

Appendix

1.0 Planning, Analysis & Vision			
	Kennewick/Benton PUD	Pasco/Franklin PUD	Richland
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's</i> new library is a prime example of a structure incorporating energy efficiency. Certain City facilities have been retrofitted to save energy, e.g. high efficient lighting installed in the water and wastewater plants. Converted traffic signals to LED bulbs and replaced traffic signal controllers to increase efficiency.</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 are maintained detailing the type and number of conservation measures installed and what the first year energy savings are on a deemed basis, for all the residential/commercial customers. The Power and Resource Management staff oversees development of this plan.</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. 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 calculating their carbon footprint was a 2011 goal, <i>Richland</i> has delayed this due to decreased emphasis placed on climate change at the State and Federal level.</p>

1.0 Planning, Analysis & Vision (con't)			
	Kennewick/Benton PUD	Pasco/Franklin PUD	Richland
1.4 Member of a National Organization to promote sustainable practices.	<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. <i>Benton PUD:</i> A member of Western Renewable Energy Generation Information System (WREGIS) to track our renewable power purchases.	<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.	<i>Richland</i> is increasing awareness of sustainable development by highlighting successful examples within the community. In 2009, Richland won an award for their Green Recognition Program.
1.5 Involvement in the planned Energy Park at Hanford.	No for Kennewick <i>Benton PUD</i> staff participates on the TRIDEC Mid-Columbia Energy Initiative Committee providing expertise.	<i>Pasco</i> 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.	The Innovation Center, located in the Research District includes a demonstration site for integration & demonstration of new renewable and energy storage technology. Richland has a number of roles with MCEI, (Mid Columbia Energy Initiative) and is part of the team on the Energy Park.
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 state grant or utility funds.
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 incorporating recommendations from the Regional Open Space Network into City plans. They are also adopting regulations to lessen the impact of development on steep slopes and other environmentally important areas.

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	<p><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.</p> <p><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.</p>	<p>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.</p>	<p><i>Richland</i> is developing non-potable irrigation water sources. In 2011 developed an Irrigation System Plan to assist in the forecasting & budgeting of operations & maintenance and expansion of current systems, to reduce treated water consumption. A one million gallon water tank was built in the Horn Rapids area primarily for fire protection. A new gravity feed distribution system eliminated electric motor costs.</p> <p><i>Richland</i> implements Dept. of Ecology storm water permit requirements. All dry- wells in the city are being logged and registered with the state for future needs and tracking.</p>
1.9 Description of vision for sustainable energy (PUDs) or sustainable communities (City)	<p><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. <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>	<p>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.</p>	<p>Promote good consumer education and leverage technologies that reduce both waste disposal and energy consumption</p>

2.0 Transportation & Mobility	
Benton Franklin Council of Governments	
<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 affect metropolitan area jurisdiction's transportation plans. The Metropolitan Transportation Plan/Regional Transportation Plan (MTP/RTP) is 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="margin-left: 400px;">-Pasco Amtrak and Greyhound Station -People for People service to Yakima; -Overload/ Tripper buses on busier routes -WSU-Tri-Cities -10 park and ride lots within BFT's service area - Administers a very effective van pool program.</p> <p>BFT works with the BFCOG to put together their bicycle routing map that includes the transit centers. BFT has bicycle racks on all buses; lockers at all transit centers and encourages bicycle friendliness. The Confederated Tribes of the Umatilla Indian Reservation (CTUIR) operates transit service between northeast Oregon, Walla Walla and the Tri-Cities. The Grape Line and 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	Richland
<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 Richland Citywide Transportation Plan was adopted in 2005 as the first formal, multi-modal plan for the City’s transportation system. Projects and programs are identified to support the City’s Vision and to serve planned growth within the city and the greater Tri-Cities area over the next 20 years. An Action Plan for each mode of transportation is described (e.g., vehicle, bike, pedestrian, air, rail, ports) as well as ways to reduce peak period demands on travel and comply with the state’s Commute Trip Reduction Program.</p> <p>Development guidelines will encourage and enable use of alternative travel modes. Richland plans to review and consider a “complete streets” planning policy by the end of 2013</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	Richland
<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 permission to have the bike/pedestrian river shore path to go under the rail bed.</p>	<p>The regional bicycle plan was used to develop a core of bicycle routes that connect regional trails and key destinations. The Bicycle Master Plan summarizes the “wish list” of bicycle-related projects in Richland, providing a long-term map for planning bicycle facilities. From this Master Plan, a more specific, shorter term, Action Plan was developed. The Action Plan consists of projects that the City should actively try to fund. These projects form a basic bicycle grid system for Richland.</p>
<p>2.6 How are you promoting walking and public transportation in your planning?</p>	<p>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.</p>	<p>The new construction of the roadways infrastructure for new developments requires sidewalks along the frontage, however, not to the nearest bus stop.</p>	<p>All of these have been omitted from the 2012 plan. Richland’s 2005 plan proposed development of SMART bus stops, expansion of park and ride lots, improvement of pedestrian connections to transit facilities and equip signals with priority/preemption capabilities (e.g., buses receive priority at signal intersections to stay on schedule).</p>
<p>2.7 What is your plan to reduce congestion by improving traffic flow?</p> <ul style="list-style-type: none"> • By adding more roundabouts? • By promoting green driving? 	<p>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.</p>	<p>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).</p>	<p>Richland has a Transportation Improvement Program (TIP): The most significant measure is traffic signal coordination. TIP strategies include “smart” ramp meters and better information prior to making a vehicle trip. Benton County is in the process of developing a commute trip reduction (CTR) program. The recommended plan encourages development of high speed communication so employers and residents can rely upon other systems for conducting business; encourage developments that effectively mix land uses to reduce vehicle trips.</p>

