RIVERSIDE PUBLIC UTILITIES

Board Memorandum

BOARD OF PUBLIC UTILITIES **DATE:** OCTOBER 2, 2015

ITEM NO: 11
File ID – 15-3164 – D

SUBJECT: **UTILITY 2.0 STRATEGIC PLAN CONCEPTUAL APPROVAL REPRESENTING FINANCIAL INVESTMENTS OF $500 MILLION TO $1,000,000,000 THROUGH FY 2026**

ISSUE:

The issue for Board of Public Utilities consideration is conceptual approval of the Utility 2.0 Strategic Plan with Option3 infrastructure and workforce trajectories to provide guidance to staff for final financial planning and recommendations.

RECOMMENDATION:

That the Board of Public Utilities approve in concept, and recommend that the City Council approve in concept, the Utility 2.0 Strategic Plan with Option 3 infrastructure, technology and workforce trajectories to provide guidance to staff for final financial planning and recommendations.

BACKGROUND:

On August 28, 2015 the City Council (Council) and Board of Public Utilities (Board) convened for their second joint meeting to continue the 2015 Strategic Planning process on behalf of the community to provide input and feedback on the direction of the Utility. The discussion on August 28 focused on providing the City Council and the Board of Public Utilities feedback results and details relating to the Utility 2.0 Plan. The planning process for Utility 2.0 began in mid-2014 and will continue through early 2016. Figures 1 and 2 below depict the planning process to date and as envisioned through final plan adoption.

