

**THE LEAGUE OF WOMEN VOTERS
OF BENTON AND FRANKLIN COUNTIES**

SUSTAINABLE COMMUNITIES



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Sustainable Communities Summary Report

Introduction

Sustainable communities are planned, built or modified to promote sustainable living. Sustainability is simply meeting the needs of the present without compromising the ability of future generations to meet their own needs. Sustainability is not an end goal, but a journey that local governments can take to improve the quality of life and economic vitality of a community.

The local Alliance for a Livable and Sustainable Community (ALSC) provides the following definition of a livable and sustainable community:

“A livable and sustainable Tri-City community is one where local governments including municipalities, Counties, Port Authorities, and Special Districts partner with Educational, Community Health, Business and Citizen stakeholders to create a vibrant local community through a long-term policy, planning, and investment strategy that:

- Promotes community health and wellness
- Protects and preserves the unique attributes of our natural environment
- Encourages local enterprise innovation and economic diversity
- Serves the short term and long term needs of local residents
- Promotes stable employment and revenues by building competitive advantage in the global marketplace”

A group of concerned citizens, led but not limited to the Benton-Franklin League of Women Voters, formed a study group to develop a better understanding of how the Tri-Cities governments are currently incorporating sustainable practices and provide for a livable and sustainable community. *Our premise is that sustainable practices lead to more cost-effective provision of services, which means a more efficient use of revenue and/or taxes. Sustainable communities attract businesses and people, because of a higher quality of life through reduced energy costs, energy and food security, transportation and recreation options, and a healthier environment.*

Young professionals in particular are attracted to livable and sustainable communities. More than other demographic groups, they take advantage of recreation opportunities such as biking, walking and jogging, especially on those paths that are separated from heavy traffic.

Retaining talent and jobs will be especially important as Hanford transitions to a national center for innovative research and development in alternative energy. In addition, according to a recent survey the Tri-Cities has a significant obesity problem. Obesity drives up health insurance costs, which discourages businesses from locating in the Tri-Cities. Communities that provide easy access to services via walking and biking have a healthier workforce and community.

Although we believe the quality of life is good in the Tri-Cities, there are many facets that may benefit from an integrated approach to sustainable development. The purpose of this study is to understand the current sustainable practices by local governments, identify best practices in our community, and suggest additional best practices that would promote a more livable and sustainable community.

The approach to our study was to develop a list of questions that could be used to interview local stakeholders. Specifically, we conducted interviews with the city governments, public utility districts (PUDs), Ben Franklin Transit, and the Benton-Franklin Council of Governments. The interviews were conducted in 2011 and 2012. In September of 2014, the Cities of Pasco and Kennewick provided updates to the survey questions. The City of Richland only provided updates to the section on Buildings and Energy in 2014. These responses reflect a snapshot in time. The topic areas included Planning, Analysis and Vision; Transportation and Mobility; Buildings and Energy; Waste Management; Food and Agriculture; Community Outreach/Education. The questions and survey results are found in the Appendix and highlights are summarized below.

A significant challenge for public employees is the citizens' not understanding government's role, which can create unreasonable expectations while overlooking the critical services governments provide. The Tri-Cities is very fortunate to have extremely competent and capable public employees. Across the board, the city and PUD employees we interviewed were outstanding stewards of public funds, cared deeply about their community, and were constantly looking for ways to reduce energy costs and improve efficiencies of public services. As one Pasco city employee commented, "we adhere to best business practices and are always looking for ways to improve services while reducing costs."

Summary of Baseline Highlights

In the interview summary below we have tried to bring out similarities and contrasts on how each of the local governments and PUDs have approached sustainability in their planning and operations. Detailed information from the interviews is found in the appendixes.

Planning, Analysis and Vision:

The purpose of this section was to explore the understanding and commitment of the cities and utilities to the development of a sustainable and livable community. In particular, we looked for projects supporting sustainable development and how the city or utility measured the project effectiveness and reporting the results. In order to plan with a sustainable vision in mind, the cities/utilities must take a longer view on costs rather than first costs.

Often, a calculated carbon footprint is used to measure a sustainable and livable community because low carbon footprints usually correlate with high energy efficiency, better air quality, low transportation congestion and a healthier population. To date, only

Pasco has calculated a carbon footprint as part of a requirement that came with a \$500,000 grant from the Department of Energy (DOE) for low energy induction lighting for street lamps.

It should be noted that, although the Tri-Cities was somewhat buffered from the economic downturn in late 2008 and 2009, public servants strive to reduce costs wherever possible. Energy efficiency is one of the most obvious approaches to reducing operating budgets. However, it is more difficult to assess the value of a higher quality of life for bringing new people and businesses to a community if one has not lived or at least visited a sustainable, livable community. Ultimately, it will take leadership at the city council level to commit to the development of a sustainable and livable community.

Kennewick: In June of 2010, the city passed a resolution acknowledging the importance of having a sustainability policy. The resolution highlighted Kennewick's access to hydropower and nuclear energy, neither of which produce greenhouse gases. Kennewick requires developers to provide park space in new developments. This rule has resulted in at least four new parks in the city. The city maintains parks over 5 acres. Energy efficiency and other sustainability practices are still largely market driven in new developments. The Army Corps of Engineers has final say over development in Columbia Park.

Kennewick has been using energy efficient Light Emitting Diodes (LEDs) in traffic lights since the late 1990's and has replaced all of their street lamps in the last few years with induction lamps that use 50% less energy.

Kennewick does not foresee a water shortage in our area, even with growth. The city has built a one million gallon storage facility in the Southridge area. Kennewick also has an innovative aquifer storage and recovery project that is in the testing phase. In this facility water is pumped underground into basalt in the winter when river flows are high and retrieved in the summer when demand is higher. This is an inexpensive alternative to building more storage.

Pasco: Although the Pasco City Council has not articulated a policy or a formalized plan for a sustainable community, the city staff is committed to operating under the highest standards of business practices that may achieve the goals of a sustainable community. For example, the city works closely with Franklin PUD to reduce energy costs associated with city buildings and operations. In 2011 the city received a \$500,000 grant from the U.S. Department of Energy to replace 50% of their street lamps with low energy induction lighting, which saves the City \$50,000 per year in energy costs. The remaining street lamps will be replaced this year with LEDs. Pasco supports the Rivers to Ridges plan and participates in the jurisdictional council. Similar to Kennewick, Pasco requires developers to provide park space, 5-7 acres in large developments and 3 acres in smaller.

Richland: Richland's main focus is to promote good consumer education and leverage technologies that reduce both waste disposal and energy consumption. The City Council adopted a strategic plan in 2008 that identified "Seven Keys to Unlock Our Future", with associated goals. Within this strategic plan the city instituted elements of a sustainable

community. Some examples of projects that were completed in 2011 include improving pedestrian connections between Richland's Central Business District and neighborhoods, which involved sidewalk and streetscape improvements to Lee Boulevard; the addition of a wood recycler in the Horn Rapids Eco Park; participation in the planning effort to preserve open space resources and provide interconnectivity between jurisdictions; construction of a highly energy-efficient house as part of the city's affordable housing program.

The city belongs to a number of organizations and receives many sustainable living newsletters. Richland routinely applies for state and national awards, and sometimes receives state grants and utility funds for sustainable projects.

Transportation and Mobility:

The Tri-Cities was largely formed around the automobile. Although the automobile greatly increased mobility, convenience and access for people, the automobile has also been associated with the disconnection of community, the rise in obesity, air and noise pollution, urban sprawl, and even urban decay. Planning and enabling alternatives, including walking, biking, and public transportation, is an important aspect of a sustainable and livable community.

Some terms that are often used in transportation planning are *complete streets* and *multimodal*. Complete streets are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists, and transit riders. Complete streets are easy to cross, walk to shops and bicycle to work. Multimodal transportation is planning for commuters who may use more than one form of transportation, such as a walking or biking path that provides easy access to a bus stop.

Coordinated regional transportation planning can be somewhat disjointed due to three separate cities and two counties comprising the Tri-Cities urban area. The Benton-Franklin Council of Governments (BFCG) is responsible for administration of a federally mandated metropolitan area transportation planning process and a state-mandated regional transportation planning process. The BFCG is the Regional Transportation Planning Organization (RTPO) as designated in the Washington State Growth Management Act (GMA) and is responsible for review of transportation components of jurisdictional comprehensive plans for this region. The twenty-year Metropolitan/Regional Transportation Plan, 2011–2032, includes both motorized and non-motorized transportation. Adopted in November 2011, the plan was revised in the spring of 2012 to extend the metropolitan planning horizon two years and address issues related to fiscal constraint (<http://www.bfcog.us/RTP.html>).

BFCG reviews the transportation elements in GMA comprehensive plans from all jurisdictions in Benton and Franklin Counties. The metropolitan jurisdictions submit annual Transportation Improvement Plans to BFCG. Metropolitan and regional transportation issues are discussed at monthly meetings with representatives from jurisdictions in Benton and Franklin counties as well as Ben Franklin Transit and the Washington State Department of Transportation. The individual Transportation Improvement Plans are rolled into a state plan, a requirement for state and federal funding.

Ben Franklin Transit (BFT): Public transportation is a key element for promoting a sustainable community. Ben Franklin Transit is involved at the ground level in land-use planning throughout the Tri-Cities to facilitate the use of public transportation. They have been an advocate for bicycle and walking pathways integrated with public transportation because all bus ridership begins with walking or biking to a bus stop. One of the biggest challenges for Tri-Cities transportation is that much of the community evolved around automobiles, so any new system must be retrofitted to be more conducive to walking, bicycling and mass transportation.

