \(and What It Says About Us\)](#), by Tom Vanderbilt

[Retrofitting Suburbia – Urban Design Solutions for Redesigning Suburbs](#), by Ellen Dunham-Jones. (BONUS! Watch her [TED Talks video](#))

For more information or to discuss ideas in this paper, please contact:

Thera Black, Senior Planner  
Thurston Regional Planning Council

[blackvt@trpc.org](mailto:blackvt@trpc.org)

360.741.2545

## End Notes

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<sup>1</sup> [The Profile](#), TRPC. Chapter 2. Chapter 2 in [The Profile](#) includes a wealth of population statistics by jurisdiction and over time, drawn from a variety of sources. Distribution of population between cities and rural areas has shifted back and forth over the years. The population living in cities and towns peaked in 1970, when 53% of the region's population lived in one of the incorporated jurisdictions and the rest lived in rural Thurston County. The only time a higher share lived in cities was in 1890. After 1970, the majority of growth occurred outside of cities so that by 1990 only 42% of the region's population lived in cities or towns. Since that time growth management policies have slowly curbed the suburbanization of rural areas and directed more growth back into cities and towns where services can be provided most efficiently. By 2010, just over 46% of the region's population lived in an incorporated city or town.

<sup>2</sup> Ibid.

<sup>3</sup> Ibid. It is worth noting that Thurston County is unique among the Seattle-metro area counties in terms of its population growth. Whereas an increasing share of the region's growth since 1980 is attributed to in-migration, it represents a declining share of population growth in King, Kitsap, and Snohomish Counties during that same time. Only Pierce County has seen increasing shares of in-migration over the last 30 years but even there, in-migration only accounted for 55% of its population growth from 2000-2010 compared to 77% of Thurston County growth.

<sup>4</sup> Ibid.

<sup>5</sup> 2006-2008 American Community Survey (Census). For county-specific details of both outbound and inbound commute patterns dating back to 1960, see Table VII-7 in Chapter 7 of the 2012 [Profile](#) (TRPC).

<sup>6</sup> The JBLM [Growth Coordination Plan](#) (available at [www.JBLM-growth.com](http://www.JBLM-growth.com)) provides detailed breakout by jurisdiction of residential location of military personnel, their dependents, and contractors. Lacey has the single largest off-base population of any jurisdiction in either Pierce or Thurston Counties. Roughly 40% of Yelm's population is associated with military employment. Many more veterans and retirees live in the region.

<sup>7</sup> Analysis of 2000 and 2005 census data by TRPC in 2009 revealed that households with at least one worker commuting out of the region earned on average \$20,000 per year more than those households where all workers were employed in Thurston County. Discussions with realtors in 2005 and in 2011 indicated that the majority of home sales in the region were to people working out of county.

<sup>8</sup> [The Profile](#), TRPC. Chapter 2.

<sup>9</sup> Dismissed by many political pundits as unlikely to turn out for the 2012 elections, this generation demonstrated very high participation rates and received much of the credit for President Obama's re-election success.

<sup>10</sup> There is extensive research and writing on the Millennial Generation, from advertisers to academia to the media. The Pew Research Center provides well-documented information on an array of generational characteristics in its report [Millennials – A Portrait of Generation Next](#).

<sup>11</sup> [Population Forecast Allocations for Thurston County](#), TRPC. September 2012.

<sup>12</sup> RCW 36.70A

<sup>13</sup> While the original contract establishing LOTT was signed by Lacey, Olympia, Tumwater, and Thurston County in 1976, LOTT did not become its own independent entity until July 2001. A brief organizational history that goes back to the beginning of sewage treatment in the 1940s can be found on the LOTT [website](#).

<sup>14</sup> 36.70A RCW. For a non-technical overview of the Growth Management Act and its requirements, see <http://www.commerce.wa.gov/Documents/GMS-GMA-101-Oct-2012.pdf>

<sup>15</sup> "The legislature finds that uncoordinated and unplanned growth, together with a lack of common goals expressing the public's interest in the conservation and the wise use of our lands, pose a threat to the environment, sustainable economic development, and the health, safety, and high quality of life enjoyed by residents of this state. It is in the public interest that citizens, communities, local governments, and the private sector cooperate and coordinate with one another in comprehensive land use planning. Further, the legislature finds that it is in the public interest that economic development programs be shared with communities experiencing insufficient economic growth." [RCW 36.70A.10]

<sup>16</sup> The Washington State Department of Commerce oversees growth management coordination. The agency's "Short Course on Local Planning" has a chapter dedicated to the Growth Management Act and compliance requirements: <http://www.commerce.wa.gov/Documents/GMS-Short-Course-Manual-CH-3-V5-1.pdf>. Section A includes a thorough background on the history of the Growth Management Act.

<sup>17</sup> GMA requires that communities plan for growth. Some criticize that requirement, believing that communities should be able to plan for a future of "no growth." This Sustainable Thurston process and other local and regional planning processes comply with GMA requirements. This frustration felt by those who disagree with this requirement is recognized and acknowledged, though it cannot be accommodated in this process.