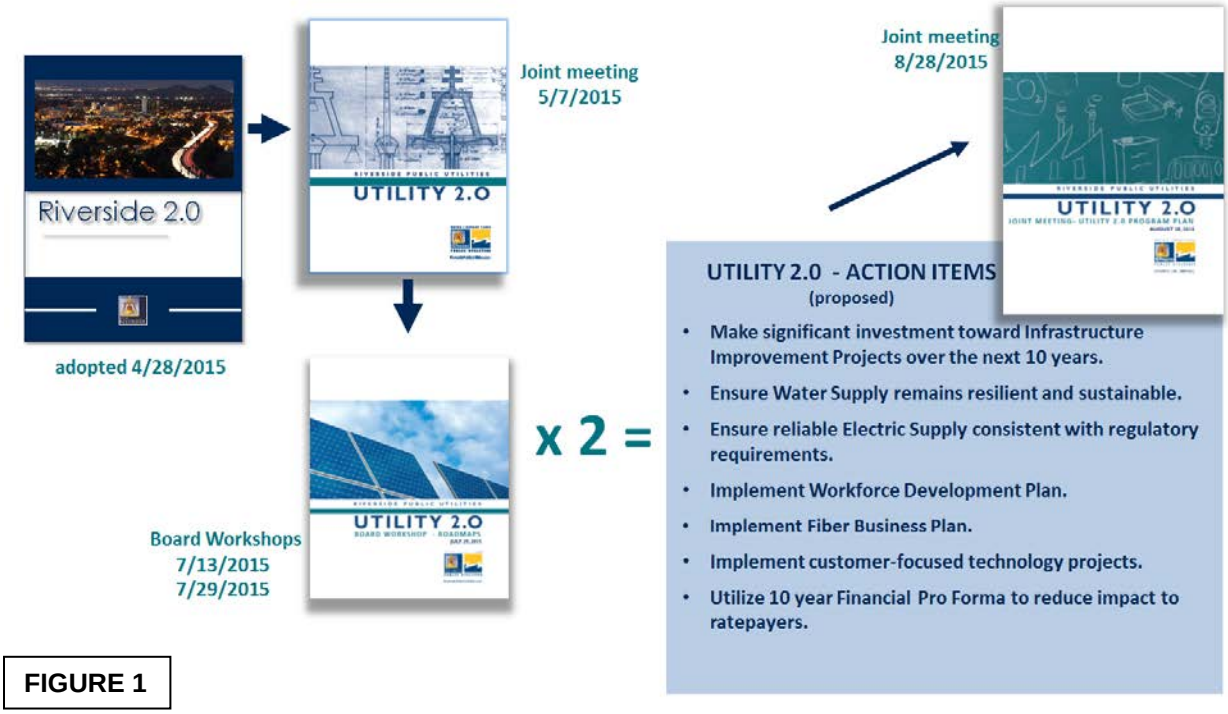


FIGURE 1

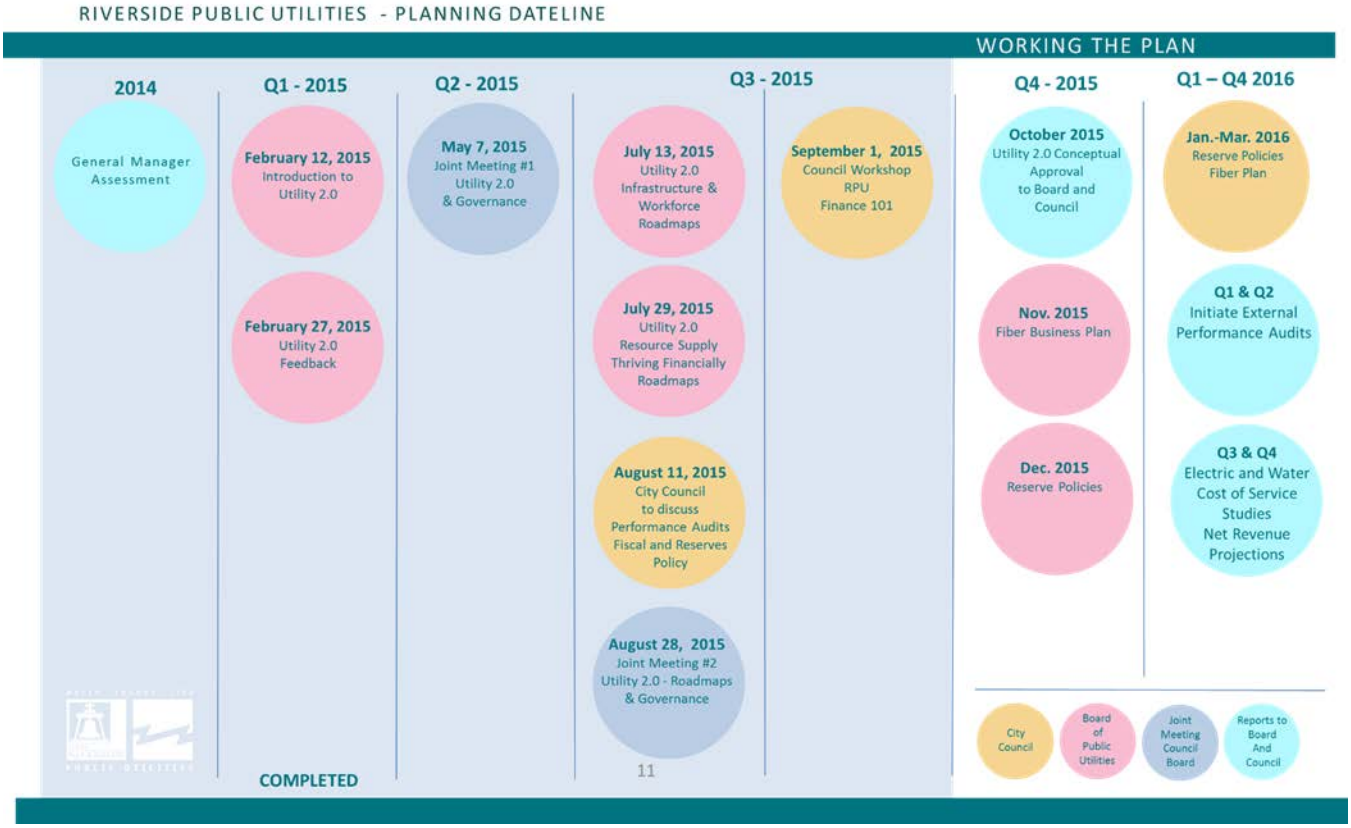


FIGURE 2

Notes and presentations from the prior City Council and Board workshops are located under the Utility 2.0 section of the Riverside Public Utilities website and can be referenced at the following web-link: http://www.riversideca.gov/utilities/admin-strategicplan.asp

The Utility 2.0 Strategic Plan has been designed to facilitate and advance the strategic goals adopted by the City Council in the Riverside 2.0 Strategic Plan as well as the strategic goals adopted by the Board. In developing the Utility 2.0 Strategic Plan, a number of "roadmaps" have been presented to the City Council and Board, including Utility Infrastructure, Workforce Development and Thriving Financially. A summary of each of the roadmaps, along with City Council and Board feedback follows.

Power Supply

An increasingly complex regulatory environment and changing consumer behavior have influenced decisions of the City Council and Board regarding our power supply portfolio. Replacement of the Intermountain Power Plant (IPP), increasing our renewable portfolio and integrating power supply and demand are the significant issues facing Riverside in power supply planning. Riverside's adopted Integrated Resource Plan outlines strategies to meet current and expected future renewable power standards and replacement of the coal-fired IPP. Integration of power supply and demand will require enhanced collaboration and analytics that are addressed in the Electric Infrastructure and Workforce Development sections of the Roadmap. Figure 3 below shows the load and resource balance of the supply portfolio for the next 15 years.

