



PROVO MUNICIPAL COUNCIL

Work Meeting Minutes

12:30 PM, Tuesday, March 07, 2017

Room 310, City Conference Room

351 W Center, Provo, UT 84601

Agenda

Roll Call

The following elected officials were present:

Council Chair David Sewell, conducting
Council Vice Chair David Knecht
Council Member George Stewart
Council Member Kim Santiago
Council Member Gary Winterton
Council Member David Harding
Council Member Kay Van Buren
Mayor John Curtis, arrived 12:45 PM

Prayer

The prayer was given by Travis Ball, Provo Power.

Approval of Minutes

- February 7, 2017 Work Meeting

Several changes were submitted and implemented. Approved as amended by unanimous consent.

Business

1. A discussion on an AMI Opt-Out Policy and fee request (17-043)

This item was presented by Travis Ball, Provo Power (see attachment). He indicated that out of 15,000 customers, 21 have indicated they do not want the meter upgrade. These customers cited concerns about health and privacy regarding their decision to opt out. Mr. Ball shared research which has negated the rumors of ill effects resulting from use of the meters—the risks due to the AMI wireless signal are negligible compared to those of wireless routers, cell phones, and other technology. Customer information is safeguarded by the City; it is not circulated to other parties.

Mr. Ball provided some background information on the AMI program, including the pilot program, testing period, and billing systems integration. Mr. Ball shared that there are significant benefits to customers, including energy and cost savings, convenience, and remote metering (which provides homeowners with more privacy). The benefits to the City are significant as well—with remote metering and disconnects, this requires fewer site visits by employees and reduces the number of City vehicles on the roads.

In order to be eligible for the opt-out, a customer must be the verified owner of the home, and they must sign the opt-out form and pay the approved fees. The following customers are not eligible to opt-out of the AMI meter upgrade:

- If the customer has a history of meter tampering
- Multi-phase electrical service (common for commercial customers)
- Two name changes within 12 months (to alleviate complications due to turnover/transition of landlord/tenants)
- If the customer has had a disconnect notice in the last 12 months
- A meter that is inaccessible to read

The cost to the City for a manual meter read fixed cost is \$25.00, thus this amount is the monthly opt-out fee established for customers who wish to opt-out from the meter upgrade. Other fees for late AMI installation and processing are already listed in the Consolidated Fee Schedule. Council Member Kay Van Buren expressed concerns that having the late AMI installation fee seems punitive. Mr. Ball explained that late installation requires more work later on; it will be outside of what they normally do and hence incur more cost to the City and Energy Department to install meters at a later time. Mr. Van Buren questioned whether the small savings to the City were worth the negative PR; the people he has talked to who want to opt out are very private and have more extreme health views, were generally anti-big government—he thinks with so few opting out, it's not worth adding to the contention inherent in the situation. Mr. Ball acknowledged the delicacy of the situation and explained that he wanted to give them an option but also provide a way to cover that cost. Mayor Curtis chimed in and clarified that Mr. Ball and Energy are most concerned with the \$25 fee, and less so with the other fees.

Council Member David Knecht asked whether a new owner would be required to pay a fee later on due to a previous owner's having opted out. Mr. Ball indicated that a new owner would be eligible to have a new meter installed with their new connection fee. Council Member Kim Santiago clarified the map graphic displayed by Mr. Ball—each purple spot indicates one each of the 21 customers who had opted out from the meter upgrade.

Motion: Council Member George Stewart moved to hear this item on the March 21, 2017 Council Meeting agenda. Seconded by Gary Winterton.

Roll Call Vote: Approved 7:0.

2. A discussion on form-based code (17-040)

This presentation was given by Jake Young, City Designer and Landscape Architect with Civil Solutions Group, Inc. (see attachment).

Mr. Young invited examples of areas and cities which have implemented form-based codes: Daybreak, East Mesa, and Savannah, Georgia were several examples named. Mr. Young explained that city design and ordinances can have a major impact on five major challenges in Utah: population growth, health & obesity, affordable housing, cleaner air, and agriculture and open space. He explained some of the weaknesses of traditional zoning: it is generally reactive, mixing of uses, dealing with density and design, and it is not always good at defining what you want to see in the built environment.

Mr. Young shared survey results from a survey examining how form-based codes are being used in Utah. Many responses indicated the satisfaction of many municipalities with the use of form-based code in meeting the intents of the ordinances/zones, resulting in higher quality buildings and sites, and high quality projects. One surprising response to the survey was that 55% of responding municipalities responded that they were less satisfied that form-based code was more easily administered. Mr. Young

believed this illustrates in part that there is a learning curve for developers; they may be more familiar with traditional codes where they read the text and apply it how they want, rather than form-based code and the way it is utilized in the planning stages.

Mr. Young explained and debunked some of the myths surrounding form-based codes. He highlighted the need to individualize form-based code to the community where it is being utilized; there is not a template from another Utah city which can simply be copied to meet Provo's specific needs. He also explained that it is quite possible and reasonable to apply form-based code in limited areas at first; the whole community does not need to undergo an overhaul to change everything to form-based code. Rather, it might be a more gradual process of implementation. Along with common myths, Mr. Young highlighted some challenges of form-based codes. Traditional codes often have long lists of permitted uses; typically, form-based codes specify fewer specific uses—the challenge may lie in getting the community to accept more permitted uses as a result. Comprehensive place-making is another challenge—it requires much more coordination between developers and the surrounding community, as well as more coordination between city departments. Form-based code is generally done in Adobe InDesign; there are also some technological incompatibilities with Provo's current codification system.

Mr. Young highlighted several case studies, showing a comparison between a non-FBC project and an FBC project in several different Utah communities. Each case study examined projects with similar purposes (e.g., a non-FBC apartment complex versus an FBC apartment complex, a non-FBC and an FBC gas station, etc.). Mr. Young highlighted specific benefits of the form-based code examples and how these forms improved on the traditional model:

- Under form-based code, signage was low profile
- Better pedestrian access and integration with the street and surroundings
- Architectural interest and four-sided architecture
- Variety of materials, variety between glass and opaque building materials
- In Mr. Young's view, if you can take a gas station and make it better, it shows that you are using the code to improve the community.
- In South Salt Lake, a developer was already working on the project cited in this case study. When form-based code was passed, it moved the project along quickly as it facilitated easier collaboration between the City and the developer.

Field trips are an important means of experiencing form-based code in action: walking, looking at projects, looking at different parts of the city, looking at good development in other places and areas. Mr. Young also emphasized the importance of visioning, understanding of place, and inviting involvement from the community. For example, holding workshops where residents can sit down and show what they want to see could also be a setting for educating residents, developers, and others about how form-based code could be used to the community's benefit. Mr. Young also shared some of the creative solutions which are welcomed by the use of form-based code. Utilizing form-based code entails some degree of learning to trust the design; the code might not be as explicit about topics such as density, as a traditional code. Form-based code also encourages shared parking: different uses might have different peak hours and developers could utilize more collaborative configurations of parking areas.

Council Members shared comments, questions, and concerns about form-based code:

- Mr. Knecht asked about the difference between design corridors (which are currently implemented Provo) and what form-based code entails. Mr. Knecht suggested examining existing design corridors to create complete design corridors which dictate street frontage, distance between buildings, placement of buildings, setbacks to sidewalks, etc.
- Chair Sewell thought this was a great overview—it gave him a better sense of what form-based code is and what its potential in Provo is.