2.0 Transportation & Mobility (con't)			
City questions	<i>Kennewick</i>	<i>Pasco</i>	<i>Richland</i>
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 is involved with others in the Mid-Columbia Energy Initiative group with researching information and potential partnerships regarding electric vehicle use and charging stations.
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 an Energy Efficiency Conservation block grant, Richland upgraded 17 intersections with new traffic signal controllers to increase flow and reduce gas consumption.
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.	Evaluating alternative fuel vehicles. Have 1 hybrid car, a Toyota Prius for mail delivery staff. Most of the new vehicles being purchased for the Police Dept are flex fuel vehicles. More hybrids are planned in 2013
2.11 What percentage of your agency's employees use an alternative to single-occupancy vehicle to commute to work at least 20% of the time? 50% of the time?	Many employees bike or walk to work, which has reduced the city's health insurance costs. The Frost Center is centrally located and allows for better organization, communication and cooperation.	Pasco does not have accurate data - perhaps less than 10%.	A survey of this nature has not been conducted recently.
2.12 Any additional current/future innovations in transportation that will increase mobility while decreasing energy?	Kennewick is actively pursuing funding for corridor studies to identify & implement access management improvements and congestion reduction. 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.	

<i>Ben Franklin Transit</i>	
2.13 Is there a plan to provide bus service to the Hanford Area, to alleviate congestion and carbon emission?	<p>Potential Transit Projects- Project Description (ranked by feasibility)</p> <ol style="list-style-type: none"> 1. Provide Transit Amenities at Major Transit Stops: <ul style="list-style-type: none"> -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: <ul style="list-style-type: none"> -Construct sidewalks, crosswalks, etc. adjacent to transit routes & facilities (i.e. park-and-ride lots, bus stops, etc.). Within one 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?	<p>A number of strategies were reviewed, including increased fixed-route bus services, lengthening the time of service until 2:00 AM and extended new transit services to N. Richland and the Hanford Reservation. However, based on work conducted recently by B.F. Transit, the most cost effective solutions appear to be focused on expansion of their transit taxi service, which brings patrons to the nearest fixed-route bus stop free of charge. The existing and planned employment densities do not appear to support the investments associated with more frequent buses during commute hours, express bus service, or commuter rail. (pg. 1-5 Rich. Transp. Plan 2005). Balance this with regular routes. Need the demand and the financial resources.</p>
2.15 Do you have plans for more future Park-n-Ride lots?	<p>There are plans to add Park and Rides in W. Richland and Queensgate. Recently there has been some planning for a possible Park- and-Ride in the Southridge area, where it could provide linking with the proposed development south of Badger Mountain.</p>
2.16 Do you plan to phase into a green fleet for your vehicles fleet (electric, hybrid, alternative fuels)?	<p>BFT has acquired some used ultra -low diesel vehicles. They are planning to apply for a grant to buy hybrid transit vehicles. Some of these may be a bio-diesel/hybrid technology.</p>
2.17 Describe your activities with businesses to increase ridership.	<p>The city encourages businesses to "green" their operations. There is info on the web site for energy conservation, recycling, but not about bus ridership. The city presents annual green recognition awards for such efforts. BFT has won the Governor's award for Pollution Prevention. It has also won the City of Richland award.</p>
2.18 Describe innovative ideas that are being considered or implemented to increase ridership.	<p>BFT constantly monitors ridership. For example, BFT is working with CBC to involve more students. BFT is also working with some local major employers. However, there are some institutional barriers, such as Hanford and labor considerations.</p>