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<sup>18</sup> The Department of Commerce offers a wide variety of publications and resources for understanding and working with the Growth Management Act and its requirements at <http://www.commerce.wa.gov/site/420/default.aspx>

<sup>19</sup> Countywide Planning Policies (CWPP) provide an over-arching framework within which coordinated planning is to take place. While not discussed in this paper, a copy of the current CWPP is included in Appendix.

<sup>20</sup> This paper is admittedly short of private sector perspective. Efforts such as TRPC's Urban Corridors Task Force project underscore the importance of private sector perspectives and constraints, and point to the need for increased understanding of private sector market mechanisms and enhanced working relationships with the development community if this region is to achieve the kind of urban form that supports transit, biking, and walking for more people.

<sup>21</sup> In 2004 the Vision Reality Task Force conducted an evaluation of the policies in these two sections to assess whether they had been carried out effectively in locally adopted plans. The Task Force concluded at that time that the policies had been adequately addressed in local and regional plans, though some may merit closer evaluation.

<sup>22</sup> Much has been written about induced demand. A 1999 study by the Surface Transportation Policy Project, [Road Work Ahead – Is Construction Worth the Wait?](#) compiled empirical evidence of this effect through analysis of 70 different metropolitan capacity projects completed over a 15 year period, using data from the Texas Transportation Institute. The study concluded that, "Metro areas that invested heavily in road capacity expansion fared no better in easing congestion than metro areas that did not. Trends in congestion show that areas that exhibited greater growth in lane capacity spend roughly \$22 billion more on road construction than those that didn't, yet ended up with slightly higher congestion costs per person, wasted fuel, and travel delay." It is important to note that induced demand applies primarily to the construction and widening of highways and arterials as opposed to local streets that serve neighborhoods and provide connectivity. For a comprehensive explanation of induced demand see the report, [Generated Traffic and Induced Travel: Implications for Transport Planning](#) at the Victoria Transport Policy Institute ([www.vtpi.org](http://www.vtpi.org)) VTPI provides a vast resource of well-researched and carefully documented papers related to all aspects of transportation, with a special niche in the areas of economic analysis and social equity calculations.

<sup>23</sup> The population and employment forecast is actually based on many different local land use inputs as well as regional and state inputs. For details on the current population and employment forecast methodology, as well as an array of different forecasts based on those assumptions, see <http://trpc.org/data/Pages/popfore.aspx>

<sup>24</sup> For a thorough overview of Growth Management Act requirements associated with the Comprehensive Plan, see the Municipal Research and Services Center [Comprehensive Planning/Growth Management](#) page. There you can find clear explanations of requirements and links to other supporting documentation and examples. Those interested in specific details of how the comprehensive planning process relates to local planning and is carried out, from Comprehensive Plan through the development process, see the Washington State Department of Commerce [Short Course on Local Planning](#). TRPC's Urban Corridors Community planning process includes an update to that Short Course to better integrate corridor planning considerations in the local process.

<sup>25</sup> Two such examples are Lacey's *Gateway* project, which as envisioned will be the region's first and possibly only truly urban scale, mixed-use development, and Olympia's *Briggs Village* mixed-use development which has been underway for over ten years. Both of these examples are possible due to a large parcel of land in single ownership and much hard work on the part of the property owner, investor, city, and adjacent neighborhoods.

<sup>26</sup> The Tribe completed this purchase in September 2012. See an [article](#) about the purchase and future plans in the Tacoma News Tribune.

<sup>27</sup> Note that operations constitute 80% of Intercity Transit's budget. This means that transit service is particularly vulnerable to the uncertainties of revenue generation during prolonged recessionary conditions and the impacts on operating budgets associated with fuel price volatility.

<sup>28</sup> For maps of the State's Preferred Development and Leasing Areas, as well as more about the land use and transportation policies guiding its facility location decisions, see the [Master Plan for the Capitol of the State of Washington](#), Part 2 – The Context of State Government Facilities.

<sup>29</sup> Summary of the Vision Reality Task Force work can be found in documentation of the Urban Corridors Task Force process. For complete information and copies of the report, contact Thera Black at TRPC, [blackvt@trpc.org](mailto:blackvt@trpc.org) or 360.741.2545.

<sup>30</sup> The [Urban Corridors Task Force](#) report as well as numerous resources and presentations can be found on the TRPC website.

<sup>31</sup> Working from a comprehensive analysis conducted at the University of Washington, TRPC interviewed planners in every jurisdiction in the region to develop the [Survey of Land Use Regulations and Financial Tools Used by Communities in the Thurston County Region to Implement Transportation Efficient Land Use](#). The survey is a compendium of measures currently in use as well as those allowed under state law but not yet used by local jurisdictions. It includes legal references, examples of locales where mechanisms are in use, and observations where available based on local agency experience.

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<sup>32</sup> The market influence of residential neighborhood characteristics explained in [Creating Walkable Neighborhood Districts: An exploration of the demographic and physical characteristics needed to support local retail services](#) (June 2010) provided important market analysis background that informed subsequent commercial market studies.