- Mr. Knecht said that developers had accused Provo City of micromanaging projects by examining color, form, etc.; developers want to build something the market wants and did not like this interference from the City. Mr. Young explained that there is a scale of how to create form-based code: how detailed does the City want to be (materials, colors, etc.) versus what are the preferred details of the streetscape. Mr. Young explained that certain tradeoffs could be factored into form-based code: for example, the City could allow developers more density but the tradeoff for the developer is a higher design standard.
- Council Member Gary Winterton asked at what point does judgment or interpretation of the code come into play; is it Community Development, the Planning Commission, the Council, etc. that makes these decisions? Mr. Young explained the idea is that form-based code is more proactive – the developer sees more of the vision of the City through the design of the code.
- Ms. Santiago asked whether the survey produced any commentary from the Utah municipalities who didn't love form-based code and why. She wondered whether they felt it wasn't what they had hoped it would be or if there were unintended consequences.
- Mr. Young posited that to some extent, the less satisfied municipalities were experiencing the headache of doing something new—there is generally a learning curve and education period with developers, which peters out in time. He acknowledged that the survey went out through APA, so many respondents were likely planners. He thought it would be great to gauge the opinions of the councils and elected officials in many of those same municipalities.
- Mr. Knecht noted that some architectural and design forms are more classic or timeless than others which reflect trends and fads. He wondered how form-based code can navigate the distinction in laying out a specific form which to some extent is a snapshot.
- Council Member George Stewart said his impression is that form-based code takes much of the decision out of the hands of the elected officials more than the current system. Mr. Young explained the intent is that their [the Council and elected officials'] ideas are in the code which makes it an easier process for developers and staff.
- Council Member David Harding observed that form-based code doesn't take away oversight or decision-making, but it shifts the control back to when the code is written—those decisions still happen; the control is simply implemented earlier in the process.
- Chair Sewell expressed that there is a reluctance to consider rezoning in a broad sense, but ITOD might be an area to apply some of these ideas related to form-based code.

Mr. Young advised against moving to a form-based code and then switching back to the old version a few years later; once switching to form-based code, he strongly advised approaching future ordinance amendments in the same way Provo does now—if there is a section of the code that the Council or staff do not agree with, then update that section to meet the specific needs.

Chair Sewell asked Council Members whether there were enough collective interest to ask Community Development to come back with more information and recommendations for a tentative/potential next step. Several council members indicated they were interested in hearing more; Chair Sewell noted the sense that there wasn't a major desire among Council Members to make a huge shift in zoning, but there may be small steps that are desirable. The Council would be interested to hear how Community Development sees that Provo could implement form-based code and what kind of effect could it have. This item was discussion only. Staff will coordinate further discussion with Community Development.

3. A presentation on the Water Division (17-039)

Dave Decker, Public Works Director, presented this item. Mr. Decker introduced several members of the Public Works staff in attendance who are involved with the Water Division and its operations:

- Gary Calder, Water and Waste Water Division Director

- Jimmy McKnight, Public Works Finance Analyst
- Rebecca Andrus, Engineer IV
- Shane Jones, Engineer IV
- Ryan York, Manager of Water Sources
- Matt Hutchings, Manager of Distribution Systems

In addition to these key staff members, there are over 30 key employees in the Water division.

Mr. Decker introduced the direction of this series of presentations, beginning with the first topic for that day's discussion, an overview of the Executive Summary of the Water Master Plan which was completed in 2013. Mr. Decker distributed a handout titled "2016 Fact Sheet for Provo City Water System" (see attachment) and gave some additional background information and context to help Council Members understand what these numbers mean. He cited peak day, average day, and minimum day water consumption figures; peak consumption is generally in July, and minimum consumption usually falls in the winter months. The average day consumption for 2016 was 24.7 million gallons; peak day consumption for 2016 was 50 million gallons; minimum day consumption for 2016 was 13.2 million gallons. The total annual consumption in 2016 was 9.01 billion gallons. In the industry, billion gallons is commonly referred to in acre feet. Mr. Decker explained this term and the measurement conversion; as the name suggests, an acre foot refers to an acre of ground with one foot of water sitting on it.

The definitions and conversions section of the handout refers to several common abbreviations and measurements:

- 1 acre foot = 325,000 gallons
- 1 cubic foot = 7.48 gallons
- 1 cfs (cubic feet per second) = 450 gpm (gallons per minute)
- 1 MGD (million[s] of gallons per day) = 700 gpm (gallons per minute)

Mr. Decker continued, explaining that the annual water consumption for 2016 of 9.01 billion gallons translates to approximately 27,500 acre feet of water. Gary Calder, Water Division Director, suggested an example for better visualization: picture an acre of land, then picture something 27,500 feet tall—nearly the elevation of Mount Everest—and this gives a good idea of how much water Provo uses annually.

The 2016 peak day consumption was 50 million gallons of water. On average, 35,000 gallons per minute must be produced to meet this demand. This equals about 120 five-gallon buckets of water per second that Provo has to produce. Mr. Decker and his staff had set up 10 five-gallon buckets as a visual reference; multiply this quantity by 12 to equal the needed supply for water per second. Mr. Decker stated that on an average consumption day, the figure is about 60 to 65 five-gallon buckets per second.

Mr. Decker referenced some facts regarding Provo's water sources. Provo Canyon springs produce between 7,000 – 12,000 gallons per minute (variation depending on dry versus wet year). With all 15 current wells operating, Provo's well production capacity is 32,000 gallons per minute. Provo's current water storage capacity is 32 million gallons; this will increase by 10 million gallons in 2017 with the completion of two tanks currently under construction: a Columbia Lane reservoir which will hold 6 million gallons, and a new reservoir on Slate Canyon Drive which holds 4 million gallons. Provo City has approximately 2 million linear feet of water lines, which equates 390 miles. There are ten large-capacity booster pump stations, which can move about 27,500 gallons per minute. Most of the water sources are in lower elevation zones of the City, so much of this water movement is to move water to systems at higher elevations such as areas on the east bench of the City. The City also has 33 PRVs, or Pressure-reducing valve. These valves are of various diameters and divide various water zones of the City. The valves are clamped shut and when water is needed, controls on either side of the valve can be adjusted a small

amount to allow water through at a desired pressure. Ryan York is the Water Division staff member responsible for maintenance of Provo's PRVs, eight of which are privately owned.

Council Member Kim Santiago asked a few questions to clarify some of the information about the City's water storage capacity. Mr. Decker clarified that the new Slate Canyon reservoir is not a replacement of the existing Slate Canyon water facility; the intent is to keep both Slate Canyon tanks online. The old Slate Canyon tank holds 5 million gallons of water. The old water storage facility at Slate Canyon (built in 1970) is at an elevation 17 feet below the Main and the Gallery, the two water storage reservoirs near the MTC. In order for these tanks to work in tandem, they should be located at the same elevation (Mr. Decker clarified that the two new reservoirs—on Columbia Lane and Slate Canyon Drive—have been constructed at the same elevation, to work in tandem). During the summer, they are unable to fill the old Slate Canyon reservoir entirely—they can only fill it to half its entire capacity. During non-peak times, they can fill that reservoir completely. The Water Division intends to use this reservoir as much as they can for additional storage and to move water to the newly constructed Slate Canyon reservoir upon its completion. They will continue to use the old Slate Canyon reservoir until they see either structural or water quality issues that would make them want to take it offline. The old tank had been constructed above an old landfill, so there have been some issues with compaction which have been addressed, but will not prolong the life of the tank indefinitely, but has lengthened its usability for the time being. The new Slate Canyon tank was designed to be able to have a second tank added alongside it; Public Works intends for this additional tank to be built when use of the old Slate Canyon tank is discontinued.

The old Slate Canyon tank is not seismically sound, which is another reason that Public Works intends to eventually discontinue its use. The Gallery is the water storage reservoir located at the MTC with a volleyball court atop of it, built in 1935. While the Gallery was not designed for seismic conditions, since it is buried it has some inherent structural protection. Council Member Kay Van Buren noted that the design of the interior includes beautiful Grecian columns. Gary Calder indicated that the new Slate Canyon reservoir is completed and the Water Division staff offered to give Council a tour of the tank. The reservoir will be put into operation once the Columbia Lane reservoir is up and running too.

Mr. Decker outlined the list of seven discussion topics which he sent to the Mayor, and which he would be happy to share with the Council and Leadership for more direction.

- Overview of the 2010 Water System Master Plan
- Financial review of the Water Utility Fund
- Review of financial recommendations for the future
- Water Rights
- Water Audit and Water Conservation
- Water System Operations
- Water System Testing and Regulations

Water zones within a city are generally broken down by contour elevations. In the western United States, elevation is used to build pressure. The "Existing Pressure Zones and Storage Tanks" map shows designated water zones in colors coordinating to their corresponding tanks. These tanks are generally located 250 feet uphill from the lowest point in the water zone. Based on current usage, Public Works identified some issues which would necessitate dividing some of the pressure zones, including high pressure amounts and pipe corrosion. The "Future Pressure Zones and Storage Tanks" map illustrates the Master Plan recommendation to split this zone into two parts, with corresponding tanks on Columbia Lane and Slate Canyon marked in yellow. Mr. Decker clarified further that some of the existing water zones in the Foothills area, depicted as the purple zone "Intermediate Zone," are very simplified. The Master Plan breaks this purple zone into 26 different water zones. He will explain these 26 zones further at a later point, but he wanted to simplify the illustration at this point in the discussion.