Ben Franklin Transit receives 80% of their funding from the federal government and are mandated to provide community services such as Dial-A-Ride. To increase ridership, BFT is making public transportation more accessible and convenient. Innovations include plans for wireless internet access and GPS on buses. This would allow transit riders to communicate with work and use their smart phones to access bus stop arrival times.

Kennewick: Kennewick is very proud of its transportation infrastructure and leads the state in roundabouts with 20 installed, one under construction, 3 in design, and another in the planning stage. Although there is a steep learning curve for people not accustomed to them, roundabouts have been shown to be safer and avoid the high annual cost of maintaining traffic lights. Kennewick has a signal priority/pre-emption system in place that gives mass transit, buses, priority at signals. Kennewick's street design standards encourage alternative transportation usages. All street reconstructions have planned bicycling provisions. The city invested in low energy LED traffic lights in 1999/2000 to reduce energy costs. Kennewick received a Federal energy grant and replaced 5,000 streetlights with more energy efficient induction lighting that reduced electricity costs by 50% and should last 20-24 years.

Many city employees bike or walk to work, which has reduced the city's health insurance costs. The state requires electric vehicle (EV) charging stations, but the city cannot implement until the demand is greater. The city has four hybrid vehicles.

Pasco: Pasco currently has excess capacity in its roadways, so they are looking at ways to enhance multimodal transportation. Although Pasco does not currently subscribe to "complete streets," this practice will be evaluated as part of revising their Transportation System Plan (TSP). The city is also starting to plan single lane roundabouts to facilitate traffic flow and avoid the high cost of maintaining traffic lights (\$10,000 per year per intersection). Charging stations could be part of the new TSP and are strongly endorsed by the Franklin PUD, but this will depend on demand from electric vehicles.

Pasco is installing adaptive traffic light controllers over the next few years that will keep delays at lights to a minimum and reduce fuel consumption. As part of their normal budget, they are changing existing traffic signals to LEDs.

To enhance multimodal transportation, Pasco has revised their bicycle/pedestrian plan to improve access to public schools and connecting the shoreline bike path to points of

interest in Pasco –connecting new parts of town with old parts of town. A proposed new bike path that would run east/west along an irrigation canal is costly and will be difficult to adopt. Pasco is currently working with the railroad to get permission to have the bike/pedestrian river shore path go under the rail bed.

Richland: The Richland Citywide Transportation Plan, completed in 2005, is the first formal, multimodal plan for the City's transportation system. This report presented a thorough assessment of the transportation system in 2005 and alternatives for improving transportation flow over the next 20 years. An action plan addresses the needs for each mode of transportation: vehicular, bike and pedestrian. Many of the recommended projects in this plan would enhance a livable, sustainable community, but the status of these projects has been difficult to obtain. A 2011 Richland Annual Performance report indicated completion of improvements to Leslie Road, enhanced pedestrian connections completed for Lee Boulevard as mentioned above, and improvements to Keene Road and adjacent amenities.

Richland is involved with others in the Mid-Columbia Energy Initiative (MCEI) group that is developing information and potential partnerships regarding electric vehicle use and charging stations.

Buildings and Energy:

The cities of Kennewick and Pasco are associated with separate Public Utility Districts (PUDs) that deliver electricity to residents and businesses. In contrast, the City of Richland provides the delivery of electricity as part of its city services. Richland, the Benton PUD and the Franklin PUD all buy power from Bonneville Power Administration (BPA). The fuel mix is usually posted on the city/PUD websites. It can be a year or more before the actual fuel mix is posted, hence the latest one for this report is calendar year 2012.

2012 Fuel Mix	Benton PUD (Kennewick)	Franklin PUD (Pasco)	City of Richland
Generation Type	% of Total	% of Total	% of Total
Biomass	0.13%	0.12%	0.09%
Coal	4.72%	4.13%	2.07%
Hydro	79.91%	82.74%	87.48%
Landfill Gases	---	0.02%	0.01%
Natural Gas	3.87%	2.60%	0.80%
Nuclear	8.34%	8.67%	9.47%
Petroleum	---	0.05%	0.03%
Waste	0.09%	0.08%	0.04%
Wind	2.85%	1.58%	0.00%
Other	0.09%	0.01%	0.01%

The Pacific Northwest Power Act of 1980 gave energy conservation top priority in meeting future energy needs. Washington’s Initiative 937¹ was passed by voters in November 2006

¹ Washington State’s Energy Independence Act:
<http://apps.leg.wa.gov/rcw/default.aspx?cite=19.285&full=true>

and directs all utilities with more than 25,000 customers to gradually increase the amount of new renewable resources in their electric supply to 15% by 2020 and to undertake all cost-effective energy conservation. Under I-937 hydropower is not considered renewable because the state legislature was trying to incentivize growth in wind, solar and other non-hydro renewable energy. This has been one of the most contentious issues with I-937.

Bonneville Power Administration incorporates a conservation tax into its rate base to cover the cost of conservation efforts. The local utilities administer the Residential Rebate Program (insulation, heating, cooling, air sealing, windows), and the Appliance Rebate Program. After inspection, the PUD bills BPA directly for the rebate. Aggressive PUD conservation programs are able to capture larger portions of the BPA conservation budget.

When interviewing the utilities, we used the term *variable rates*, which caused some initial confusion, because our intent was *time-of-use rates*. *Fixed* electric energy rates still predominate in the U.S. and are the standard pricing mechanism in the Tri-Cities. Some utilities in the U.S. offer variable rates that fluctuate by billing period based on market impacts on cost. Yet another pricing system is *tiered rates*, which means different levels of consumption carry different prices per kilowatt hour. The theory behind tiered rates is that if a house consumes small amounts of electricity, the lowest tier, the bill is based on the lowest rate per kilowatt hour. Studies in California on tiered rates have shown that this pricing system neither promotes conservation nor smaller houses.² A recent analysis has shown that U.S. homes built in 2000 and later consume only 2% more energy on average than homes built prior to 2000, despite being on average 30% larger.³ The increased efficiency of new homes is based on the heating/cooling systems improvements, energy star appliances, and more demanding energy codes.

Studies have shown that the ideal way to promote energy conservation is to use *time-of-day* or *time-of-use pricing*.⁴ In this system consumers are charged a rate based on the time of day they consume a kilowatt hour, with higher prices during peak times and lower prices during off-peak times. This system encourages people to consume power when it is cheaper and discourages use at peak hours. Many appliances (dishwashers, washing machines and dryers) allow delayed timing to operate during the night. Electric car charging would also most likely occur during the night. Our intent during this survey was to understand if time-of-use pricing was being considered.

Kennewick: Newer buildings are built to be more energy efficient. Although not a city project, a good example of energy efficiency is the new Kennewick School District Administration building. Taking advantage of daylight by using skylights can add efficiency and quality to the work environment. Kennewick city buildings use timers on thermostats, motion sensor lights, energy efficient lighting. The city also replaces old HVAC systems

² *Pricing of electricity could use a jolt.* Los Angeles Time Op-Ed, Nov 13, 2011 by Frederick Taylor-Hochberg.

³ Today in Energy, Feb 12, 2013, U.S. Energy Information Administration.

⁴ *Pacific Northwest GridWise Testbed Demonstration Project, Part I. Olympic Peninsula Project*, Oct 2007, D.J. Hammerstrom et al., PNNL-17167, Richland, WA.

whenever possible. Kennewick recently retrofitted the lighting fixtures in 18 City buildings, as well as HVAC systems at city hall. A pending project at Kennewick's waste water treatment plant will reduce energy consumption by an estimated 1 million kilowatt hours (~700 metric tons greenhouse gas reduction).

Benton PUD: The Benton PUD uses conservation within its own buildings and works with Kennewick business to provide recommendations and financial incentives to improve the efficiency of energy use. The Benton PUD has an extensive conservation and renewable plan, reviewed quarterly, which meets the Washington State Energy Independence Act requirements. Their conservation program for residential, business and agricultural will exceed 12 million dollars in 2012.

The PUD is researching options for time-of-use power rates, but this would require an advanced metering infrastructure (AMI), consisting of a smart meter (electric meter with a clock) in the building or home that records consumption in intervals of an hour or less and communicates that information at least daily to the utility. According to a study in 2012,⁵ almost one in three households in the US have smart meters. By 2014, more than half of all homes will have smart meters. Washington and Montana lag other states in the west in smart meter installations and are predicted to have less than half of homes equipped with smart meters by 2015. The PUD is working closely with Battelle's managed Smart Grid Demonstration project.

Pasco: The City of Pasco does not require, but does encourage LEED building standards. They provide a list of builders in the Tri-Cities that specialize in LEED. Similar to Kennewick, Pasco has updated to energy efficient lighting, new HVAC systems and segregated heating and cooling depending on room use, all in order to reduce energy use in city buildings. Pasco staff work closely with Franklin PUD to reduce energy use.

Franklin PUD: In low energy building concepts, the Franklin PUD leads by example with their LEED certified administrative facility. The Franklin PUD promotes LEED incentives for new buildings, especially public buildings. Through the BPA rebate program the PUD paid the incremental costs to improve efficiency for new buildings at Columbia Basin College and a new elementary school in Connell.