2.0 Transportation & Mobility (con't)	
Ben Franklin Transit	
2.19 Additional Feedback	<p>Eighty percent of funding is federal. BFT is mandated to provide community services such as Dial-A-Ride. Because DAR is very expensive, BFT is attempting to aid persons currently using DAR to use the route buses instead where feasible---it benefits some DAR patrons as it does not require reservations ahead of time. DARs cost approximately \$20 while routed rides cost only \$4. BFT has led some emission technology, including filters on the buses that can be cleaned in a cleaning facility at the BF facility. Their advanced vehicle washing facility with special drains allows very little dirty water runoff – only that from evaporation. The water is reused in the leading edge washing technology.</p> <p>BFT has sponsored 2 forums – Alliance for Livable and Sustainable Communities, now a 501 (c) (3). BFT tries to advocate land use patterns that facilitate use of buses, such as having facilities on the roadsides and parking behind buildings, thus allowing easier boarding. BFT is consulted by the cities on development patterns, but lack approval authority.</p> <p>In addition to its Board of Directors, BFT receives input from a monthly Citizens’ Advisory Committee, which also includes a Dial-A-Ride Committee.</p> <p>BFT is planning a 20% fare increase. Funding is augmented by recent sales tax increases.</p>

3.0 Buildings & Energy			
	Kennewick/Benton PUD	Pasco/Franklin PUD	Richland
3.1 What is your plan to reduce energy use in homes, business, & government?	<p>Kennewick recently retrofitted the lighting fixtures in 18 City buildings as well as HVAC systems at city hall.</p> <p>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> <p>Kennewick School District Admin building and new schools are being built energy efficient, more natural light from skylights, etc.</p> <p><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 conservation potential to achieve energy savings targets consistent with state and regional requirements. Richland provides HVAC, weatherization (insulation, windows, doors), & energy-efficient lighting incentives to customers and custom projects for commercial and industrial customers funded through BPA. Building codes affecting energy use are dictated by the state and enforced by the City. Energy Services staff encourages Energy Star (ES) residential construction which exceeds the state code. The home is certified as ES once it is verified that energy efficiency upgrades above and beyond the code have been installed. Extensive energy-efficiency communication and outreach to customers, builders, and contractors through educational presentations, work-shops, exhibits, social media, websites, local media, and bill inserts.</p>

3.0 Buildings & Energy (con't)			
	Kennewick/Benton PUD	Pasco/Franklin PUD	Richland
3.2 Are you considering time-of-use pricing to incentivize consumers to reduce peak demand? If not, why?	<i>Benton PUD:</i> We are evaluating options. Advanced Metering Infrastructure (AMI) meters have been installed which is the first step.	<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.	An annual cost of service analysis and uses the results to design electric rates. In 2013, it eliminated declining block rates. Richland has considered time-of-use rates and inclining block rates. Additional investments in AMI meter technology and infrastructure would be required for the City and customers to make these options viable.
3.3 What are your plans to modernize infrastructure?	<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 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.	<i>Franklin PUD</i> has a modern LEED certified building. The City works with PUD to update lighting and HVAC systems.	City buildings have been updated with energy-efficient lighting. All newer City buildings have more efficient HVAC and lighting systems. City is <i>considering</i> a new street lighting standard requiring LED street lights on new developments. A pilot project in the Badger Mountain area evaluated LED street lights using a remote monitoring and a control system to track energy usage. These LED lights use 45% less energy than traditional high-pressure sodium lamps.
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 but does not require. City offers incentives for new construction and renovations that exceed energy codes, such as rebates for high-efficiency HVAC, insulation, lighting and Energy Star for new residential construction. Energy Services staff encourage Energy Star residential new construction, which exceeds state codes.

3.0 Buildings & Energy (con't)

	Kennewick/Benton PUD	Pasco/Franklin PUD	Richland
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 provides low interest loans for residential and small commercial conservation measures and BPA provides incentives for industrial and large commercial customers. Low interest loans for high-efficiency HVAC, insulation and energy star new construction. City offers net metering for solar power and investment cost recovery program through Washington 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 working with BPA and PNNL to test and evaluate an energy storage system. The modular system is housed in a 20-foot shipping container on a trailer and can store and discharge up to 500 kWh – enough energy to power 100 homes for four hours. This project began in October 2012 and will conclude September 30, 2014.
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 expanding a program targeted at the replacement of pre-fab and badly dilapidated units in older 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 reduce the power load on the Coliseum. <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.	<i>Pasco</i> is upgrading old HVACs in their city buildings as needed. Just upgraded all HVAC at the King Center. <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.	Richland is not subject yet to the state’s Energy Independence Act (I-937), because they have less than 25,000 customers. When eligible, they may need an exemption to transition to higher renewable energy resources in City’s power portfolio.