Mr. Decker distributed copies of the Executive Summary of the Water System Master Plan (see attachment). He gave some background on the Master Plan history, reviewing former Water Master Plans created for the City of Provo:

- *1961 Master Plan* – Interesting from historical standpoint and very informational.
- *1979 Master Plan* – Completed by a group in NYC; \$11 million improvements recommended
- *1989 Master Plan* – Public Works had some concerns about this master plan. \$1.6 million improvements recommended. Mr. Decker clarified that some significant progress had been made in the interim between the 1979 and 1989 master plans, relative to the suggested \$11 million improvements in 1979. Mr. Decker explained that some significant line replacement [of older water lines] had taken place; his reading of a 2002 water rights study, which included minor updates to the master plan, indicated that from about 1980 to 2000, the City replaced 70 miles of water lines in the water system. These earlier master plans recommended addition of two new water tanks in the 1980s, neither of which was built.
- *2002 Water Rights Study* – This is a very detailed study. There will be a future 60-minute presentation on this. In the back there is one chapter with some recommendations (hydraulic modeling helped to generate these recommendations).
- *2010 Water System Master Plan & Executive* – This master plan was completed by the same consultant as the 2002 Water Rights Study. In this study they used the trend at that time
- *2010 Impact Fee and Rate Study* – done in conjunction with the 2010 Water System Master Plan.

These historic master plans help to give context and background to some of the concerns of the Public Works Department and Water Division, particularly in looking at the difference from the 1979 Master Plan to the current master plan (2010). Mr. Decker noted some serious gaps: from \$11 million recommended improvements in 1979, to \$1.6 million recommended improvements in 1989, to the current \$60 million recommended improvements of the current master plan. He hoped this overview helped to illustrate the cause for some of their concern.

Mr. Decker began a review of the 2010 Water System Master Plan Executive Summary. There were some significant increases to the Water Demand Projections, due to a significant annexation on the west side as well as changes to development patterns as outlined in the 2010 General Plan. Table ES-1 illustrates Projected Water Production Requirements and uses the industry standard measure of acre-feet. Mr. Decker repeated that the current annual demand for Provo is 27,500 acre feet. Mr. Decker emphasized that Provo's water production is coming in pretty significantly under these demands, even on a peak day, however in the past, Provo has exceeded a consumption level of 50 million gallons in a day. With all water sources functioning at optimum levels, Provo can meet the demand of its water consumption, but there is not much leniency should an issue arise; wells are mechanical systems and may experience failure. During the summer it is common to have anywhere between one and four wells offline; this is not ideal, but simply an illustration of the fact that the systems are not foolproof. Public Works is doing maintenance work on one of the wells right now; it is easier to work on a well in the winter, and Public Works has tried to plan scheduled work in order to accommodate the seasonal needs of the system.

Council Member David Harding asked for some clarification on the projected production requirements versus projected usage and actual usage. Mr. Decker explained that during the summer, Provo takes about 5 cfs, or cubic feet per second, from surface water. Provo has surface water rights in Deer Creek Reservoir and Jordanelle Reservoir. Provo has to pay for water treatment in Orem, then the City uses this surface water to supplement the springs. With this surface water, combined with spring production and well water, Provo is able to produce 50,000 gallons per minute to meet demand. Mr. Decker indicated that this is the ideal scenario, but generally not the reality of the water supply and sources; Provo is well below the projected need, but the water sources are maxed out.

The usage trend had been showing a steady increase from 1990 to 2000. Consequently, the 2010 Master Plan and study was based on the upwards trend, even though the trend took a dip and had been showing decreases from 2000 to 2010. Mr. Decker noted that some of the decrease may be due to the effects of conservation efforts, but there are likely other factors which would explain the downturn in usage. In particular, one of the largest contributing factors is that BYU moved many green fields to secondary water systems; BYU has water rights with canal systems on the east bench, so they have been proactive in moving many of their fields from culinary systems to secondary water systems with the canal companies. During construction on Stadium Avenue this year, BYU is also installing a secondary 12-inch water line down Stadium Avenue; their goal is to get this across the parking lot across Canyon Road to the intramural fields on University Avenue, so these fields can be transitioned to secondary water. Mr. Decker indicated that these figures are good from a conservation standpoint, but not all the gains can be attributed to conservation efforts; there were some significant changes which also had an impact.

Mr. Decker explained some concern in the water rights industry about the disparity between water rights on paper versus wet water. During wet years, for example, this year based on the heavy snow pack, water rights become easy to manage; this year the City's water will be plentiful and Mr. Decker doesn't anticipate issues. In dry years or during times of drought, that is when managing water rights becomes more difficult, and senior water rights versus junior water rights come into play. Mr. Decker was not as familiar with BYU's water rights, but he confirmed that Provo has many senior water rights.

One of the biggest water rights on the Provo River is for Provo City through the Morris Decree in the early 1900s. Provo received a healthy majority of the Direct Flow Rights in the Provo River. Provo is also entitled, in conjunction with the Metropolitan Water District, to up to 8,000 acre feet of water. Over the last five years, Provo has received between 50-80% of this, with the levels varying to some extent based on the snow pack. Provo purchases this water from the Metropolitan Water District. Based on the water that Provo takes from the spring sources, the City must return an equal amount of water to the Provo River. Because the spring water is good, drinkable water, the City uses this surface water [which for culinary use, would require treatment in the Orem water treatment facility] from Deer Creek to replenish the Provo River. The water to which Provo is entitled but does not use of the 8,000 acre-feet per annum allotment is referred to as 'carryover water' and the exact amount per year may vary. Currently, Provo City has 13,000 acre feet of carryover water stored in Deer Creek Reservoir—this is equivalent to about half the annual consumption rate. During wet years, Provo's water supply in Deer Creek is subject to 'Pay-per-spill.' This is one of the most critical water rights issues for Public Works staff at present; Public Works is trying to move water into Jordanelle Reservoir, where Provo has, with the Metropolitan Water District, 10,000 acre feet of water storage (in Mr. Decker's words, "think empty boxes"). If Provo City can move water from Deer Creek to Jordanelle, the City has rights to store 10,000 acre feet of water there. Provo also has two water storage rights upstream of Jordanelle, called the Lost Lake Water storage rights. Since there is likely risk of spillover in Deer Creek this year, staff is focused on moving some of Provo's water from Deer Creek to Jordanelle for more secure storage via Lost Lake. If water rights for springs and wells remain stagnant, surface water resources such as Deer Creek and Jordanelle become crucial.

Mr. Decker indicated that there are some well rights which are currently undeveloped, but these water rights are not enough to meet the projected growth. Ms. Santiago asked more about well rights and whether these rights are tied to a specific geographic location or just permission to dig wells in general. Mr. Decker explained that well rights are coordinated through the State engineers and generally refer to a cumulative entitlement of water received from wells. Some well rights are specific for a point of diversion and amount, others are consolidated to a massive water right with the State. Wells in certain locations in the City are more productive than others, which introduces further considerations for Public Works when planning future well sites and utilization of those well water rights.

Page 3 of the Executive Summary addresses the treatment of Provo's surface water at the Utah Valley Water Treatment Plant. Provo generally takes 5 cfs (cubic feet per second) from surface water, which equates roughly 1000-1500 acre feet of water, through the treatment plant per year; out of 27,500 acre-feet water consumed per year, only about 1000-1500 acre feet comes from surface water, which represents significant cost savings to the City. As far as cost of water, the water belongs to Provo; we are only paying for the treatment of Provo-owned water at a rate of \$95/acre foot. Water coming through the treatment plant costs the City approximately \$0.30 per thousand gallons. Well water costs approximately \$0.12-\$0.15 per thousand gallons. Spring water is the cheapest water; not including pumping costs to direct water to the east bench of the City, the cost is approximately \$0.02-\$0.03 per thousand gallons. The current rate is \$1.20 per thousand gallons; Mr. Decker will go into more detail regarding the costs the City needs to recoup through the water utility rates. Mr. Decker referenced a map illustrating where some of our water sources are, including Big Springs, South Fork, and Rock Canyon Springs.