Reducing energy use in buildings falls under the BPA energy rebate program and is administered in Pasco and Franklin County by the Franklin PUD. The Franklin PUD has led the community in education and promotion of energy conservation. Their proactive approach has resulted in Franklin County receiving substantially more funding from BPA for reducing energy use in buildings than the amount paid by residents through a tax on power. Whereas Richland will charge residents a nominal fee for an energy audit, Franklin PUD does selective audits at no cost. When a resident requests an audit, the PUD checks the resident's energy pattern over the year and compares it with similar age and size houses. If this indicates a problem, then the PUD will work with the home or business

⁵ 2012, *Utility-Scale Smart Meter Deployments, Plans, and Proposals*. Institute for Electric Efficiency (IEE), May, 16 pgs.

owner to install energy-saving systems. Franklin PUD acknowledges that time-of-use rates may be considered in the future, but would require smart meters in every home.

Richland: Richland is not yet subject to the state's Energy Independence Act,⁶ although they voluntarily conscribe to it in principle and within budget limits. Energy Services staff encourage Energy Star residential construction, which exceeds state code. Richland provides appliance rebates, and low interest loans for qualifying residential and small commercial conservation measures, and BPA provides incentives for industrial and large commercial customers. There is a low interest loan and cash incentives for solar programs.

Richland is creating a database on residential, commercial and industrial structures to facilitate the identification and capture of past, present, and potential energy conservation activity. These records detail the type and number of installed conservation measures and the first year energy savings. Richland is also upgrading city facilities to save energy. Richland's new library is a prime example of a structure incorporating energy efficiency. High efficiency lighting has been installed in the city's water and wastewater plants. Low energy LEDs have been installed in traffic lights.

The Innovation Center, a sustainable business park in the middle of the Tri-Cities Research District (north Richland) includes a demonstration site for integration & demonstration of new renewables and energy storage technology. Richland is working with Benton PUD on the demonstration of a new grid energy storage device. Richland also has a number of roles with MCEI, (Mid-Columbia Energy Initiative) and is part of the team on the Energy Park.

Waste Management:

Kennewick, Pasco and Richland have taken different approaches to residential and commercial waste management. Given the different approaches, a good measure of the efficiency would be to estimate the per capita, or per customer cost of waste management in the city budgets. This was not done as part of this report and could be a major study by itself.

None of the cities incentivize recycling; in fact, Richland charges higher rates for those who elect to recycle. When the waste stream is reduced through recycling, the life span of a landfill is extended, reducing overall costs of disposal at the landfill managed by the City of Richland. Therefore households that recycle in Richland are helping to lower the City's waste management costs, while households that do *not* recycle are contributing to higher waste management costs. Richland picks up green waste at no extra charge to residents and uses this waste to make compost at the City's landfill. The City is a member of the U.S. Composting Council, which allows Richland to sell compost to nurseries and landscaping companies. Both Kennewick and Pasco do not own nor operate a city landfill, so curbside green waste removal would cost extra to residents.

⁶ A qualifying utility serves more than 25,000 customers.
<http://apps.leg.wa.gov/rcw/default.aspx?cite=19.285&full=true>

Washington State enacted recycling for electronic products in 2007. The program for collection, transportation and recycling of e-waste is administered through the state Department of Ecology. Each city has drop-off sites for electronic devices, including monitors, laptops, tablet computers, televisions and e-readers. Residents can find the nearest drop-off point through the E-Cycle Washington website:
<https://fortress.wa.gov/ecy/recycle/UISearch/ServiceSearch.aspx>

Kennewick: Kennewick has had voluntary curbside recycling for several years, including used motor oil, with no extra cost to residents. However, yard waste is not collected separately and would be an extra cost to Waste Management, who holds the current contract. The contract is up for renewal in 2015. Plastics present a special problem, since the market for types beyond 1 & 2's is not good.

The waste treatment plant for the city is about 60% capacity, and tries to operate below 80-85% capacity. Biosolids are used for fertilizer and not deposited in landfills. Low flow toilets and other efficient water fixtures can help to extend the life of current facilities. Some improvements to efficiency are not yet cost efficient.

Kennewick uses recycled materials in playgrounds. They work closely with other jurisdictions in the county to collect household hazardous waste. Kennewick is moving towards more electronic media. The city's current copier contract does not allow them to use recycled paper. The Benton PUD recycles as much equipment as possible.

Pasco: Pasco lags the Tri-Cities in instituting a curbside recycling program because the City Council is not convinced that curbside recycling can be done without additional cost to taxpayers. By Pasco subcontracting their waste program to Basin Disposal, Inc. (BDI), they avoid many of the issues involved with owning or maintaining a landfill and a fleet of waste disposal trucks. This survey did not evaluate important trade-offs between the waste programs of the three cities, such as relative costs and convenience to customers.

Neighborhood recycle centers are made available in Pasco through a contract with BDI. BDI has presented information in the past on the profitability of yard waste collection to the City Council, but no action has been taken on this issue. Pasco staff believe that a curbside green waste program may be cost effective, and will be revisiting this issue this year. BDI accepts green waste at their Transfer Facility at 1721 Dietrich Rd and selling it to Royal Basin Organic Farms in Basin City.

In the areas of water and sewage treatment, Pasco is growing rapidly and most of their infrastructure is relatively new. Pasco's new water treatment plant began operation in 2011. This modern facility recycles biogas, which saves \$60,000 per year in operating costs. The city is planning to build another wastewater facility on the west side of town. Pasco will be upgrading their clarifiers to higher efficiency to reduce energy consumption. The city's goal is to get an "A" certification level for biowaste, so that it can be used as fertilizer for public parks and farms.

Pasco established a separate facility northeast of town to treat wastewater from food processing businesses. The treated wastewater is used to irrigate circles that the city owns and leases to farmers. Pasco is currently expanding the process water reuse facility by adding settling lagoons and biological treatment and expanding to new companies in northeast Pasco.

Richland: Richland owns and operates its own landfill, Horn Rapids. The city has residential curbside garbage pickup and offers green waste pickup, at no extra charge. Richland charges residents and businesses for voluntary curbside recycling. They have a new partnership with E-Cycle, WA and Goodwill Industries for recycling electronic waste.

The Horn Rapids Compost Facility is the new treatment facility for bio solids coming from the City's Wastewater Treatment Plant, the new residential green waste program, and green waste self-haul. This program will save landfill space, achieve the State's recycling goal and provide compost materials to the public. Richland saved \$100,000 when they closed the western portion of the Horn Rapids Compost Facility by using the compost they made from the green waste program. The beneficial aspect of the green waste and recycle program (diversion programs, e.g., recycling of metal, lumber, etc.) is that the city has extended the lifespan of the Horn Rapids landfill by six years to 2019, deferring a major new City investment. Richland started selling its compost in June 2012 at \$15 per ton with a ten-yard minimum. So far this adds up to \$8,000, but they are confident their sales will increase over time.

Richland is promoting the use of agricultural waste for energy production through economic incentives such as tax breaks or land use designations. The City is partnering with the BioProducts Sciences and Engineering Lab (BSEL) at Washington State University, Tri Cities to test different technologies to extract energy from organic waste material.

Food and Agriculture:

The Tri-Cities is surrounded by a vibrant agricultural business. For every dollar of raw agricultural product, an additional \$4-6 is generated as the product moves through the processing chain to market. Commercial vegetable crops include asparagus, carrots, sweet corn, squash, garlic, peas, beans, onions, pumpkin, eggplant, watermelon and potatoes. Commercial fruits include apples, berries, cherries and grapes. Crop sales run around a half billion dollars per year. In short, agriculture is an important part of the local economy. Local produce is also an important component of a sustainable and healthy community.

Kennewick, Pasco and Richland support local agriculture in many ways, from farmer's markets to infrastructure. All three cities have weekly farmer's markets during the spring, summer and fall for those who want to "eat local." Pasco has the largest farmer's market and provides space in the downtown area free of charge. To support local food processing businesses, Pasco built a separate wastewater treatment facility northeast of the city.

The three cities also promote community gardening. Pasco has a "Right to Garden" ordinance that allows property owners to garden on empty lots within the city limits. A new community garden in the Kurtzman area of Pasco, near Virgie Robinson Elementary

has been extremely popular. The city established about 30 plots and now have a waiting list of people who want a plot. Some of the plots are raised for wheelchair access. Community gardens are more successful and popular in areas of high density living. Kennewick is starting a community garden near Newport Street in 2013. Richland launched an economic gardening program in 2011 working with TRIDEC, Western Washington University and the city library.

The cost of electricity for irrigation can be substantial for local farmers running \$500,000 or more per year depending on the size of the farm. The Benton PUD offers conservation rebates to agricultural businesses, making them more energy efficient and reducing their operating costs to be more competitive in local and world markets. The PUD also encourages irrigation users to monitor soil moisture to prevent overwatering which saves water and energy needed for irrigation.

Community Outreach/Education on Sustainability:

Franklin PUD sponsors one of the most extensive *hands-on* educational programs on sustainability topics. The PUD has a Traveling Renewable Energy Kiosk (TREK) that is used to educate the community on the benefits and challenges of renewable energy. Franklin PUD has elementary students build a solar-powered model car and race it. High school students build a solar-powered car and race it as part of the annual "Electrathon". There are many other outreach activities that are sponsored by Franklin PUD.