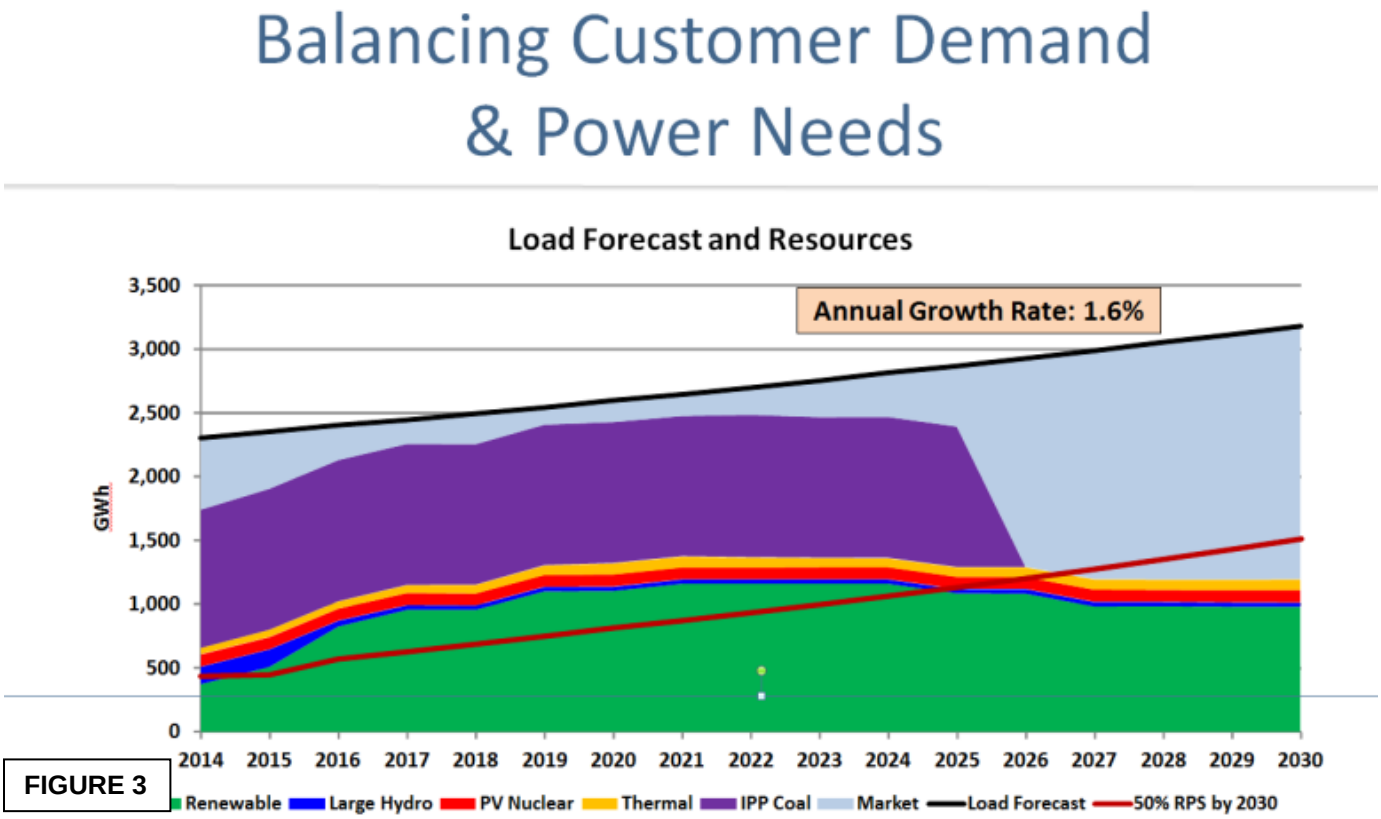


FIGURE 3

Feedback from the August 28 joint City Council/Board meeting is summarized below:

- Need to establish our own energy standard – maintain our leadership in creating a clean, vibrant, sustainable regional economy.
- Duck Curve/Prosumer --- how will these generators play into Renewable Power Supply?
- RTRP – second connection to City to continue with process.
- Vista Substation on earthquake fault; need second connection.
- Need to be ready for the future. Plan for it.