Table ES-2 addresses Availability versus Water Rights of the City in a dry year versus an average year. From an annual basis, the City's water rights are in a good place, well above the annual consumption. Mr. Decker referenced Figure ES-1, "Annual Projected Production Requirement (Dry Year)," which depicts amounts of all the City's water rights in a graph alongside projections with and without conservation and actual uses. Public Works made some updates to these graphs to reflect historic production through 2016, which graphs can be found in Mr. Decker's PowerPoint presentation. Mr. Harding asked for clarification as to why the amount for Deer Creek water rights decreased significantly; Rebecca Andrus explained that this decrease represents the exchange water which was diverted to the Provo River based on the amount of water drawn from Big Springs, shown in cyan on the graph and showing a comparable increase in conjunction with the decreased amount from Deer Creek. Mr. Decker also directed staff to create a graph depicting an average year; the Executive Summary showed the water rights for a dry year only, but water rights might shrink based on the snowpack (or lack thereof) during a dry year.

In Chapter 3 of the Master Plan, there is a graphic showing the same graph in an average year without water conservation. In an average year without conservation, the projections show that Provo should have enough water, but in a dry year, it shows Provo running out of water. Mr. Decker reiterated that the authors of the Master Plan were being very conservative in the projections and depictions of water rights. Mr. Decker addressed a question from Ms. Santiago regarding water conservation. Rather than restricting water usage, the Master Plan refers to a broader, holistic approach to water conservation, encouraging landscaping changes and xeriscaping to result in less intensive water uses.

There was not sufficient time to address the entire presentation, so this discussion was continued to a future work meeting. Mr. Decker will distribute electronic copies of the Master Plan to Council.

4. A discussion on creating a Public Works Board (17-042)

This item was introduced by Council Chair David Sewell. During a discussion about the Water Division in the February 21st, 2017 Work Meeting, members of the Council suggested creating a Public Works Board. The function of the Public Works Board would be similar to the Energy Board in that it would have an advisory role with the Council and Administration on public works-related items. Chair Sewell and Mayor Curtis had thoughts on the topic that they wanted to address during the discussion.

As a possible first step on this, Chair Sewell suggested completing a best practice study of how other cities have approached this issue. He suggested Council staff find ten cities with Provo's form of government which are at least as large [population-wise] as Provo, but not more than twice as large. Salt Lake City is the only city in Utah fitting this description, so this will require broader research in the intermountain west area. Chair Sewell identified questions to explore such as whether these cities have a public works board and what do they like or dislike; if they do not have a public works board, why not.

The creation and execution of an advisory board to the Council and Administration represents a significant effort on a staff level, as well as what is expected of board members and participants. Mayor Curtis referenced operations of the Energy Board; while difficult to cite an exact number, he estimated that between 25 – 35% of Kat Linford’s time (Ms. Linford is a Management Analyst with Provo Power who is their Key Accounts & Energy Efficiency Coordinator) is spent managing the board meetings and operations. A board requires time and energy—if the board meets a critical need, it is worth the time and energy expended, but if not, creating a board and its processes may needlessly exist for decades.

Mr. Winterton shared some insight from his experiences with other boards at the City, such as the Energy Board and Parks & Recreation Board; he thought that members of a Public Works Board would need a high level of institutional or industry knowledge, similar to the relative credentials of members of Energy Board. Mayor Curtis pointed out some of the inherent differences between the Energy Board—which focuses on supply of only one type of public utility—versus a board addressing Public Works, which is inherently more complex with its many moving pieces.

Cliff Strachan, Council Executive Director, shared some of the parameters of recent comparable city research. He thought that staff would need to look beyond intermountain states to gather adequate information and research on Public Works Boards. Chair Sewell referenced the Public Utility Commission of Salt Lake City—four of the nine seats are currently vacant; he had more questions about this and whether it is an active board that is still helping with its original mission or purpose. He felt there is valuable information we can learn from other cities’ experiences with this issue.

Council Member Kay Van Buren expressed some concerns. He wondered whether the Council has a defined objective of what they hope to learn. He asked whether Provo has already defined why a Public Works Board was needed; if there is a specific need, he wondered whether it could be more easily addressed another way. Ms. Santiago shared some of her understanding of why the discussion has come up. There are serious infrastructure needs in the water and storm water systems which are not up to date. Funding for these critical needs has been difficult to secure, as it has been 20 years without utility fee increases in those areas. There was hesitancy from the Public Works Department to come to the Council, but she thought that if Provo had a Public Works Board, there is one more advocate for getting what the City needs as far as infrastructure. She expressed that this Council has been very focused on infrastructure and how the City gets infrastructure. These are essential needs and a future Council might not have the same focus on them. Ms. Santiago thinks it is compelling to have citizens and board members who are educated on the topic come together in order to provide long-term follow through, but it’s harder for a Department Head alone to advocate this kind of issue.

Mr. Knecht said that former Mayor Lewis Billings thought he was doing right by keeping utility rates low. The problem with keeping all the rates too low for too long, is that now, the City has to play catch up. Different councils and administrations will have different perspectives and if Provo City has a Board who can advocate for these related issues, it can keep some consistency in the process. Mr. Winterton asked what the tenure of a Board member would be. Ms. Santiago suggested the standard practice of staggering terms so the board members aren’t changing all at once and would have some continuity.

Mr. Decker shared some perspective of the Public Works Department, with emphasis on a couple things he asked the Council to keep in mind. Mr. Decker expressed that overall, he is generally supportive of the creation of a Public Works Board. He noted that Public Works interacts with TMAC (Transportation & Mobility Advisory Committee), Airport Board, and other boards—a significant degree of coordination is required as these boards are not acting independently of Public Works. There are many interactions which occur between divisions of Public Works and between Public Works and other departments, boards, and groups. As an example, Mr. Decker spoke to a hypothetical question, “What do water rights have to do with the airport?” He explained that Public Works is in negotiations on a legal document that is a

connection between the airport and water rights – they don't always act independently. He suggested that having someone serving on TMAC, Metropolitan Water District Board, Airport Board, etc. also serve on the Public Works Board so they can contribute from various perspectives and can make these critical connections. In his view, this is the biggest issue for Public Works. Ms. Santiago asked Mr. Decker whether he had a list of components of that would make a good Public Works Board. He indicated he and his staff could compile a list of components, as well as significant topics. Chair Sewell expressed that he has detected a fair amount of Council interest and that further research would enhance the decision.

Motion: Council Member David Knecht moved to direct staff to conduct a best practices study of other comparable cities and Public Works Boards.

Mr. Winterton commented that he would like to know what these boards are bringing back to those cities. Ms. Santiago requested more detail of the makeup of other cities' Public Works Boards membership.

Substitute Motion: Council Member David Knecht moved to direct staff to conduct a best practices study of other comparable cities and Public Works Boards, including what these boards contribute to the city and the makeup of membership on the board. Seconded by David Sewell.

Roll Call Vote: Approved 5:2. Council Members Kim Santiago and Kay Van Buren opposed.

Mayor Curtis acknowledged the need to address the decision on a wastewater treatment plant. He suggested the creation of a task force—similar to the solar task force—of very qualified residents who have the ability to understand the technical detail and complicated issues involved. Chair Sewell suggested that this task force could serve as the nucleus of a future Public Works Board. Mayor Curtis indicated that the Administration would tell invited task force members that there is a specific time frame and task they would be committing to; he noted that in this situation, there is a need for a lot of technical expertise that Provo City might not want in an ongoing board. Chair Sewell thought this was a good test case to solve a specific problem. Mr. Harding thought it would give the Council and staff plenty of time to do the best practice study—that would be handled separately from the task force and could be on-going while organization of the task force is underway. Mr. Strachan suggested that the Council continue to have staff do the best practice study [as directed in the previous motion]. The task force may indeed be a precursor to the Public Works Board, but if the City chooses to continue something on a permanent basis, staff will have additional insight to bring to the Council.