The City of Richland has had an active environmental education program that includes in-school and Earth Month programs. About 100 presentations, activities, events and contests are coordinated each year from their Green Living Office. Various city departments participate in these events and outreach activities, including science nights at schools, composting and waste reduction workshops, Benton-Franklin County fair, sustainable living forums and green city conferences. The Green Living Office has an extensive website and was recognized in 2009 for sponsoring the Green Recognition Awards program.

The Benton PUD has energy tips on its web site, a newsletter and a retired science teacher that works with 4th grade classes in Kennewick about energy safety and efficiency. They also participate in outreach at community events such as the Benton-Franklin County fair.

People and Organizations Interviewed

Name	Organization	Role	Interviewers
Darroll Clark	Franklin PUD	Head of Conservation	Ellyn Murphy & Susan Kreid
Stan Strebel	City of Pasco	Deputy City Manager	Ellyn Murphy & Susan Kreid
Rick White	City of Pasco	Director, Community & Economic Development	Ellyn Murphy & Susan Kreid
Rick Terway	City of Pasco	Director, Administrative & Community Services	Ellyn Murphy & Susan Kreid
Ahmad Qayoumi	City of Pasco	Public Works Director	Ellyn Murphy & Susan Kreid
Darrick Dietrich	Basin Disposal, Inc	Pasco Waste Disposal	Ellyn Murphy
Peter Beaudry	City of Kennewick	Municipal Services Executive Director	Marilyn Perkins & Shirley Sonnichsen
Steven Plummer	City of Kennewick	Engineering Services Manager	Marilyn Perkins, Shirley Sonnichsen & Ginny McIntyre
Karen Miller	Benton PUD <i>(Preferred to fill out form rather than interview)</i>	Manager, Communications & Governmental Relations	Marilyn Perkins & Shirley Sonnichsen
Ken Mey	City of Richland	Power & Resource Superintendent	Lora Rathbone
Dawn Senger Sandi Edgemon	City of Richland	Energy Specialist Business Services Mgr	Lora Rathbone & Ellyn Murphy
Gail Everett	City of Richland	Environmental Education	Lora Rathbone
Gary Ballew	City of Richland	Economic Development Manager	Lora Rathbone
Vern McGraw	City of Richland	Wastewater/Stormwater Operations	Lora Rathbone
Tim Fredrickson	Ben Franklin Transit	General Manager	Ginny McIntyre Marilyn Perkins
Kathy McMullen	Ben Franklin Transit	Service Development Manager	Ginny McIntyre Marilyn Perkins
Len Pavelka	Benton-Franklin Council of Governments	Transportation Planning Specialist III	Ginny McIntyre Lora Rathbone

SWMP= Solid Waste Management Plan

www.ci.richland.wa.us/DocumentCenter/Home/View/2452

Richland Transportation Plan 2005

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Discussion Group Comments and LWV Consensus on Sustainable Communities

The League of Women Voters sponsored two discussion meetings on March 7th and March 12, 2013. Participants were asked to read the summary study in advance. The following comments are from these meetings.

Participants had very strong opinions on what they value most about life in the Tri-Cities and what they want to see sustained for future generations. Responses included:

- the low cost of living and free parking,
- river shore accessibility, parks, open and wild spaces,
- an excellent range of educational opportunities,
- community volunteer opportunities and spirit;
- the low cost of renewable energy (primarily hydropower).

The quality of life would be enhanced if we could preserve the ridges and river shore, and decrease urban sprawl by encouraging more high-density housing with convenient street-level shopping and recreation. Mixed income housing should be encouraged to create a healthy balance of jobs and services. This type of high-density housing and services should be used to revitalize downtown areas and in areas where we can take advantage of our rivers, while at the same time preserving public access to the shorelines.

Participants felt that the greatest pressures impacting life in the Tri-Cities in the next twenty years will be urban sprawl, preserving our landscapes, and water availability for consumption, recreation and agriculture. Laws and neighborhood covenants must allow sustainable practices, such as solar panels and clotheslines. City governments should include undeveloped (wild) space in the definition of green space and preserve connectivity between open spaces.

All the participants would like to see our governments use long-range planning and work together in regards to planning, vision and costs. With a National Laboratory in our backyard, we should take advantage of the local expertise in energy efficiency, regional climate impacts, and preservation of critical resources such as water. The smart grid partnership is a good example of cooperation among local and regional utilities and the Laboratory. Additional collaborations are necessary to create a northwest energy hub in the Tri-Cities and attract new, progressive companies in clean energy. These types of businesses will build on the highly skilled and highly educated workforce associated with Hanford.

Transportation and Mobility:

We asked discussion groups if we should encourage our communities to think of different ways to get from one place to another except by automobile. Clearly, in areas where we want to encourage pedestrian traffic, cities should provide parking away from the area of focus and facilitate walking and bicycle pathways. Overall, participants would like to see

downtown neighborhoods revitalized as centers for walking, shopping, eating and living. Of course, higher density living is needed to support businesses in walkable communities – multistory buildings with apartments above and businesses at street level. New walking and bicycle pathways should be a priority for transportation planning. Cities could also discourage businesses with drive-throughs in downtown areas and design walkways such that restaurants can provide outdoor seating.

Discussion groups also offered ideas to incentivize the use of alternative fuels for vehicles. In addition to providing the infrastructure for electric vehicle charging stations, cities should plan ahead for the transportation system of the future (2025-2035 timeframe). This might include a light rail on major thoroughfares with satellite parking lots for commuters to accommodate the rush hour traffic. Land would need to be set aside for this type of park-and-ride system.

Energy

Consistent with the theme of making the Tri-Cities a northwest hub for clean energy technologies, city governments can do more to incentivize LEED or equivalent buildings. This may be by providing discounts on building permits and providing more expertise on the latest innovations in energy efficient buildings. Tri-Cities engineering departments could collaborate to recognize a local “Builder of the Year” based on energy efficiency innovations in a recently constructed building. New public buildings, including city buildings and schools should adhere to LEED standards in order to significantly reduce the operating cost of the building over its lifetime.

The Pacific Northwest Power Act has done much to encourage energy efficiency and incentivize energy upgrades in existing buildings. As a northwest hub for clean energy, the Tri-Cities should aggressively take the next step and institute time-of-use pricing for power. This will require that smart meters be installed in every building. It will take these types of bold actions for the Tri-Cities to lead in energy efficiency and clean energy technology.

Waste Management

Much more community education is needed to reduce waste and encourage recycling. As one person whose career is in waste management said, “until we enact laws to reduce excessive packaging of products, we will continue to have a waste disposal problem.” Professionals in waste management absolutely hate plastic shopping bags. Plastic bags can be a major problem at landfills, as they are easily lofted and spread by wind and are not biodegradable.

Recycling should be incentivized, which can be done by charging customers who recycle lower fees for waste disposal, or alternatively, make everyone pay for recycling whether they recycle or not. People who recycle generate much less waste for landfill disposal, reducing costs by extending the lifespan of the landfill.

Food and Agriculture

Farmer's Markets have become increasingly popular as people want to consume fresh foods and support local agriculture. The cities should continue to encourage Farmer's Markets, especially in downtown areas that need to be revitalized. The Tri-Cities is lucky to be surrounded by such a diverse agricultural system. Large supermarket chains in the Tri-Cities should support our agricultural economy by providing more local produce to customers. This approach could give consumers even greater choice than Community Supported Agriculture co-ops or CSA's.

Discussion participants would also like to see more local produce incorporated into lunch programs for the school systems. Good eating habits and sustainable practices can make a significant and lasting impression on children.

Community Outreach/Education on Sustainability

The discussion focused on how the participants could encourage sustainable growth and livability in our community. Of course, the main point was that we need to practice sustainability ourselves through recycling, saving water and other sustainable practices that fit with each individual's lifestyle. We also need to be more vocal by putting information on websites, social network sites, letters to the editor, and voicing opinions at city council meetings. It was suggested to ask Marianne Ophardt to write columns on sustainable gardening practices such as composting and reducing water use.

Sustainability is really about good business practices and being a good steward of the taxpayer's money. Sustainability promotes energy security, food security and economic security.

The Benton-Franklin League of Women Voters adopted the following consensus position:

The League of Women Voters of Benton and Franklin Counties believes that sustainable practices lead to more cost-effective provision of services, which means a more efficient use of revenue and/or taxes. Sustainable communities attract businesses and people, because of a higher quality of life through reduced energy costs, energy and food security, transportation and recreation options, and a healthier environment.