4.0 Waste Management			
	<i>Kennewick/Benton PUD</i>	<i>Pasco/Franklin PUD</i>	<i>Richland</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 surplus/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 public education programs to increase recycling and green waste. They also want to implement commercial and multi-family collection services for waste diversion programs.
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 disposed waste was recovered for recycling or composting, with over half of that for composting; the potential is 50%. Richland is developing reuse markets to increase value of diverted materials. They are also evaluating technologies for diverting and processing construction and demolition debris. Siting Almond Asphalt and ABCO wood processors adjacent to the landfill have increased diversion of inert & construction waste. Concrete crushing pilot program completed in 2011.
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 partnership with E-Cycle WA and Goodwill Industries of the Columbia, which means computers, monitors, television sets, laptops and e-readers are now accepted at Goodwill donation sites. The number of collection locations has increased, but not the number of approved devices at this level.

4.0 Waste Management (con't)			
	<i>Kennewick/Benton PUD</i>	<i>Pasco/Franklin PUD</i>	<i>Richland</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 Waste facility was destroyed in a fire in 2010. The City, with the County, is investigating the future location of the facility. Oversight of current hazardous waste issues is being done by Benton County Solid Waste Department, 736-3084 x5682. Free biannual collection events have resulted in beyond-capacity turnouts.
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 full by 2018. Expanding diversion programs (recycling) to commercial customers and to further expand construction and demolition recycling will add more time to the use of the current facility. After the current facility is full the City will need to use a new permitted space or long haul waste to a regional landfill. The City has recommended expansion of 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 continued development of these technologies by eliminating any barriers to facility development, and by supporting research opportunities.

4.0 Waste Management (con't)			
	<i>Kennewick/Benton PUD</i>	<i>Pasco/Franklin PUD</i>	<i>Richland</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 garbage at the front end for better efficiency.	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 get an "A" certification level for biowaste, so that it can be used as fertilizer for public parks and farms.	Flow Avg. Day 8.9 MGD, Design Flow 11.4 MGD, Peak Flow 24.0 MGD. Design permits expansion to about 2x design capacity. The purified effluent is released to the Columbia River while biosolids, are used as a soil amendment.
4.9 Other current/future innovations in managing waste?	<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. <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). <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.	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. 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.	The Horn Rapids Compost Facility treats biosolids coming from the City's Wastewater Treatment Plant, the new residential green waste program and green waste self-haul. Member of the US Composting Council, which allows the City to sell compost to nurseries and landscaping companies. Diverting 5,000 to 6,000 cubic yards of green and yard waste from the landfill yearly. In May & June 2011 more green waste was picked up by weight than garbage. City wants to remove barriers and support the use of agricultural waste for alternative energy industries. City is partnering with the Biological Sciences and Engineering Lab (BSEL) at WSU-Tri Cities to test different technologies to extract energy from organic waste material. WA statewide online materials exchange for municipalities, with online bulletin board for residents to sell or give away useable items, instead of sending them to the landfill.

5.0 Food & Agriculture	<i>Kennewick/Benton PUD</i>	<i>Pasco/Franklin PUD</i>	<i>Richland</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 “Shop SMART” program that encourages participants to Save Money And Reduce Trash. Part of the outreach includes discussions and examples of natural foods (little to no waste) and healthier food choices.
5.2 Describe what you are doing to promote and protect local agriculture.	<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. <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.	<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.	Richland is in the process of developing a regional economic gardening program.

6.0 Community Outreach/Education (con't)			
	<i>Kennewick/Benton PUD</i>	<i>Pasco/Franklin PUD</i>	<i>Richland</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 a tremendous amount of information on their website under Green Living, www.ci.richland.wa.us/index.aspx?NID=231 . And under "energy programs," www.ci.richland.wa.us/index.aspx?nid=174 .
6.2 Do you promote sustainable education in local schools, encourage green schools, and/or create competitions?	<i>Kennewick</i> contracts with the Franklin Conservation District 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 WSU Imagine program.	<i>Franklin PUD</i> is a strong advocate of education. They sponsor TREK, 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 Electrathon is focused on high school kids, where they build a small solar-powered car and race them. Would like to see PNNL participate and Energy NW (e.g., build a car and race it against the high school kids). <i>City of Pasco</i> provides education at County fair and schools. Would also like to build a Water Resource Center to educate public and schools, similar to centers in Vancouver and Tacoma.	In 1996 <i>City of Richland</i> leaders launched an environmental education program to protect our local environment, conserve energy, water and solid waste resources and to better control future costs of utilities. The program and educational outreach can be found at the <i>City of Richland's</i> Green Living program.
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, TRAC 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 Storm Water Conservation Education program. <i>Benton PUD</i> : Provides information to our customers through our website, media, news letter.		Various city departments participate in a number of events and outreach activities throughout the year. Science nights at schools, composting and waste reduction workshops, <i>Benton Franklin</i> fair, sustainable living forums and green city conferences. Collaborating with others (BF Health District/BF Conservation District) extends our outreach and community relations.