Motion: Council Member George Stewart moved for the Mayor to move forward with the creation of a task force to examine the sewer treatment plant issue with the advice and consent of the Council. Seconded by Dave Knecht.

Roll Call Vote: Approved 7:0.

Ms. Santiago reiterated that the whole idea of a Public Works Board is to have advocacy into future years; she saw the task force as a short-term goal and she expressed that she did not want the discussion of a Public Works Board to get lost in the discussion of a two- to three-year problem.

Staff will coordinate further research on these items to present at a future Work Meeting.

5. A presentation and discussion of the West Side Planning Committee's recommendations (17-041)

This item was continued to a future Work Meeting following review at the Planning Commission.

6. A discussion on neighborhood boundary changes (17-045)

This item was presented by Clifford Strachan (see attachment). The proposed changes are fairly straightforward and the affected Neighborhood Chairs have expressed that they are in favor of the changes impacting their respective neighborhoods. Mr. Strachan summarized the intent and purpose for each of the changes to neighborhood boundaries. Council Members expressed ready support of the first two changes, involving the Lakeview North/Lakeview South and Sherwood Hills/Edgemont Neighborhoods. Council Members shared many concerns regarding the changes to the Downtown area.

The changes to Downtown have been recommended based on several factors. More residential development has come into this area in the last several years. The Neighborhood Chair for the Downtown Neighborhood has been inactive and recently resigned. The proposal would be to divide the Downtown area along University Avenue and Center Street, with each respective quadrant being incorporated into the neighboring neighborhood. This would give neighborhoods more opportunity to interact with residences being built in those areas, as well as more interaction with businesses in those areas which are close to Downtown. These proposed changes to the Downtown Neighborhood had unanimous support among leadership of the Dixon, Timp, Joaquin, Maeser, and Franklin Neighborhoods.

Karen Tapahe, Community Relations Coordinator, added that Brady Curtis (former Downtown Provo, Inc. Chair) was aware he could not represent the residents; he was in favor of having a business overlay so that he could be informed of issues affecting the Downtown area, while residents could be represented by a traditional neighborhood. Keeping the downtown area as a distinct neighborhood would require additional efforts to mobilize a new neighborhood and its leadership. A major benefit of incorporating these downtown areas into the surrounding neighborhoods is that these other neighborhoods have established leadership and history. The Timp Neighborhood is the smallest neighborhood of those affected and addition of the downtown area would increase their size substantially. Ms. Tapahe noted that it is the residents who vote to elect Neighborhood Chairs and Vice Chairs, but the Neighborhood Program support staff always hope that neighborhoods are having conversations with businesses in the area.

Council Member Gary Winterton shared his concerns about the unique character of the Downtown Neighborhood; he wants the downtown stakeholders to have as much say as they should have and not be left out. Mr. Winterton said that he was not sure that a new Downtown Provo, Inc. representative would be in favor of this change. Mr. Winterton was interested in hearing from Wayne Parker, who has been very focused on Downtown Provo Inc. Council Member David Harding expressed some concerns as well, but he saw a lot of sense in having a business overlay or some kind of business alliance.

Mayor Curtis expressed his view that by nature, the neighborhood is going to be anti-business. The businesses that exist today were there before apartments were built, and it is likely that they'll be attacked by incoming residents. Mayor Curtis didn't think the changes were wildly off track, but he encouraged staff and the Council to find the best model that works for the neighborhood and the businesses. Wayne Parker, CAO, expressed that it would be courteous to let the Downtown Provo, Inc. Board weigh in on this discussion. He wondered how much a resident of Liberty Center (on Center Street and 300 West) has in common with a resident at 500 North 300 West. Mr. Parker did not think there has been sufficient input from downtown residents. He suggested the option of leaving the downtown area as it is, but having residents elect their own chair, rather than having the Downtown Provo, Inc. representative as default Neighborhood Chair. Mr. Parker expressed concerns about the alignment of values with these changes, as University Avenue and Center Street create different dynamics for a neighborhood. Mr. Parker added that Downtown Provo, Inc. is in the process of restructuring. He suggested the Council allow the Board to consider input from downtown stakeholders as they rethink their role.

Motion: Council Member George Stewart moved that the changes for the Lakeview North/Lakeview South and Sherwood Hills/Edgemont Neighborhoods move forward to a Council Meeting and to continue study and discussion of the changes to the Downtown area. Seconded by David Harding.

Roll Call Vote: Approved 7:0.

Policy Items Referred from the Planning Commission

7. A discussion on a proposed amendment: Provo City Community Development Department requests amendments to the parking ratios for the Off-Street Parking Standards for Baching Singles (Section 14.37.060), the ITOD Zone (Section 14.23.120), the General Downtown Zone (Section 14.21A.150) and the Downtown Core Zone (Section 14.21B.140) to consider increasing the minimum parking requirement within these zones. City-Wide Impact. (16-0022OA)

This item was presented by Bill Peperone, Community Development Assistant Director. Mr. Peperone shared information regarding more recent updates to the proposal since the Council had last met several weeks prior. The recent change added language which would address the 25% reduction in the ITOD zone, and if the Council wanted, could be amended to include a 25% reduction in the DT1 and DT2 zones. Mr. Peperone had been concerned that without noting these specific areas, the code was vague, and combined with reductions permitted in other areas, the same problem with spillover parking for residential developments would arise. Mr. Peperone mentioned comments from several developers who have worked in the Salt Lake downtown area, whose views were very different on the issue, but provided valuable perspective from property owners with similar projects.

Mr. Knecht referenced a project in Orem, the Boulevards, which has been built with 1.5 parking spaces per unit; he suggested that these kinds of parking rates are possible in Provo, too, in keeping with the market rate. Mayor Curtis and Dixon Holmes, Economic Development Chief Deputy, both referenced land costs and density as critical factors which affect parking ratios in Provo's downtown area.

Mr. Peperone clarified that the 25% reduction does not apply to student housing; the student housing ratio is different. Mr. Peperone indicated that the current downtown ratio is 1.5 spaces for one-bedroom units, and 2.25 spaces for two or more bedroom-units, but the developer is currently entitled to reduce this amount by 50%. This is how Startup Crossing ended up with a ratio of .75 spaces per unit—they took full advantage of the 50% reduction. With the ordinance amendment reducing the permitted reduction to 25% rather than 50%, this would mean that in the downtown area, the ratio would be 1.15 spaces for a one-bedroom unit, and 1.69 spaces for a two-bedroom unit. In downtown areas, it is much more likely to have more one-bedroom units. These parking ratios address resident parking and visitor parking among the total. Mr. Harding observed that these are parking minimums, so a developer has flexibility should they want to implement more parking in a particular area to remain competitive with the surrounding market.

Mr. Harding also expressed his view that this should fit into the comprehensive parking management scheme, as the new Parking Manager is brought on with Provo City. He expressed a desire to create incentives for developers who implement creative solutions for parking, such as extended reductions for multi-use parking areas and more. He also thought that older developments with substandard parking should not be subsidized by nature of the loose enforcement of on-street parking. Mr. Peperone agreed with this approach and noted several specific things which need to happen with the City's parking strategies. There are existing parking ratios that need to be tweaked—many are based on gross square footage, including areas such as hallways, stairwells, mechanical rooms, bathrooms, etc. This is unusual and should be updated. For developers who are proving to be more transit-oriented and walkable friendly, providing incentives or parking reductions; other communities have done this with success. He also

cautioned that while these measures can be effective for reducing overall vehicle trips, many residents may not give up their car—they might drive less with the right conditions, choosing to walk and bike more, but they usually retain their vehicles and still need a place to park and store it. A Salt Lake developer has affirmed that this was their experience. Mr. Peperone believed the Parking Coordinator should examine some aspects as on-street parking enforcement as well. Mayor Curtis said that the job posting for the Parking Coordinator had been posted and was closing shortly.