Specific recommendations related to power supply are shown the following Table:

Power Supply –over 10 years **Ensure reliable Electric Supply consistent with California's GHG reduction plan and other regulatory requirements.**		
IPP Replacement Options (by 2019)	• Explore all options	Budgeted through Financial Proforma
Meeting the RPS – 50% by 2030	• On track	Budgeted through Financial Proforma
Demand and Supply Integration	• Various Programs	Budgeted through Financial Proforma
Human Resources	• Creating Data Analytics Staff	Budgeted through Financial Proforma

Electric Infrastructure

Two-way power flows will dramatically change the nature of our electric grid infrastructure. Additionally, replacement of infrastructure that was put in place over the last many decades needs to the addressed. If not addressed, equipment failures resulting from aging infrastructure will dramatically reduce the reliability of our system and increase customer outages. Four options have been developed to address future infrastructure needs. Option 1 maintains the status quo for spending, which results in declining service levels. Options 2 and 3 increase spending levels for infrastructure replacement in several asset categories, with Option 3 representing a pro-active approach to equipment replacement. Option 4 represents a highly proactive approach. Initial feedback from the Board of Public Utilities identifies elements of Options 2 and 3 as the preferred alternative.

Feedback from the August 28 joint City Council/Board meeting is summarized below:

Investment Options:

- Majority of the feedback was for Option 3, with Option 2 at a minimum.

General:

- Integrate both RPU's grid and financial modeling.
- Need to update power poles and infrastructure in Green Belt for frost protection.
- RTRP should be a priority for 2nd connection to the grid.
- Assure integration of technology into all aspects of replacement projects.
- Customers of Riverside 2.0 demand smart energy, from 2 way meters to renewable power to notification to customers.
- Overhead Transmission and Distribution is less expensive and easier to repair; seek appropriate mix.
- Funding Source? What Cost? Who will pay cost?
- Basic infrastructure should progress at an accelerated but prudent rate.

Specific 10-year recommendations related to Electric Infrastructure are presented in the following Table:

Electric Infrastructure Option 3 - Asset Summary		
Substation	• 1 New substation (Arlanza) • 7 Transformers • 5 Switchgears • 70 Breakers • 570 Relays	**($72-83 million)**
Technology	• Distributed Automation Pilots • SCADA Hardware • Automated Meter Reading Rollout • Mobile Radio • In flight projects • $1M/Yr Electric Vehicle infrastructure • $15M LED Streetlight Change • Implement anticipated technology needs	**($60-85 million)**
Infrastructure - Underground	• 77 Miles of Cable • 320 Structures • 145 Devices	**($110-$126 million)**
Infrastructure - Overhead	• 4kV - 12kV in 5 yrs • 5,900 poles • 720 Equipment	**($123-145 million)**

Water Supply

Riverside's future water supply will be met through a combination of conservation and efficiency, recycled water, and storm water capture. Water conservation activities will continue as we enhance our programs during the current drought. The proposed Jackson Street alignment of our future first phase of recycled water infrastructure will be introduced. Storm water capture projects including Riverside's continued participation in the Seven Oaks Dam infrastructure improvements, the proposed Santa Ana River rubber dam project and smaller scale urban storm water capture projects are expected to yield 16,000 acre feet of new water supply annually. Recommended water supply projects have been arranged in three tiers to allow execution of new projects as future demand materializes.

Feedback from the August 28 joint Council/Board meeting is summarized below:

Investment Options:

- Majority of feedback was for Tier 3 – full 30,000 afa of water supply development.

General:

- Monetize passive assets.
- Conservation Best Practices.
- Rubber Dam and Recycled Water are good.
- Better explain supply solutions with a major disaster.
- Develop use of wells on northwest end of town.
- More use of recycled water: direct irrigation, groundwater recharge, combined recreational/distribution recharge.
- Move forward with Jackson/Arlanza Recycled Water Projects.
- Must remain water independent.
- Consider ponds at western end of Santa Ana River.
- Reclaimed water infrastructure to flow west with new infrastructure.
- Great opportunity for state recycled water funding – need to move forward now.
- Need to create/use benchmarks for measuring water supply resiliency.
- To keep the Green Belt we must be willing to support efficient, low cost water delivery; grower should not have to bear the costs to comply with State water quality standards. Growers barely making it financially.