Appendix

1.0 Planning, Analysis & Vision

	Kennewick/Benton PUD	Pasco/Franklin PUD	
1.1 Current projects and capital investments supporting sustainable and livable development	<p><i>Kennewick:</i> under design to modernize waste water treatment plant aeration pumps to provide a significant reduction in energy demand. Seeking funds through the Department of Ecology to complete the retrofit of the pumps in 2015. Also will be seeking funds for the design and construction of a biosolids handling facility that will be entirely solar powered. Kennewick completed three street light replacement projects. The new induction lamps use 50% less energy. In addition, Kennewick upgraded the lighting fixtures in 18 City buildings. These projects reduce greenhouse gas emissions by 2,148 metric tons. Kennewick has been using energy efficient LED bulbs in our traffic signals for over 20 years. Currently developing low impact development storm water management guidelines tailored for our semi-arid climate.</p> <p><i>Benton PUD</i> has an extensive conservation program for residential, commercial and agriculture businesses that exceeded \$4 million total in 2012.</p>	<p>Pasco replaced 50% of streetlamps in 2011 with induction lights using a \$500K grant from DOE (saving ~\$50K per yr in energy costs). With a combination of State, PUD & Pasco funds the city is replacing the remaining streetlamps this year with LEDs. PUD is dropping the per streetlamp maintenance charge on LEDs. City has also built a process water reuse facility for Ag industry. <i>Franklin PUD</i> administers the Residential Rebate Program and the Appliance Rebate Program. This program typically receives more funding from BPA than the amount paid into the system via rates.</p>	<p><i>Richland</i> example incorporated. Certain retrofitted efficient water and Convert bulbs and control</p>
1.2 Describe measures & objectives & reporting for sustainability practices.	<p><i>Kennewick:</i> Not at this time.</p> <p><i>Benton PUD:</i> We developed an extensive conservation and renewable plan, which is approved by the PUD Commission & meets the Washington State Energy Independence Act requirements. Performance benchmarks are provided and reviewed with our commissioners quarterly.</p>	<p>The <i>Franklin PUD</i> uses engineering calculations to measure savings and the city accepts these calculations. The DOE street lamp project will require actual measured savings.</p>	<p>Records the type conserv and what savings all the re customer Resource overseer</p>
1.3 Have a calculated carbon footprint.	<p><i>Benton PUD:</i> Our carbon footprint was calculated and because of the minimal impact, it did not meet the Washington State requirements for reporting purposes.</p> <p>Kennewick has not calculated its total carbon footprint, but has undertaken projects within the last 5 years that reduced greenhouse gas emissions by over 2,100 metric tons.</p>	<p><i>Franklin PUD</i> has not calculated their carbon footprint, but is the focal point for reducing carbon emissions (I-937). PUD is LEED certified and promotes fuel-efficient cars & electric charging stations. <i>Pasco</i> calculated carbon footprint as part of the DOE street lamp grant.</p>	<p>Although footprint <i>Richland</i> decrease climate Federal</p>

1.0 Planning, Analysis & Vision (con't)

	Kennewick/Benton PUD	Pasco/Franklin PUD	
1.4 Member of a National Organization to promote sustainable practices.	<p><i>Kennewick:</i> Yes, The American Public Works Association (and Washington APWA), the American Water Works Association (and PNWS-AWWA), the Institute of Traffic Engineers, and the American Civil Engineers promote sustainability practices.</p> <p><i>Benton PUD:</i> A member of Western Renewable Energy Generation Information System (WREGIS) to track our renewable power purchases.</p>	<p><i>Pasco</i> adopts best practices to reduce costs & always look at new ideas for reducing costs. <i>Franklin PUD</i> is part of the Northwest Energy Efficiency Alliance and the Sustainable Energy & Environment Network.</p>	<p><i>Richland</i> is in sustainable highlighting within the co Richland wo Recognition</p>
1.5 Involvement in the planned Energy Park at Hanford.	<p>No for Kennewick</p> <p><i>Benton PUD</i> staff participates on the TRIDEC Mid-Columbia Energy Initiative Committee providing expertise.</p>	<p>Pasco is not. <i>Franklin PUD</i> would like to be and has long maintained that the Tri-Cities should be the energy education focus for the U.S. or Northwest.</p>	<p>The Innovat Research Dis demonstrati demonstrati energy stora</p>

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1.6 Source of funding for sustainable projects	<i>Benton PUD:</i> Projects funded through customer rates as part of BPA rebate program. <i>Benton PUD</i> is a public, not for profit entity. <i>Kennewick:</i> The completed street lighting and building retrofit projects were funded by a combination of ARRA – Energy Efficiency Community Block Grant, City of Kennewick Capital Improvement Fund, and energy rebates.	<i>Franklin PUD</i> receives rebates from BPA, which is built into their rate structure for power. <i>Pasco</i> either gets a grant (DOE), rebate (PUD) or funded by taxes. Great partnership between City & PUD.	Sometimes s
1.7 Preservation of open spaces, planting trees and maintaining native plants.	Developers provide park space or funds for park spaces (usually bigger subdivisions put in a park and smaller ones pay for park development). City only maintains parks over 5 acres. New parks in the last five years are Hansen Park, Inspiration Park, Southridge Park and Canyon Lakes Park. The City's Comprehensive Plan identifies areas designated to be preserved as open space. Kennewick is designated Tree City with the Arbor Day Foundation <i>Benton PUD:</i> Has a tree program to promote proper growth & energy savings & avoid power lines. Program received the Tree Line USA award 12 consecutive years.	<i>Pasco</i> supports the Rivers to Ridges plan & participates in the jurisdictional council. For housing developments, 5-7 acres have to be put aside for parks; smaller developments pay a park fee. Also allow smaller recreational parks (3 acres). City has an urban forestry budget and is part of the Forestry Council Board for the Tri-Cities. City requires trees in new developments. Major issue is educating owners on tree trimming.	<i>Richland</i> is in recommend Open Space They are also lessen the in steep slopes environmen
1.0 Planning, Analysis & Vision (con't)			
	Kennewick/Benton PUD	Pasco/Franklin PUD	Richland
1.8 Efforts underway to protect water quality/ quantity and waterfront habitat	<i>Kennewick:</i> program with Dept of Ecology for aquifer recovery and storage system. City takes water out of the Columbia in the winter and is injected underground in fractured basalt & pumped out in summer when needed. Holds 3–6 million gallons at a cost of \$3M. The goal is for the aquifer to hold 300 million gallons at a cost of just \$3.5 to \$4M. An above ground storage reservoir at Southridge holds one million gallons at a cost of \$1M. Not likely to be a water shortage here, because the huge river volume & water pact allows 50 years' of growth capacity. City has computerized irrigation in parks & water leak detection and repair for water conservation. City is partnering with Eastern WA communities regarding low impact development (LID) storm water management guidance and will incorporate it into our City standards. <i>Benton PUD:</i> funds conservation incentives to irrigation customers to monitor soil moisture which prevents overwatering of crops, saves electricity from pumping less water onto crops.	There are no natural wetlands within <i>Pasco's</i> jurisdiction. Most of shoreline is levee area owned by the Corps of Engineers or land owned/operated by the Port of Pasco. Some parts of the city have separate potable and irrigation water systems. Irrigation uses 10-11 million gal/day in summer – system runs from April through Sept. City has a new Water Resources Master Plan.	<i>Richland</i> is d irrigation wa developed a assist in the operations & expansion o reduce treat one million g in the Horn fire protecti distribution motor costs. <i>Richland</i> imp storm water dry- wells in and register needs and tr
1.9 Description of vision for sustainable energy (PUDs) or sustainable	<i>Benton PUD</i> supports renewable resources and purchases renewables when needed to serve customers or to meet mandated requirements. Over 70% of the power mix is from hydro. Use wind from the Nine Canyon Wind project and White Creek (both located in Washington). About 11% is from nuclear.	The <i>Pasco</i> City Council has not articulated a policy for a sustainable community. The <i>Franklin PUD</i> is committed to good consumer education and incorporating all cost-effective use of energy in the community.	Promote goo and leverage both waste o consumption

communities (City)	<p><i>Kennewick</i> continues to investigate methods to reduce energy consumption. The pending project at our Waste Water Treatment Plant will reduce energy consumption by an estimated 1 million kilowatt hours (approximately 700 metric tons greenhouse gas reduction).</p>		
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2.0 Transportation & Mobility	
<i>Benton Franklin Council of Governments</i>	
<p>2.1 Does the Tri-Cities have a comprehensive transportation plan? Describe activities & implementation of this plan.</p>	<p>The regional and statewide transportation plans were reviewed to highlight policy elements that a jurisdiction's transportation plans. The Metropolitan Transportation Plan/Regional Transportation Plan prepared by the Benton-Franklin Council of Governments and it serves as a framework for local transportation facility planning for all jurisdictions.</p>
<p>2.2 Is there a multi-modal plan, whereby people can transfer from airport to BFT? or</p> <ul style="list-style-type: none"> ● Sidewalk or bike paths to BFT bus? ● BFT bus to Grape Line or Greyhound? ● BFT to planned inter-city bus lines? 	<p>Ben Franklin Transit connects passengers with:</p> <ul style="list-style-type: none"> - Tri-Cities Airport - Grapeline service to Walla Walla - Fixed route service to most schools - Connects to Columbia Basin College in Pasco - Battelle and other North Richland business locations - Tri City Trolley: Hermiston and Pendleton Mon thru Sat. <p style="text-align: right;"> -Pasco Amtrak and Greyhound Station -People for People service to Yakima -Overload/ Tripper buses on bus routes -WSU-Tri-Cities -10 park and ride lots with 1000+ spaces - Administers a very effective transit system </p> <p>BFT works with the BFCOG to put together their bicycle routing map that includes the transit centers on all buses; lockers at all transit centers and encourages bicycle friendliness. The Confederated Tribes of the Waiilatpu Reservation (CTUIR) operates transit service between northeast Oregon, Walla Walla and the Tri-Cities. CTUIR Transit provide service to the Pasco Rail Station and the Tri-Cities Airport</p>