Ms. Santiago asked for clarification on the exact ratios/reductions specified by the ordinance amendment. The staff recommendation was to reduce the permitted reduction amount (from 50% to 25%) just in the ITOD zone. Currently the downtown zones are permitted a 50% reduction, so it would also be possible for the council to change this amount to remain consistent with the changes in ITOD (from 50% to 25%). Brian Jones, Council Attorney, clarified that there are several versions of the ordinance amendment. The regular version allows a 25% reduction in ITOD, and no reduction in DT1 and DT2—this actually represents an increase of required parking in the downtown zones, which currently allow a developer to exercise a 50% reduction. The alternate version of the ordinance changes the 50% reduction in parking to a 25% reduction in ITOD, DT1, and DT2.

Mr. Holmes shared some further information from Economic Development, based on feedback they have received. Mr. Holmes expressed his hope that the Council view this ordinance as they view the downtown area—as a dynamic part of the City which is in motion. With BRT coming, this version of the ordinance is based on the anticipated needs factoring in the best knowledge Provo City has right now. Mr. Holmes reminded the Council that this will not solve all parking problems in the downtown area; this change will not affect projects which are already built. It is difficult to know the future needs, but through intentional zoning changes and continually learning from past experiences, Provo City is able to adapt and tackle challenges head on. Mr. Holmes recognizes that this ordinance may need to be changed again in the future, but he is in support of Community Development's recommendation.

Discussion only. This item was already scheduled for the March 7, 2017 and March 21, 2017 Council Meetings, with the intent for the Council to take formal action at the March 21, 2017 Council Meeting.

Business continued

8. A discussion on an appropriation for Vote By Mail (17-046)

This item was presented by John Borget, Administrative Services Director. Mr. Borget cited results of a 2015 survey of public perception on vote-by-mail: 49% of respondents were in strong support and 30% were somewhat supportive. Voter turnout in past Provo City Municipal Elections was stronger in years with the school voucher and road bond, but for the last three elections, the turnout has remained in the 15-18% range. Data has shown that vote-by-mail approximately doubles, or better, the voter turnout.

The City was recently notified that Utah County will no longer provide electronic voting machines. Rather, the County will administer by option to each city vote-by-mail for the upcoming and future elections. The final cost is somewhat variable based on the rate of participation from cities in the County, but based on those most likely to participate, the cost to Provo City for vote-by-mail administered by Utah County would be about \$170,000. Should Provo City administer its vote-by-mail, the cost would increase to approximately \$182,960, due to differences in postage rates as well as lost efficiency in having City employees administering the election. The rental costs for optical scan equipment, electronic voting machines, and paying polling staff comes to about \$180,346. Of these options, the most cost-effective is Utah County-administered vote-by-mail.

Election costs in 2015 were \$74,000 and in 2016 costs were \$69,000. Costs have gone up specifically, but there will be some great benefits to voting by mail through Utah County. The City has tried to budget each year for election costs so there are not years with large financial hits, but the funds are spread more evenly and accounted for each year. Mr. Borget shared the following proposal for funding election costs:

- The City has \$20,500 to carryover for elections from the fiscal year ending June 30, 2017.
- \$85,000 would be budgeted for elections in fiscal year 2018.
- \$64,500 appropriation in FY 2017 fund balance to handle vote-by-mail in the upcoming election.
- If the costs for Utah County vote-by-mail came in under \$170,000, any excess would carry over in election costs for the following fiscal year.
- This total covers the cost for vote-by-mail for both the Primary Election and the General Election.

On Election Day for both the Primary and General Elections, the Provo Recreation Center would be designated as a voting center where citizens may come to vote. Administrative Services plans to have plenty of staff working at the voting center to handle larger demand should that occur.

Mayor Curtis referred citizens to www.VoteProvo.com, which launched that week. The website includes information about filing for candidacy and will also be essential for educating residents about voting by mail. Mayor Curtis shared his observations about challenges in previous elections—at the last election, Salt Lake polls had three-hour waits in line. It is costly to keep all the numerous polling locations open that late past the closing times, but utilizing vote-by-mail and operating one voting center reduces costs. As Utah County is moving to vote-by-mail permanently, this will keep Provo's election process in line with the County and provide consistency for residents. The Provo School District had safety concerns with using schools at polling locations, so this also proves advantageous for the School District. Early voting via mail would still be an option. Mayor Curtis also noted that voting by mail provides better access for senior citizens, individuals who travel for work, or for whom voting on Election Day is complicated by work schedules. It also provides better opportunities for more informed voters, as citizens can perform online research at home as they review their ballot.

Mr. Borget clarified that vote-by-mail is more expensive by nature because of postage—every registered voter receives two ballots: one for the Primary and one for the General election—plus the additional costs of maintaining a voting center. The other options for elections have also increased because Provo City would lose the efficiency and cost-effectiveness of running elections with the County. Costs have increased dramatically over the last ten years, particularly the costs of hiring polling staff; as neighboring municipalities have increased wages, Provo has seen the need to increase wages in order to remain competitive. The cost of machine rental also represents a significant increase from costs in previous years. Mr. Borget is confident that Provo City will get a much better product with vote-by-mail and the Administration is encouraged that Utah County has decided to administer vote-by-mail. Lehi, Orem, and most other large municipalities in Utah County have indicated their intent to participate.

Mr. Jones clarified that regardless of the method selected by the Council, an appropriation will be needed, as the expected costs for each method exceeds the existing budgeted amount. The Administration has recommended that Council appropriate the amount needed for vote-by-mail. Council Member George Stewart expressed reticence to make an appropriation for a method he did not support, and staff indicated that several versions of the resolution would be drafted—one for vote-by-mail and the other for optical scan. This would permit the Council autonomy in selecting the method, while the Council could still make the needed appropriation to give the County notice by their April 3, 2017 deadline.

Mr. Parker shared feedback from neighboring municipalities who have been very pleased with their experiences utilizing vote-by-mail. Mr. Parker cited an anomaly for Salt Lake County, which was the most recent presidential election—unique circumstances impacted the Salt Lake County elections, but this

particular election was atypical of their other experiences with vote-by-mail, which have been very successful. Chair Sewell expressed interest in exploring online voting at some point in the future, though it would be too late for the current budget and election cycle.

Staff was directed to share the topic on Open City Hall to invite public comment on vote-by-mail. Staff was also directed to prepare two versions of the resolution: one addressing an appropriation for a Vote-By-Mail option, and the other addressing an appropriation for an optical scan option. As the appropriation would require notice of a public hearing, Mr. Jones indicated that it would be appropriate to notice the higher dollar amount for the appropriation, which notice would cover whichever version of the resolution was later selected by the Council.

9. A discussion regarding the appointment of temporary Justice Court judges (17-044)

Judge Rick Romney, Provo Justice Court Judge, presented this item. This is a fairly routine personnel issue; there are currently three temporary Justice Court judges appointed, in order to coordinate coverage during vacation or absence of the permanently appointed judges in Provo. Based on the current schedule and needs, the Justice Court thought it prudent to appoint two additional temporary judges, as well as reappoint the three currently appointed temporary judges. These temporary judges are used infrequently, but because of the demands on their time as many of these judges serve in other local municipalities, it would be helpful to have several backups should scheduling conflicts occur when coverage is needed. Chair Sewell stated his intent for Leadership to place this item on the next Council agenda.

Administration

10. Administrative update on the BRT project (17-031)

This item was continued; Administration will provide an update to Council Leadership to determine whether this requires time at a future Work Meeting.

Closed Meeting

11. The Municipal Council or the Governing Board of the Redevelopment Agency will consider a motion to close the meeting for the purposes of holding a strategy session to discuss pending or reasonably imminent litigation, and/or to discuss the purchase, sale, exchange, or lease of real property, and/or the character, professional competence, or physical or mental health of an individual in conformance with § 52-4-204 and 52-4-205 et. seq., Utah Code.

Motion: David Harding moved to close the meeting. Seconded by Kay Van Buren.

Roll Call Vote: Approved 7:0.

Adjournment

Motion: Council Member David Harding moved to adjourn. Seconded by David Knecht.

Roll Call Vote: Approved 7:0.