Specific recommendations related to water supply are shown the following Table:

Water Supply through 2035 **Water supply plans will allow us to continue to meet demand and ensure resiliency, safety and reliability of water resources for the future.**		
Storm Water Capture	• Seven Oaks Dam • Rubber Dam • Basin Conversions • Active Recharge, Storm Water Basins	($54-68 million)
Recycled Water	• Recycled Water Phase 1 – Jackson Street • Recycled Water Phase 2 – Van Buren	($25-29 million)
Conservation	• Various Programs	($23-27 million)

Water Infrastructure

Riverside's investment in the Safe WATER Plan beginning in 2006 yielded significant improvements to the water utility infrastructure, including replacement of 68 miles of water pipelines, replacement of three storage reservoirs and construction of the John W. North Water Treatment Plant. With these investments, Riverside has moved ahead of many agencies in infrastructure management. However, as acknowledged at the time of its adoption, the Safe WATER Plan did not address all of the infrastructure needs. Four options have been developed to address future infrastructure needs. Option 1 maintains the status quo for spending, which results in declining service levels. Options 2 and 3 increase spending levels for infrastructure replacement in several asset categories, with Option 3 representing a pro-active approach to equipment replacement. Option 4 represents a highly proactive approach. Initial feedback from the Board of Public Utilities identifies Option 3 as the preferred alternative.

Feedback from the August 28 joint City Council/Board meeting is summarized below:

Investment Options:

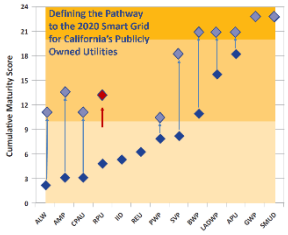
- Majority of feedback was for Option 3.
- Option 4 for Treatment Plants.
- 75 year replacement cycle on Distribution Pipelines.

General:

- Drive Economic Development through infrastructure improvements and new technology.
- Move forward with Technology; we are behind and must catch up and move ahead of the game.
- Can't fall below 100 year pipeline replacement cycle, wouldn't be responsible.
- Distribution pipelines – long term planning to keep and get pipelines to 75 year replacement cycle.
- Remove Techite Pipe immediately.
- Integrate technology in all infrastructure development including metering.
- Take advantage of the challenges the State is facing to accelerate infrastructure improvements.
- Although AMI may be viewed as an extra, the value it will create to the utility and prosumer to regulate, now and monitor our own use will be essential for Millennial and Generation X customers
- Is it time to consider incorporating City's Sewer Treatment into RPU (Recycled Water, Power, and Run Plant, etc.)? Need healthy discussion about Water Reserves.

Specific 10-year recommendations related to Water Infrastructure are presented in the following Table:

Water Infrastructure Option 3 - Asset Summary		
Transmission Main Pipeline	• Handle TM projects driven by others (Street, Bridge and RR projects) • Address Techite Pipeline and address major bottlenecks in TM system	($44-64 million)
Distribution Pipeline	• 100-Year Life Cycle (Cast Iron Tsunami) • Replacement rate of 8 miles per year	($100-120 million)
Treatment Plants	• Replace membranes on a regular basis • Address risk of rising Perchlorate levels and lower MCL	($62-75 million)
Technology	• Baseline OT projects, ODMS, Asset Management • Increased SCADA functionality and continue system automation • AMI System	($14-19 million)



Technology Revisited

On July 10, 2015 and August 7, 2015 the Board received updates on the Strategic Technology Plan prepared by Leidos Engineering, LLC. The Strategic Technology Plan outlines 19 recommended projects to be completed over the next ten years. The plan may be accessed on the RPU website at: http://www.riversideca.gov/utilities/pdf/2015/RPU-StratTechPlanFinalReport_20150819%20FINAL.pdf. Many of those projects are embedded within the recommendations outlined in the infrastructure roadmaps. All of the costs associated with the technology projects will be outlined in the 10-year financial proforma and financial plan that will be presented to the City Council and Board in first quarter of 2016. The figure below shows the 19 projects categorized as customer focused, information based and real-time operational technologies. Two additional technology projects are the Fiber Business Plan and the Talent Management System. The former is addressed here and the latter in the Workforce Development section.

Strategic Technology Plan – 19 projects

CUSTOMER FOCUSED — Directly influence customer experience and provide customer interaction

- Customer Information System (CIS)
- Customer Relationship Management (CRM)
- Customer Web Portal (CWP)
- Interactive Voice Recognition (IVR)

INFORMATION BASED — Decision and analysis, data management and process implementation based primarily on large databases

- Meter Data Management (MDM)
- Geographic Information Systems (GIS)
- Operational Data Management System (ODMS)
- Work Management System (WMS)
- Asset Management System (AMS)
- Warehouse Inventory System (WIS)

REAL-TIME OPERATIONAL — Used in real-time operations and control of water and energy delivery systems

- Advanced Metering (AMI)
- Automated Vehicle Location (AVL)
- Network Communications System (NCS)
- Land Mobile Radio (LMR)
- Distribution Automation (DA)
- Substation Automation (SA)
- Outage Management System (OMS)
- Distribution Management System (DMS)
- Supervisory Control and Data Acquisition System (SCADA)

Broadband is a crucial element of the City of Riverside's economic welfare that impacts the community on multiple levels. Fiber-optic infrastructure is the cornerstone of next generation broadband. RPU has the opportunity to expand its existing fiber infrastructure to increase the supply of next-generation broadband services to support Utility 2.0 infrastructure and technology projects and meet growing community demand. The City has engaged the consulting firm Magellan Advisors to prepare a Fiber Business Model and recommendations for more effective use of its current and future fiber network. The plan, while still in development, will be presented to the Board of Public Utilities in autumn for review and feedback.