2.0 Transportation & Mobility (con't)			
City questions	Kennewick	Pasco	
<p>2.3 Describe how your transportation plan supports multimodal transportation.</p> <ul style="list-style-type: none"> • How integrated is this plan with Tri-Cities planning? • Do you subscribe to “complete streets” principles for non-vehicle transportation? • Does it encourage public transportation via connection with pedestrian & bike routes? 	<p>The City of Kennewick Transportation Systems Plan identifies existing infrastructure and future improvements that address streets, pedestrian, bicycle, transit coordination, freight mobility, and potential air and water transport. The Council of Governments was a part of the advisory group created for the plan development and was actively involved with reviews.</p> <p>Street design standards encourage alternative transportation usages (pedestrian, bicycle, etc.), provide appropriate space for landscaping and promote low impact development (LID) practices. Kennewick is actively involved in the development of and Eastern Washington LID guidance document.</p> <p>Coordinate with Ben Franklin Transit on connections and stops. Require sidewalks on all new development and have an ongoing program to correct deficiencies. Annual ADA ramp program to enhance access.</p> <p>Kennewick works with our MPO in the development and maintenance of the regional pedestrian/bicycle plan</p>	<p>Unlike western Washington, Pasco’s streets have excess capacity. Current plan promotes construction of sidewalks and multiuse paths to provide routes for alternative modes of transportation. City will be developing a new Transportation System Plan (TSP).</p> <p>Pasco is part of the Metropolitan Planning Organization & works closely with other cities on projects that impact other jurisdictions. One study is being done with Benton-Franklin Council of Governments (COG) for a new bridge over the Columbia River. COG meets once a month. City and PUD work closely on power distribution lines for new developments.</p> <p>Pasco does not currently subscribe to complete streets, but it will be evaluated with new TSP.</p> <p>For developments, like cul de sacs, code requires pedestrian walk-throughs. Pasco has commissioned a river shore study to see how it can be better tied into the city.</p>	<p>The Rich Transpo 2005 as multi-m transpor program the City’ planned the grea next 20 each mo describe pedestri ways to demand the state Program Develop encoura alternat plans to “comple by the e</p>
<p>2.4 How does the city/county zoning policy support your transportation plan?</p>	<p>The Transportation Systems Plan is identified in the City’s Comprehensive Plan. This plan is also reviewed and approved by the Benton Franklin Council of Governments.</p>	<p>Construction of new roads must meet the City’s standards & the Comprehensive Plan. Subdivision code stipulates no dead-end streets. The city tries to concentrate businesses at intersections.</p>	

2.0 Transportation & Mobility (con't)			
City questions	Kennewick	Pasco	
<p>2.5 What new bike routes are being implemented or planned - especially for commuters?</p>	<p>All street reconstructions have planned bicycling provisions. Where possible on resurfacing projects, modifications to the striping are made to improve pedestrian/bicyclist safety and encourage bicycling and walking as alternative modes of transportation.</p>	<p>A new bike/pedestrian plan was adopted in late 2011- early 2012. The focus of the plan is on making connections: to schools, shopping, services, transportation; basically connecting new parts of town with old parts of town. A proposed new bike path that would run east/west along an irrigation canal would cost ~\$650K, which will be difficult to adopt. Although state law exempts the irrigation district from liability, it is unlikely that they would allow public access to open parts of the canal.</p> <p>The city adopted the rivershore linkage plan. Currently working with the railroad to get</p>	<p>The regional bicycl a core of bicycle ro trails and key desti Master Plan summ bicycle-related pro a long-term map fo From this Master P term, Action Plan v Plan consists of pro actively try to fund basic bicycle grid s</p>

		permission to have the bike/pedestrian river shore path to go under the rail bed.	
2.6 How are you promoting walking and public transportation in your planning?	Currently Kennewick has a signal priority/pre-emption system in place that gives mass transit, buses, priority at signals to maintain schedules. Public works projects incorporate provisions for multi-modal transportation uses. Kennewick works in cooperation with BFT.	The new construction of the roadways infrastructure for new developments requires sidewalks along the frontage, however, not to the nearest bus stop.	All of these have been in the city plan. Richland's 2015 development of SM of park and ride lot and pedestrian connections. Equip signals with capabilities (e.g., bus signal intersection).
2.7 What is your plan to reduce congestion by improving traffic flow? <ul style="list-style-type: none"> • By adding more roundabouts? • By promoting green driving? 	Kennewick leads the State in construction of roundabouts. We currently have over 20 intersections that are roundabout controlled, one under construction, 3 in design and another in the planning stage. Roundabouts improve mobility while increasing safety.	Pasco is rapidly growing and most of the improvements are to meet current and future demands. City is adding roundabouts (single lane) to facilitate traffic flow and avoid the high cost of traffic lights. The average cost for a traffic light intersection is \$10K per year (energy & maintenance) and a new set of traffic lights for an intersection costs from \$250K to \$350K. Once built, roundabouts are safer and require little maintenance and no energy costs. The city plans to replace all traffic light controllers in the next few years (adaptive traffic lights).	Richland has a Traffic Signal Program (TIP): The program is traffic signal coordination. It includes "smart" ramp metering information prior to the intersection. Benton County is in a commute trip reduction program. Recommended plan of high speed commute and residents can be conducting business that effectively mix trips.

2.0 Transportation & Mobility (con't)

City questions	Kennewick	Pasco	
2.8 Do you have plans for providing electric car charging stations?	Not at this time. It is a state law that cities provide electric stations but didn't provide the funds so will be delayed.	Charging stations are not in current city plan, but could be part of new TSP. Would require a grant to install charging stations. The PUD strongly supports electrification of transportation, but the demand is currently not there yet for charging stations. The charging station in the PUD parking lot is never used.	Richland has other energy research potential regarding and
2.9 What plans do you have to reduce the energy use of the transportation infrastructure?	Kennewick has used LED for its traffic signals since 1999-2000. All City street light has been retrofitted to energy efficient induction lighting and our standards updated to require induction lighting for all future transportation infrastructure.	Usually a lack of street capacity drives a reduction in energy use, but Pasco has excess capacity. The installation of adaptive traffic light controllers in the next few years will keep delays at lights to a minimum and reduces fuel consumption. As part of their normal budget they are changing existing traffic signal heads to LED.	Under construction. Richland intersection signal flow control
2.10 Do you plan to phase into a green fleet for city vehicles (electric, hybrid, alternative fuels)?	Kennewick: Not at this time. Looked into city "electrical" vehicles but not very practical. They still try to buy the most energy efficient vehicles. PUD - All diesel vehicles use bio-fuels. We also have four electric hybrids vehicles.	City has invested in a number of new hybrid vehicles for engineers. Ford Escapes are getting mileage in the mid-30 mpg. Have one older Prius. Pasco is evaluating the feasibility of other types of vehicles. PUD has a Prius and Ford Escape hybrid. An electric car is possible for the future. PUD will transition when they can.	Evaluation of vehicle. Toyota staff being. Dep. Mor. 201
2.11 What percentage of your agency's employees use an alternative to	Many employees bike or walk to work, which has reduced the city's health insurance costs. The Frost Center is centrally located and	Pasco does not have accurate data - perhaps less than 10%.	A survey been

single-occu-pancy vehicle to commute to work at least 20% of the time? 50% of the time?	allows for better organization, communication and cooperation.		
2.12 Any additional current/future innovations in transportation that will increase mobility while decreasing energy?	Kennewick is actively pursuing fund-ing for corridor studies to identify & implement access management improvements and congestion reduc-tion. Completion of the Steptoe/ Hildebrand corridor will redistribute traffic patterns thereby reducing travel times and miles traveled.	Roundabouts save the city \$10K per year in energy costs when compared to intersections that have traffic lights.	

Ben Franklin Transit			
2.13 Is there a plan to provide bus service to the Hanford Area, to alleviate congestion and carbon emission?	Potential Transit Projects- Project Description (ranked by feasibility) 1. Provide Transit Amenities at Major Transit Stops: -Provide shelters, info kiosks, etc., along key transit routes -Focus on development of "SMART" bus stops. -Expand park and ride lots where demand exceeds existing capacity. 2. Improve Pedestrian Connections of Transit Facilities: -Construct sidewalks, crosswalks, etc. adjacent to transit routes & facilities (i.e. park-and-ride lots) quarter mile of bus stops, focus on enhancing pedestrian access. Safety is a factor. 3. Decrease Headways -Provide more frequent transit service during peak commute periods.		
2.14 Is there a plan to introduce express buses to the most congested areas (North Richland) to alleviate congestion?	A number of strategies were reviewed, including increased fixed-route bus services, lengthening AM and extended new transit services to N. Richland and the Hanford Reservation. However, based recently by B.F. Transit, the most cost effective solutions appear to be focused on expansion of the BFT service which brings patrons to the nearest fixed-route bus stop free of charge. The existing and planned employment appear to support the investments associated with more frequent buses during commute hours, and commuter rail. (pg. 1-5 Rich. Transp. Plan 2005). Balance this with regular routes. Need the demand and the financial resources.		
2.15 Do you have plans for more future Park-n-Ride lots?	There are plans to add Park and Rides in W. Richland and Queensgate. Recently there has been some discussion of a Park- and-Ride in the Southridge area, where it could provide linking with the proposed development on Mountain.		
2.16 Do you plan to phase into a green fleet for your vehicles fleet (electric, hybrid, alternative fuels)?	BFT has acquired some used ultra -low diesel vehicles. They are planning to apply for a grant to buy more. Some of these may be a bio-diesel/hybrid technology.		
2.17 Describe your activities with businesses to increase ridership.	The city encourages businesses to "green" their operations. There is info on the web site for energy but not about bus ridership. The city presents annual green recognition awards for such efforts. BFT has won the award for Pollution Prevention. It has also won the City of Richland award.		
2.18 Describe innovative ideas that are being considered or implemented to increase ridership.	BFT constantly monitors ridership. For example, BFT is working with CBC to involve more students in transit. BFT is also working with some local major employers. However, there are some institutional barriers, such as Hanford's location.		