AMI Opt Out

March 7, 2017



Agenda Introduction



- AMI History
- Health Safety/Privacy
- AMI Advantages
- Opt Out
- Questions

AMI History

<u>Project</u>	<u>Date</u>
Energy Board Presentation	May 19, 2014
City Council Presentation	May 20, 2014
Neighborhood Chair Presentation	June 26, 2014
Neighborhood Presentations	September 2014 – March 2016
Contract Signed	September 30, 2014
Pilot Network Install Start	November 15, 2014
Pilot Meter Install Complete	April 30, 2015
Systems Acceptance Test	April 1, 2016
Begin Commercial Deployment	July 1, 2016
Field Network Complete	October 2016
Begin hiring installers	September 2016
Scheduled Completion	September 2017

[AMI History](#)

[Safety/ Privacy](#)

[AMI Advantages](#)

[Opt Out](#)

[Questions](#)

Health Safety

- American Cancer Society – www.cancer.org
 - “exposure to RF energy from smart meters is estimated to be much less than the typical exposure people receive through cell phones, cordless phones, and/or home Wi-Fi routers.”
- U.S Food and Drug Administration – www.fda.gov/consumer
 - No evidence linking cell phone use to risk of brain tumors

AMI
History

Safety/
Privacy

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Opt Out

Questions

Privacy

LEGAL NOTICE

Do Not install a smart meter on my home!

From:
Energy Customer's Name [REDACTED]
Street Address [REDACTED]
City State Zip Provo, Utah 84604

To: Provo City Utilities
Energy Provider Provo City
Street Address 251 W. Center St
City State Zip Provo Ut. 84604
Date 8-28-14

NOTICE OF NO CONSENT TO TRESPASS AND SURVEILLANCE, NOTICE OF LIABILITY

Dear (Energy Provider) and all agents, officers, employees, contractors and interested parties, If you intend to install a "Smart Meter" or any other monitoring device at the above address, you and all other parties are hereby **denied consent** for installation and use of all such devices on the above property. Installation and use of any activity monitoring device is hereby refused and prohibited. Informed consent is legally required for installation of any surveillance device and any device that will collect and transmit private and personal data to undisclosed and unauthorized parties for undisclosed and unauthorized purposes. Authorization for sharing of personal and private information may only be given by the originator and subject of that information. That authorization is hereby denied and refused with regard to the above property and all its occupants. "Smart Meters" violate the law and cause endangerment to residents by the following factors:

1. They individually identify electrical devices inside the home and record when they are operated causing invasion of privacy.
2. They monitor household activity and occupancy in violation of rights and domestic security.
3. They transmit wireless signals which may be intercepted by unauthorized and unknown parties. Those signals can be used to monitor behavior and occupancy and they can be used by criminals to aid criminal activity against the occupants.
4. Data about occupant's daily habits and activities are collected, recorded and stored in permanent databases which are accessed by parties not authorized or invited to know and share that private data by those who's activities were recorded.
5. Those with access to the smart meter databases can review a permanent history of household activities complete with calendar and time-of-day metrics to gain a highly invasive and detailed view of the lives of the occupants.
6. Those databases may be shared with, or fall into the hands of criminals, blackmailers, corrupt law enforcement, private hackers of wireless transmissions, power company employees, and other unidentified parties who may act against the interests of the occupants under metered surveillance.
7. "Smart Meters" are, by definition, surveillance devices which violate Federal and State wiretapping laws by recording and storing databases of private and personal activities and behaviors without the consent or knowledge of those people who are monitored.
8. It is possible for example, with analysis of certain "Smart Meter" data, for unauthorized and distant parties to determine medical conditions, sexual activities, physical locations of persons within the home, vacancy patterns and personal information and habits of the occupants.
9. Your company has not adequately disclosed the particular recording and transmission capabilities of the smart meter, or the extent of the data that will be recorded, stored and shared, or the purpose to which the data will and will not be put.
10. Electromagnetic and Radio Frequency energy contamination from smart meters exceeds allowable safe and healthful limits for domestic environments as determined by the EPA and other scientific programs.

I forbid, refuse and deny consent for any installation and use of any monitoring, eavesdropping, and surveillance devices including Smart Meters on my property, my place of residence and my place of occupancy. That applies to and includes "Smart Meters" and activity monitoring devices of any and all kinds. Any attempt to install any such device directed at me, other occupants, my property or residence will constitute trespass, stalking, wiretapping and unlawful surveillance and endangerment of health and safety, all prohibited and punishable by law through criminal and civil complaints. All persons, government agencies and private organizations responsible for installing or operating monitoring devices directed at or recording my activities, which I have not specifically authorized in writing, will be fully liable for any violations, intrusions, harm or negative consequences caused or made possible by those devices whether those negative consequences are justified by "law" or not.

This is legal notice. After this delivery, the liabilities listed above may not be denied or avoided by parties named and implied in this notice. Civil Servant immunities and protections do not apply to the installation of smart meters due to the criminal violations they represent.

Notice to principal is notice to agent and notice to agent is notice to principal. All rights reserved.

Signature [REDACTED]

DO NOT INSTALL A SMART METER

AMI
History

Safety/
Privacy

AMI
Advantages

Opt Out

Questions

Privacy

- Dr. Karl Warnick, BYU Electrical Engineering Professor, specializing in AMI/Smart metering Tech.
 - Technical points and arguments in the letter are incorrect
 - Health risks due to the AMI wireless signal are negligible
- Utah Law prohibits the sharing or sale of customer information
 - Utah State Code – Title 5, 552a. Records Maintained on Individuals

AMI
History

Safety/
Privacy

AMI
Advantages

Opt Out

Questions

AMI Advantages

• Associated Cost

- Return on Investment (\$6 million) within 7 years of deployment
- No increase in utility bill (previously approved and budgeted for)
- Power Department Cost Savings
 - Labor savings
 - Long term customer savings

AMI
History

Safety/
Privacy

AMI
Advantages

Opt Out

Questions

AMI Advantages (continued)

Customer Information

- Method to save energy and lower costs
- Immediate feedback on electrical costs
- Remote meter reading – no employees on property
- Immediate hook-ups / disconnects
- Immediate outage notification
- Identifies low power quality
- Advancement to current technology standard that will drive future applications

AMI
History

Safety/
Privacy

AMI
Advantages

Opt Out

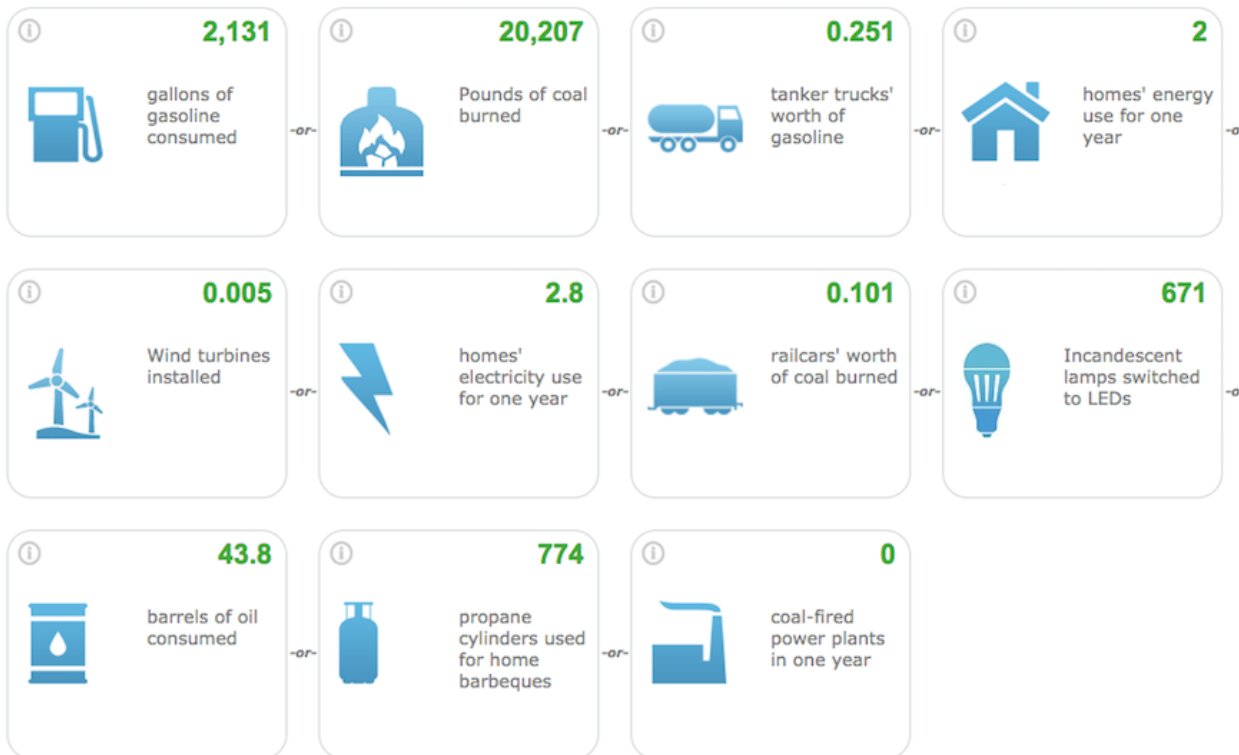
Questions

AMI Advantages (continued)