In summary, the report will include recommendations on: 1) the development and publications of standard tariffs or rates for the use of dark fiber; 2) opportunities for expansion of the dark fiber network in four focus areas of the community; 3) long range opportunities to shift from a dark fiber only offering to a blend of dark fiber and managed services model; and 4) near-, mid- and long-term staffing requirements to implement the recommended fiber models.

Feedback from the August 28 joint Council/Board meeting is summarized below:

Technology Revisited:

Investment Options:
- Majority of feedback was for investment to put RPU at Fast Follower status.

General:
- Must take steps to improve areas of asset management and customer focused technology.
- Report cost savings due to efficiencies. Take savings and utilize for improvements in technology, reporting standards which will increase transparency and customer service.
- 2 way customer meter technology (electric and water).
- High priority – key to training staff at same over all staffing level.
- Move to implement technology immediately. From infrastructure to the customer's doorstep.
- Real time operational communications from the meters and pumps to control center makes sense.
- Interactive Voice (IVR) if this refers to call center; be careful live response is a benefit.

Fiber Business Plan:

Investment Options:
- Majority of feedback states Fiber Optic Technology is a must for the City.

General:
- Create new Technology Utility: Fiber Infrastructure, Operations, Service --- Private/Public Partnership?
- We must take steps to increase our ability to provide fiber optic technology across the entire city.
- Continue fiber network at accelerated rate.
- Fiber now into "tech" areas.
- Pursue Fiber options.
- Hire staff to manage fiber networks.
- Purchase and deploy fiber management software.
- Fiber is a must! Accelerate – it allows us to continue to be a City of Innovation.
- Fiber optics to Airport commercial areas (Jurupa/Van Buren).

Figure 2: Smart Grid Skills Requirements

Workforce Development

Changes in our workforce are necessary to address Utility 2.0 and implement the recommendations outlined in the supply and infrastructure roadmaps. A three layer strategy to workforce development is recommended which includes people, process and technology. Several new job classifications and reassigning of approximately 30 existing vacant positions is recommended to support Options 2 and 3 level investments as outlined in the infrastructure presentations. Process improvements to enhance training and employee development, improve recruitment timing and total cycle time for hiring, and to review compensation and classification policies more frequently. An enterprise-wide talent management system is recommended to support knowledge capture and transfer, employee training and workforce planning.

Workforce development to support Options 2 and 3 can be accomplished with existing staff levels by reclassification of existing vacant positions.

Feedback from the August 28 joint Council/Board meeting is summarized below:

Investment Options:

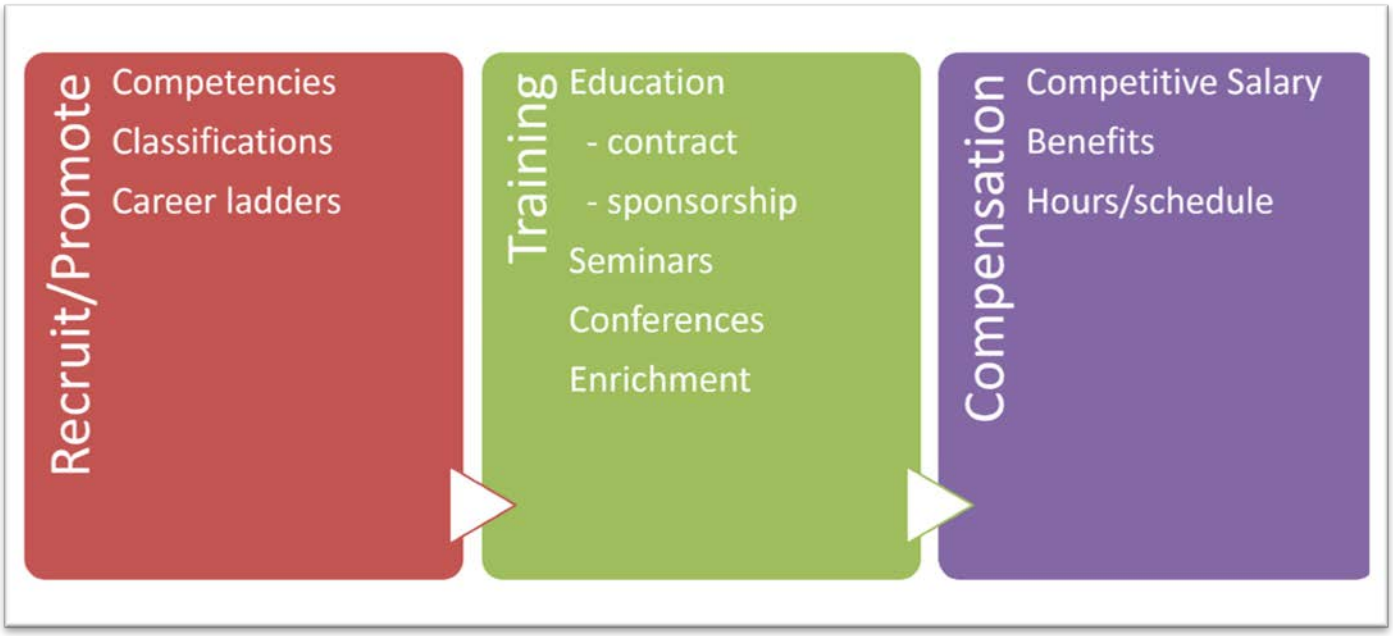
- All participants endorsed moving forward with a Workforce Development Plan