<sup>33</sup> All of the analyses – commercial market studies, housing market study, and case studies – can be found on the TRPC [Research Briefs](#) web page for individual download. Note that the commercial market studies are broken out by individual district, including south county jurisdictions. Of particular note is the comparison of land values and commercial rents between Thurston County and central Puget Sound. The significance of this is that the type of development envisioned for the transit corridor in select districts is a more expensive development project that typically requires complex financing. While the low land value appears initially to be a positive factor, it results in low rents that are incapable of making most of these types of projects pencil out. Coupled with federal lending policies that designate the Thurston region as a secondary lending market, local jurisdictions will have to be very strategic in their efforts to attract transit-oriented mixed-use development in order for it to succeed.

<sup>34</sup> Tumwater's [Capitol Boulevard Corridor Study](#) is in the final stages of work. Contact information and project resources for this effort are available on the project web page.

<sup>35</sup> Olympia's [Martin Way District](#) study effort will get underway sometime in 2013, possibly in conjunction with City efforts to establish a Community Renewal Area. Contact information and project resources for this effort are available on the project web page.

<sup>36</sup> The Tumwater [Brewery District](#) study effort will convene its first public meeting in February 2013. Contact information and project resources for this effort are available on the project web page.

<sup>37</sup> Lacey's [Woodland District](#) study effort will convene its second public meeting in late January 2013. Contact information and project resources for this effort are available on the project web page.

<sup>38</sup> The purpose of the [Walkability Audit](#) was to assess each of the three sub-area districts for their transit access and pedestrian friendliness. Participants included elected officials, planning commissioners, and staff from the three jurisdictions. Recommendations are providing input to the transportation elements of each study effort. Complete materials from the audit are available for download at the bottom of the Urban Corridor Community web page.

<sup>39</sup> [Washington State Greenhouse Gas Emissions Inventory, 1990-2008](#). Washington State Department of Ecology.

<sup>40</sup> [2010 U.S. Greenhouse Gas Inventory Report](#). United States Environmental Protection Agency.

<sup>41</sup> [Washington State Greenhouse Gas Emissions Inventory, 1990-2008](#). Washington State Department of Ecology.

<sup>42</sup> As explained in the December 29, 2010 staff brief, [Report on Section 2\(a\)](#), Governor's Executive Order 09-05 – Washington's Leadership on Climate Change.

<sup>43</sup> [Location Efficiency and Building Type – Boiling it Down to BTUs](#). U.S. Environmental Protection Agency.

Converting energy consumption to BTUs enabled analysis of different types of household energy use. Transportation and home energy are the two largest sources of household energy consumption. The acronym TOD refers to Transit Oriented Development, which is understood to be mixed-use and walkable in character.

<sup>44</sup> In a short [video](#) developed to explain essential transportation, land use, and climate change relationships earlier in the Sustainable Thurston planning process, John Druelinger clearly explains this relationship between “green” features and walkable locations using the EPA analysis of BTUs. In his book, [Walkable City](#), Jeff Speck refers to the *gizmo green* phenomenon whereby people are obsessed “with ‘sustainable’ products that often have a statistically insignificant impact on the carbon footprint when compared to our location...Our location's greatest impact on our carbon footprint comes from how much it makes us drive.” (*Walkable City*, page 56)

<sup>45</sup> [Intercity Transit 2009 Worksite Commuter Survey](#), as presented to Thurston Regional Planning Council in November 2009. The full report is attached to Agenda Item 6.

<sup>46</sup> [“Has Planning Made a Difference?”](#) research brief, TRPC. This is probably a high estimate of how many people would live close to transit service. It assumes that Intercity Transit would have developed the kind of urban transit service that the region enjoys today though it is highly questionable whether the agency would have been able to justify such a system under those previous land use patterns.

<sup>47</sup> TRPC, based on analysis of state Highway Performance Monitoring System (HPMS) data for Thurston County, using methodologies established as part of the Governor's Executive Order 09-05 - Washington's Leadership on Climate Change initiative.

<sup>48</sup> [“Compact Development, Impervious Surfaces, and Stream Health”](#) research brief, TRPC.

<sup>49</sup> “Hard Shoulder Running” refers to the practice of using one of the roadway shoulders for an additional travel lane. In this case it would be used as part of a comprehensive congestion management strategy to provide an HOV lane during morning and evening commute periods, and perhaps simply an additional lane northbound on Sunday afternoons and holiday weekends. To be effective it would need to extend well into Pierce County and be managed in a systematic, coordinated way.

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<sup>50</sup> [Transect-based planning](#) describes a holistic approach of looking at local or regional growth patterns in the context of distinct transitions from urban to rural instead of the use-based style of zoning commonly practiced. Practitioners of transect-based planning believe that it more readily accommodates built and natural environments, and the natural progression of both over generations. It is commonly used in conjunction with [Form Based Code](#), another alternative to traditional Euclidian zoning that is gaining favor in walkable, mixed use communities.

<sup>51</sup> An extensive source of information on the use and misuse of performance measures for transportation, land use, sustainability, and other community objectives can be found at the Victoria Transportation Policy Institute ([www.vtpi.org](http://www.vtpi.org)). Each report and paper is well researched and includes an extensive list of citations and further resources.