2.0 Transportation & Mobility (con't)

Ben Franklin Transit

<p>2.19 Additional Feedback</p>	<p>Eighty percent of funding is federal. BFT is mandated to provide community services such as Dial-A-Ride. Expensive, BFT is attempting to aid persons currently using DAR to use the route buses instead where feasible. DAR patrons as it does not require reservations ahead of time. DARs cost approximately \$20 while route buses are less. BFT has led some emission technology, including filters on the buses that can be cleaned in a cleaning facility. An advanced vehicle washing facility with special drains allows very little dirty water runoff – only that from the tires. BFT has sponsored 2 forums – Alliance for Livable and Sustainable Communities, now a 501 (c) (3). BFT has developed patterns that facilitate use of buses, such as having facilities on the roadsides and parking behind buildings. BFT is consulted by the cities on development patterns, but lack approval authority. In addition to its Board of Directors, BFT receives input from a monthly Citizens’ Advisory Committee, with a Dial-A-Ride Committee. BFT is planning a 20% fare increase. Funding is augmented by recent sales tax increases.</p>
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3.0 Buildings & Energy

	Kennewick/Benton PUD	Pasco/Franklin PUD	
<p>3.1 What is your plan to reduce energy use in homes, business, & government?</p>	<p>Kennewick recently retrofitted the lighting fixtures in 18 City buildings as well as HVAC systems at city hall. The pending project at our Waste Water Treatment Plant will reduce energy consumption by an estimated 1 million kilowatt hours (approximately 700 metric tons greenhouse gas reduction). Kennewick School District Admin building and new schools are being built energy efficient, more natural light from skylights, etc. <i>Benton PUD</i> offers incentives for home improvements and rebates on energy efficient appliances, heat pumps, windows and insulation. PUD also works with businesses to make recommendations on improvements and offers financial incentives for items such as energy efficient lighting, motors, refrigeration, restaurant equipment and a variety of custom project applications for commercial and industrial businesses.</p>	<p><i>Franklin PUD</i> does energy audits, but because of manpower, they are very selective in the audits they do. PUD checks the resident’s energy pattern over the year versus the size of the house to see if there is a problem. Pasco works closely with PUD to reduce the energy costs in city buildings, but is replacing lighting, computerizing HVAC systems, and regulating room temperatures by type of room.</p>	<p>Assess energy consumption to achieve energy savings. State and regional programs provide HVAC, windows, doors), incentives to customers for commercial and residential energy use are discussed. Enforced by the City encourages Energy Efficient construction which The home is certified that energy efficiency beyond the code level. Extensive energy audits and outreach to contractors through presentations, workshops, media, websites, etc.</p>

3.0 Buildings & Energy (con't)

	Kennewick/Benton PUD	Pasco/Franklin PUD	Rainier PUD
<p>3.2 Are you considering time-of-use pricing to incentivize consumers to reduce peak demand? If not, why?</p>	<p><i>Benton PUD</i>: We are evaluating options. Advanced Metering Infrastructure (AMI) meters have been installed which is the first step.</p>	<p><i>Franklin PUD</i>: Tiered rates may be done in the future. Would need a clock in every meter in order to do this (AMI meters). So far we do not have much of a diurnal issue due to dams, but this could be an issue in the future.</p>	<p>An annual cost of service study results to design electric rates. Eliminated declining block rates. Additional investment in technology and infrastructure for the City and customers is viable.</p>
<p>3.3 What are your plans to modernize infrastructure?</p>	<p><i>Kennewick</i>: Replacing old HVAC systems with more energy efficient systems. Kennewick recently retrofitted the lighting fixtures in 18 City buildings. All new facilities are planned with energy efficient systems.</p>	<p><i>Franklin PUD</i> has a modern LEED certified building. The City works with PUD to update lighting and HVAC systems.</p>	<p>City buildings have been energy-efficient lighting. City is considering a new street lighting requiring LED street lighting. A pilot project in the Eastside evaluated LED street lighting.</p>

	energy efficiency as an integral component. <i>Benton PUD:</i> Infrastructure is strategically updated as needed. Offer broadband fiber on a wholesale basis and within the confines of the law.		monitoring and a cont usage. These LED light traditional high-press
3.4 Do you require or encourage LEED or equivalent standards for government, residential, commercial, industrial facilities? LEED = Leadership in Energy & Environmental Design - an international green building certification system	<i>Kennewick:</i> LEED is considered for all new city facilities – i.e. fire station #5 <i>Benton PUD:</i> We encourage energy efficient buildings through our Conservation program.	<i>Pasco</i> does not require, but does encourage LEED. City has a list of builders in the Tri-Cities who specialize in LEED. City buildings follow state energy efficiency standards. <i>Franklin PUD</i> pushes LEED incentives for new buildings. PUD paid the incremental costs to improve efficiency for new buildings at CBC and a new elementary school in Connell. The City requires LED street lamps in new developments.	City encourages LEED offers incentives for n renovations that exce rebates for high-effici lighting and Energy St construction. Energy S Energy Star residential exceeds state codes.

3.0 Buildings & Energy (con't)			
	Kennewick/Benton PUD	Pasco/Franklin PUD	
3.5 Describe incentives for green building and remodeling (residential, private businesses, and public buildings)	<i>Kennewick:</i> Free low flow showerheads and bags for toilets to reduce amount of water to flush. <i>Benton PUD:</i> We offer rebates for energy efficiency improvements.	<i>Franklin PUD:</i> incentives, rebates, etc., are part of BPA rebate system. PUD is very aggressive and Franklin County often receives more than their share in BPA rebates.	City provide residential a conservation provides inc large comme interest loan insulation an construction solar power recovery pro State.
3.6 Are you participating in green energy R&D with PNNL, Energy NW, PUDs, etc.? What activities are currently ongoing?	<i>Benton PUD:</i> Yes, participant with others on energy storage project funded in part by ARRA (2009 Federal stimulus) funds as part of the Battelle managed Smart Grid Demonstration project.	<i>Pasco</i> works very closely with PUD, but not involved with PNNL or Energy NW. Pasco is starting to control their irrigation systems with meters and monitors that take weather conditions into account. The systems are being upgraded over time using grants from PUD. Pasco also installing variable frequency drivers on their water pumps to increase the life of the pump.	The City is w to test and e system. The in a 20-foot trailer and c 500 kWh – e homes for fo in October 2 September 3
3.7 What are your activities in HUD funding and projects?	Public Works pursues HUD funding for Americans with Disabilities Act (ADA) improvement projects and for low income neighborhood revitalization.	<i>Pasco</i> is reusing and rehabilitating existing housing through HUD grants. Create a “silent” second loan usually in the \$30-37K range. Focus is on life, health, safety improvements and some energy efficiency updates. Pasco is purchasing foreclosed homes to rehabilitate and put back on market.	Richland is e targeted at t and badly di neighborhood
3.8 Other current/future innovations that will lower energy costs in buildings?	<i>Kennewick</i> is working with Infinia to have the solar dishes installed at the Toyota Center to help	<i>Pasco</i> is upgrading old HVACs in their city buildings as needed. Just upgraded all HVAC at the King Center.	Richland is r Energy Inde because they

	<p>reduce the power load on the Coliseum.</p> <p><i>Benton PUD:</i> We fund Northwest Energy Efficiency Association NEEA through our BPA wholesale rates. NEEA promotes energy code changes for more efficient products and building codes both locally and nationally.</p>	<p><i>Franklin PUD</i> is trying to educate architecture firms on the use of solar energy. Solar panels are part of the south-facing awnings on the PUD building. Next big idea may be solar panels that are also part of the structure of the building. Another big idea is using plastic that is insulating, but allows light into building. Also buildings that rotate to track the sun.</p>	<p>customers. V an exemption renewable e power portf</p>
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4.0 Waste Management

	<i>Kennewick/Benton PUD</i>	<i>Pasco/Franklin PUD</i>	
4.1 Curb side recycling – What are the plans to augment the current program?	<i>Kennewick:</i> Voluntary curbside recycling at no extra charge. <i>Benton PUD:</i> with the assistance from recycling companies who specialize in all types of recycling, old transformers are sent for metal reclamation; used oil from vehicles is sent to energy recovery to be reused as fuel; batteries, wire, compact florescent light bulbs and electronic equipment (that can't be surplused/reused) are recycled and disposed of in the best way to not impact the environment.	Neighborhood recycling centers are made available by Basin Disposal (BDI). The Pasco City Council is not convinced curbside recycling can be done without cost to city/taxpayers. Pasco officials believe that a curbside green waste program may be cost effective, so BDI is going to make a presentation to the City Council sometime this year.	Richland is using to increase recyc also want to imp multi-family coll diversion progra
4.2 Have you done a Life cycle cost analysis for waste materials? If so, what are your plans to develop markets for diverted products to increase their value?	No, negotiating with Waste Management for yard waste but would be a huge cost. Need the right mixture of materials to make it work.	No, but currently green waste is accepted at their Transfer Facility at 1721 Dietrich Road and is taken to Royal Organic Farms in Basin City. Also remove metals for recycling.	Only 27% of disp for recycling or c that for compost Richland is devel increase value of are also evaluati and processing c debris. Siting Alr wood processors increased divers waste. Concrete completed in 20
4.3 Electronic recycling – What are your plans to expand the list of approved devices?	Driven by current technology, not a market for all plastics.	BDI is not involved in electronic recycling. The State of Washington specifies recycling centers for electronics by zip code. Occasionally BDI will get electronics in the waste, which they sort and take to a recycling center. Pasco sites can be found at website listed.	Have a new part Goodwill Industr means computer laptops and e-re Goodwill donatio collection locatio number of appro