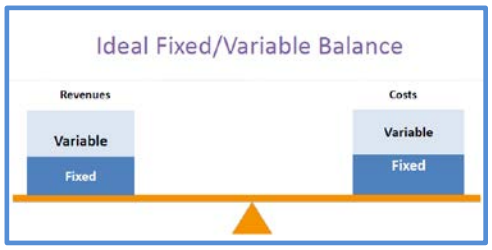
General:

- Career Development is a must and is our responsibility to our employees.
- Suggest bringing a college to one of our sites. Work and learn in a City facility.
- Recruitment, Retention, Training now and future; 1-3-5 plan for all; Funding/Cost Benefit.
- Headed in the right direction on training and recruitment.
- Must be the most desirable utility to work.
- Take care of your troops and they will take care of us/you.
- Continue to attract top talent at RPU.
- Hold all employees accountable for performance standards.
- Cross train employees with emphasis on customer service.
- Need to capture the institutional knowledge before it leaves us.
- High priority, like workforce talent system.
- Do new positions compare with Fast Follower Utilities? Compensation/Job Description/Role.
- Knowing workforce needs is critical. This will result in engagement of current and future employees.
- Career ladder discussions with Unions?
- What is the rate of internal promotion/competitive salary?
- Without aggressive workforce development we put our future Utility 2.0 plans and the utility at risk. This strategy meets the needs and requirements.
- Utility cannot become too remote from the rest of the city. Better partnerships with other departments rather than duplicate services (GIS, IT, HR).

The Workforce Development Strategy implementation is summarized in the following graphic:

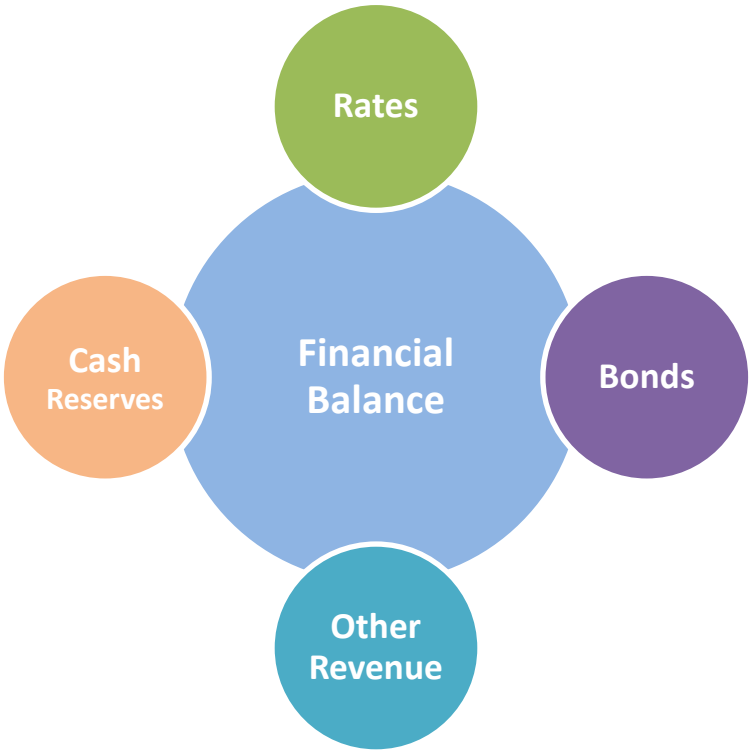
Utility 2.0 Workforce Strategy Implementation





Thriving Financially

The Thriving Financially roadmap reviews areas of rates, reserves, debt and related policies. No specific recommendations have been developed with regard to these three areas, as they are all dependent upon choices to be made with regard to infrastructure options. The roadmap outlines recommendations related to policies for rate making/setting, reserves and debt portfolio management. The proposed 10-year pro-forma will synthesize the recommended infrastructure improvements with the recommended policy elements to ensure RPU continues to thrive financially. Rate increases will be considered only in the context of utilizing reserves, monetizing passive assets and issuing debt, as those plans and policies are developed and approved. City Council and Board direction at the August 28, 2015 meeting was clear that endorsement of Option 3 infrastructure and supporting workforce and technology projects is contingent upon more information on financial balance and affordability. Several dependent projects need to be completed prior to considering development of a rate plan. These include the update and approval of the reserve policy, development of an electric cost of service study, development of a water cost of service study, and development and approval of an overall fiscal policy.



NEXT STEPS

Staff expects to return to the Board and Council in the 4th quarter of 2015 and 1st quarter of 2016 with the reserve policy; APPA Hometown Connection organizational review results; Baker Tilly examination and performance audit on Northside properties; Baker Tilly examination of financial policies and cost allocation plan; the fiber business plan recommendations; initiating work on Council-directed performance audits by an external auditor on nine separate areas of RPU; and electric and water cost of service studies.

The proposed schedule follows:

1.	October 2	Utility 2.0 Conceptual Approval – Board
2.	October 6	Utility 2.0 Conceptual Approval – Council
3.	November 20	Fiber Business Plan - Board
4.	December 18	Reserves Policy Approval and Recommendations to Council – Board
5.	January 13, 2016	Reserves Policy Approval and Recommendations to Council – Finance Committee
6.	January 26	Fiber Business Plan – Council
7.	January - June	Initiate Council-directed external performance audits of 9 RPU business functions
8.	February 9	Reserves Policy Approval and Recommendations to Council
9.	April –June	Electric and Water Cost of Service Studies to Board, Finance Committee and City Council
10.	Q3 & Q4 2016	Net Revenue projections (10-year pro-forma) and rate recommendations
11.	January 1, 2017	Implement new rate plan

In addition to these dates, we have the following as new incremental work during this time:

- APPA Hometown Connections Org Checkup Results – January 2016
- Baker Tilly Northside Transactions Review – December 2016
- Baker Tilly Fiscal Policy Review and Recommendations – Q1 2016
- Council Performance Audit Implementation – First 6 months of 2016 (RPU has 9 out of 11 areas for audit will be undertaken by the outside auditor)
- 2-year budget
- SONGS litigation
- Customer outreach on Utility 2.0 starting in Q4 2015 and extending throughout 2016

The efforts over the next five quarters to implement the proposed work-plan represent a significant increase in workload above current levels. The calendar has been developed with respect to current staffing levels and estimated timeframes to on-board new staff that will have responsibility for portions of this work. In order to effectively develop preliminary recommendations for the new 2016/17-2018/19 two year budget cycle, staff is seeking conceptual approval of the Utility 2.0 Strategic Plan with Option 3 infrastructure and supporting technology and workforce development plans. Necessary investments to carry-out the strategic plan will be prioritized and used to develop spending plans in concert with a strategy for monetization of passive assets, use of reserves, and a borrowing/financing plan to ensure generational equity among rate payers and minimize any necessary rate increases.

FISCAL IMPACT

There is no fiscal impact associated with this report. The options outlined in the roadmaps lay out investment alternatives over the next 10 years for electricity and water that are between $500 million and one billion dollars. Fiscal impacts will be presented after the City Council has provided general direction related to the options presented in the workshop. These fiscal impacts will be modeled using the 10-year proforma and the impacts of reserves, bond proceeds, other income and rates will be examined. The results will be presented to the Board and City Council. For any near-term project expenditures, the availability of budgeted funds will

be confirmed through the final financial pro-forma and as individual project actions are considered by the Board through the 2016/17 – 2018/19 two year budget cycle.

Prepared by: Girish Balachandran, Public Utilities General Manager
Approved by: John A. Russo, City Manager
Approved as to form: Gary G. Geuss, City Attorney

Attachment: Notes from August 28 City Council Joint Meeting with the Board of Public Utilities