4.0 Waste Management (con't)			
	<i>Kennewick/Benton PUD</i>	<i>Pasco/Franklin PUD</i>	<i>R</i>
4.4 Hazardous waste -What is the cost of collection, storage or treatment? Can you estimate the amount of hazardous waste that does not get disposed of correctly?	Richland, West Richland, Prosser and Kennewick all are participants with Benton County in the County's Household Hazardous Waste Management program. They normally hold two countywide collection events on a Saturday (Spring and Fall) for residents to drop off their hazardous waste. In addition, some hazardous waste can be dropped off at the Waste Management collection facility on 27 th & Ely. Finally, Waste Management does collect used motor oil at the curb during normal pick-up days so long as the used oil is place in the proper containers (typically the container that the oil came in).	All residents of Franklin county can drop off hazardous waste at BDI's facility just off the Kahlotus highway, but need to call first to make an appointment. A list of acceptable items is shown on BDI's website.	The Moderate Risk W... in a fire in 2010. The... investigating the futur... Oversight of current h... being done by Benton... Department, 736-308... collection events have... beyond-capacity turn...
4.5 What is the proposed life of the current landfill being used by your jurisdiction?	Kennewick has a contract for the Landfill until 2015 with Waste Management at the cheapest rate in the area.	BDI sends waste to the Finley Buttes Landfill 12 miles south of Boardman.	Landfill expected to be... diversion programs (n... customers and to furt... and demolition recycl... the use of the current... facility is full the City... permitted space or lon... landfill. The City has... the landfill.
4.6 Have any other methods of disposal been considered e.g. incineration?		BDI has provided garbage to pilot incinerator projects. Technology is too expensive and it would probably require pooling the garbage from all three of the cities. Spokane started an incinerator that ended up with heavy metals in the ash, which created another disposal problem.	Too costly.
4.7 Is landfill -gas to energy a possibility?		All landfills are looking at this as a source of energy - but not in BDI scope.	The City supports the... these technologies by... facility development... opportunities.

4.0 Waste Management (con't)			
	<i>Kennewick/Benton PUD</i>	<i>Pasco/Franklin PUD</i>	<i>R</i>
4.8 Water and sewage treatment - What is the condition and capacity of the current treatment facilities?	<i>Kennewick:</i> Look for grants or low-interest loans to improve lagoon circulation pumps. Changing to a bubble system to provide better anaerobic action. Spring and fall turnovers when temperatures change: A diffuse system circulates much better and holds down the smell. The system uses less energy but payback isn't worth it. Run system at 60% capacity if possible. Try not to get over 80-85%. Have added 2 nd clarifier and new rake system to collect the	The City is growing rapidly and most of the infrastructure is relatively new. The city is planning to build another Wastewater facility on the west side. The city completed a modern water treatment facility in 2011. This waste treatment plant recycles biogas, which saves the facility about \$60K a year in energy costs. City just finished a master plan and will be upgrading their clarifiers to higher efficiency removal of impurities (e.g., ~70% efficient), which reduces energy consumption. Pasco's goal is to	Flow Avg. Day 8.9 MGD Peak Flow 24.0 MGD to about 2x design ca... effluent is released to... biosolids, are used as...

	garbage at the front end for better efficiency.	get an “A” certification level for biowaste, so that it can be used as fertilizer for public parks and farms.	
4.9 Other current/future innovations in managing waste?	<p><i>Kennewick</i> is creating standards for storm water discharge – using infiltration to reduce runoff. Tennis and BB courts will use recycled materials in the new Southridge area. It is also used under playground equipment. Biosolids are used to fertilize land and don’t go to the landfill.</p> <p><i>Kennewick</i> now puts all contracts on disks, which saves 60% on paper. New construction contracts are put on the web site and not printed (copier contract does not allow them to use recycled paper).</p> <p><i>Benton PUD</i> works with irrigators to implement scientific irrigation in order to save water and energy. PUD offers online billing for our customers to help limit paper waste.</p>	<p>Pasco treats wastewater from the food processing businesses located between the railroad tracks and highway 395 at a separate facility northeast of town. The treated wastewater is used to irrigate 14 circles that the city owns and leases to farmers. Currently expanding the process water reuse facility by adding settling lagoons and biological treatment and expanding to new companies in northeast Pasco.</p> <p>BDI is converting garbage trucks to run on compressed natural gas. BDI has a Green Waste program that accepts natural waste at their Transfer Facility at 1721 Dietrich Rd in Pasco. Green waste is taken to Royal Organic Farms in Basin City. BDI removes metals for recycling. The biggest change that would reduce waste is to reduce packaging.</p>	<p>The Horn Rapids Cor biosolids coming from Treatment Plant, the waste program and g Member of the US Co allows the City to sel landscaping compan 6,000 cubic yards of the landfill yearly. In green waste was pick garbage. City wants t support the use of ag alternative energy in with the Biological Se (BSEL) at WSU-Tri C technologies to extra waste material. WA statewide online municipalities, with residents to sell or gi instead of sending th</p>

5.0 Food & Agriculture	<i>Kennewick/Benton PUD</i>	<i>Pasco/Franklin PUD</i>	
5.1 Have you formed any partnerships with healthcare, schools, etc., to promote healthy diets and reduce obesity?	The City has an active wellness program for employees and their families.		Richland has a “S that encourages Money And Redu outreach include examples of natu (waste) and healt
5.2 Describe what you are doing to promote and protect local agriculture.	<p><i>Kennewick</i> continues to promote creation of Farmers Markets - there is an established Farmers Market at Southridge from June through Oct. The Parks and Recreation department is starting a community garden at 1201 S. Newport Street in 2013.</p> <p><i>Benton PUD</i>: Offer conservation rebates to make agriculture business more energy efficient and reduce their operating costs to be more competitive in local and world markets.</p>	<p><i>Pasco</i>: “Right to Garden” ordinance allows property owners to garden on empty lots/areas. New community garden in the Kurtzman area near Virgie Robinson Elementary has been extremely popular. City established about 30 plots (some are shared) and now have a waiting list of people who want a plot. Community gardens are more successful and popular in areas of high density living. Some of the plots are raised bed for wheelchair access. The city leases the Farmer’s Market free of charge.</p>	Richland is in the regional econom

6.0 Community Outreach/Education (con't)

	<i>Kennewick/Benton PUD</i>	<i>Pasco/Franklin PUD</i>	
6.1 Do you have web information on sustainable practices?	<i>Benton PUD</i> has energy tips and information about rebates on our website: www.bentonpud.org . <i>Kennewick</i> has web information on sustainable practices.	All programs are on the <i>Franklin PUD</i> website under "Conservation" tab, www.franklinpud.com . <i>Pasco</i> : LID for stormwater – putting together information for website. Also energy reduction ideas.	<i>Richland</i> has information on Green Living www.ci.richland.wa.us =231. And under "Climate Change" www.ci.richland.wa.us =174.
6.2 Do you promote sustainable education in local schools, encourage green schools, and/or create competitions?	<i>Kennewick</i> contracts with the <i>Franklin Conservation District</i> to provide public education programs on water conservation and stormwater in the local schools <i>Benton PUD</i> : Has a retired science teacher visit local 4th grade classes in <i>Kennewick</i> who talks about energy efficiency and safety. PUD is one of the sponsors of the <i>WSU Imagine</i> program.	<i>Franklin PUD</i> is a strong advocate of education. They sponsor <i>TREK</i> , Traveling Renewable Energy Kiosk, which is used to educate the community on the benefits and challenges of renewable energy. They also have a program for elementary schools where the kids build solar-powered model cars and race them. The <i>Electrathon</i> is focused on high school kids, where they build a small solar-powered car and race them. Would like to see <i>PNNL</i> participate and <i>Energy NW</i> (e.g., build a car and race it against the high school kids). <i>City of Pasco</i> provides education at <i>County fair</i> and schools. Would also like to build a <i>Water Resource Center</i> to educate public and schools, similar to centers in <i>Vancouver</i> and <i>Tacoma</i> .	In 1996 <i>City of Richland</i> launched an energy program to promote environmental and solid waste control future program and be found at the <i>Living program</i>
6.3 Describe community events: seminars, sustainable farm and off grid home tours, green expo, local foods	<i>Kennewick</i> : Web site, booth at fair, <i>TRAC</i> home and garden show, etc. <i>KID/CID</i> : Irrigation Districts cooperate for water conservation (costs less for water treatment and piping is smaller). 20 year <i>Storm Water Conservation Education</i> program. <i>Benton PUD</i> : Provides information to our customers through our website, media, news letter.		Various city activities through nights at school waste reduction <i>Franklin fair</i> and green city Collaborating <i>District/BF</i> extends our relations.