Greenhouse gas emissions from



CO₂ emissions from



AMI
History

Safety/
Privacy

AMI
Advantages

Opt Out

Questions

Opt Out Provisions

- Available to account owners that own the property
 - Ownership must be verified
 - Must sign Opt-Out Request Form and pay approved fees
- Accounts not eligible for Opt Out include those with
 - History of meter tampering
 - Poly-phase service
 - Two (2) name changes within 12 months
 - Disconnect notice within 12 months
 - A meter that is inaccessible to read
- Recommended Feb. 13, 2017 by Energy Board

AMI
History

Safety/
Privacy

AMI
Advantages

Opt Out

Questions

Opt Out Cost

MONTHLY OPT OUT FEE	Manual Meter Read Fixed Cost
Truck	\$2.67
Labor	\$22.33
Total	\$25.00

CUSTOMER SERVICE FEE	Consolodated Fee Schedule
Processing Fee	\$20.00
Connection Fee	\$75.00
Total	\$95.00

LATE AMI INSTALLATION	Consolodated Fee Schedule
Processing Fee	\$20.00
Connection Fee	\$75.00
AMI Meter	\$135.00
Total	\$230.00

AMI
History

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Opt Out

Questions

The background features a warm, golden-yellow gradient. Scattered across this background are several gear icons of varying sizes and shades, ranging from light yellow to dark brown. In the top-left corner, there is a stylized sun icon with a purple-to-white gradient.

Questions

AMI
History

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Opt Out

Questions



Provo City, Utah Provo City Power AMI Opt-Out Policy

OBJECTIVE

Provo City Power recognizes that some customers may not want to be a part of the Automated Metering Infrastructure (AMI) system. The objective of this policy is to outline the criteria under which such a customer may opt-out of the AMI system while still covering the costs of providing services for an older technology.

POLICY

- A. The opt-out program shall be available to all utility account owners who own the property associated with the account, except for the following accounts:
 1. Utility accounts with a history of meter tampering,
 2. Utility accounts with a poly-phase service,
 3. Utility accounts with more than two (2) name changes within a one (1) year period,
 4. Utility accounts that have received Disconnect Notices within 12 months prior to requesting the opt-out program,
 5. Utility accounts with a meter that is inaccessible to read (e.g. physical obstructions, hazardous conditions, animals, or denial of access).
- B. To qualify for the opt-out program, property ownership must be verified.
- C. Account owners who elect to enroll in the AMI Opt-Out program will provide Provo City Power with a completed Opt-Out Request Form signifying their agreement to the Terms and Conditions outlined on the form.
- D. Account owners who elect to enroll in the AMI Opt-Out program will be assessed a meter reading fee per the applicable fee schedule passed by the Municipal Council.

E. Account owners who choose to exercise their right to opt-out after the deployment phase of the AMI system (after September 2017) will be assessed a processing fee and a connection fee in accordance with the Consolidated Fee Schedule (minimum \$95.00 charge).

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F. If a new AMI Meter is installed due to a disconnect notice/delinquent payment or if requested after the deployment period, Account owners will be responsible for the charges including a processing fee, a connection fee and the cost of the new AMI Meter (a minimum of \$230.00). The charges incurred are in accordance with the Consolidated Fee Schedule, which can be changed or modified at any time by the Municipal Council.

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RESPONSIBILITY

A. The Provo City Power Director is responsible for the administration of this policy.

Adopted by the Energy Board of Provo City, Utah on _____, 2017

Approved by the Mayor of Provo City, Utah on _____, 2017

Mayor Signature



Automated Metering Infrastructure (AMI) Opt-Out Request Form

Account #:	Date:
Name on Account:	
Email:	
Daytime Phone:	Evening Phone:
Service Address:	

TERMS & CONDITIONS

I represent and warrant that I am the owner of the property and the authorized person for the member account number provided above. By signing this form, I am indicating that I want to opt-out of Provo City Power’s Automated Metering Infrastructure (AMI).

_____ I acknowledge that a basic kWh meter will remain (or be re-installed) on the premises.

_____ I understand that my account will be assessed a monthly meter reading fee (**a minimum of \$25.00 per month**) in accordance with the Consolidated Fee Schedule, which can be changed or modified at any time by the Municipal Council.

_____ I understand that I am only eligible for Provo City Power’s basic rate tariff and may not be able to receive any other enhanced benefits that the wireless metering system provides, such as:

- Instant Outage Notification and Restoration Verification
- Interval data that allows for better understanding of usage patterns
- Optional Rates that could lead to cost savings or enable other technologies, including Time of Use, Net Metering, and Pre-Pay

_____ I agree that I will maintain clear, safe and direct access to my metering location allowing manual reads during typical business hours throughout the month.

_____ If I receive a disconnect notice/delinquent payment or request an AMI Meter after the deployment period, I understand that an AMI Meter will be installed on the premises and I will be responsible for the associated charges, including a processing fee, a connection fee and the cost of the new AMI Meter (**a minimum of \$230.00**). The charges incurred will be in accordance with the Consolidated Fee Schedule, which can be modified at any time by the Municipal Council.

I understand the eligibility criteria listed. I understand that not meeting said criteria will result in ineligibility for this program, and an AMI meter will be installed at that time.

Signature: _____ Date: _____

Print Name: _____

This form needs to be filled out in its entirety and hand delivered to Provo City Power within 30 days of meter refusal, otherwise an AMI Meter will automatically be installed.

Thank you for your attention to and cooperation with the AMI Opt-Out program. If you have further questions you can contact our office by calling 801-852-6802.

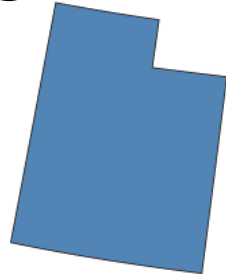
AMI Meter Refusal Date _____	Meter Installer Initials _____
Customer Copy <input type="checkbox"/> Date _____	Office Staff Initials _____
Filed with Customer Service for billing <input type="checkbox"/> Date _____	

Form-Based Codes Provo City

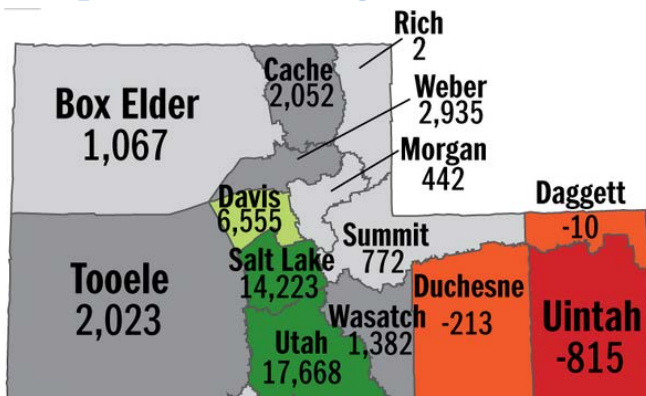
Jake Young, AICP, ASLA
City Designer
Landscape Architect



City design & ordinances can have a major impact on these **5** challenges.



Population growth 15/16



Physical Inactivity

19.1% or about

1 in 5



adults in Utah are physically inactive compared to 23.5% nationally

Health & Obesity

Obesity

24.1%

of adults in Utah are obese compared to 29.4% nationally



Affordable housing



Cleaner Air



Agriculture and Open Space



civilsolutionsgroup inc.

FBC's are next generation city planning tools.

Ancient

Colony

Pioneers

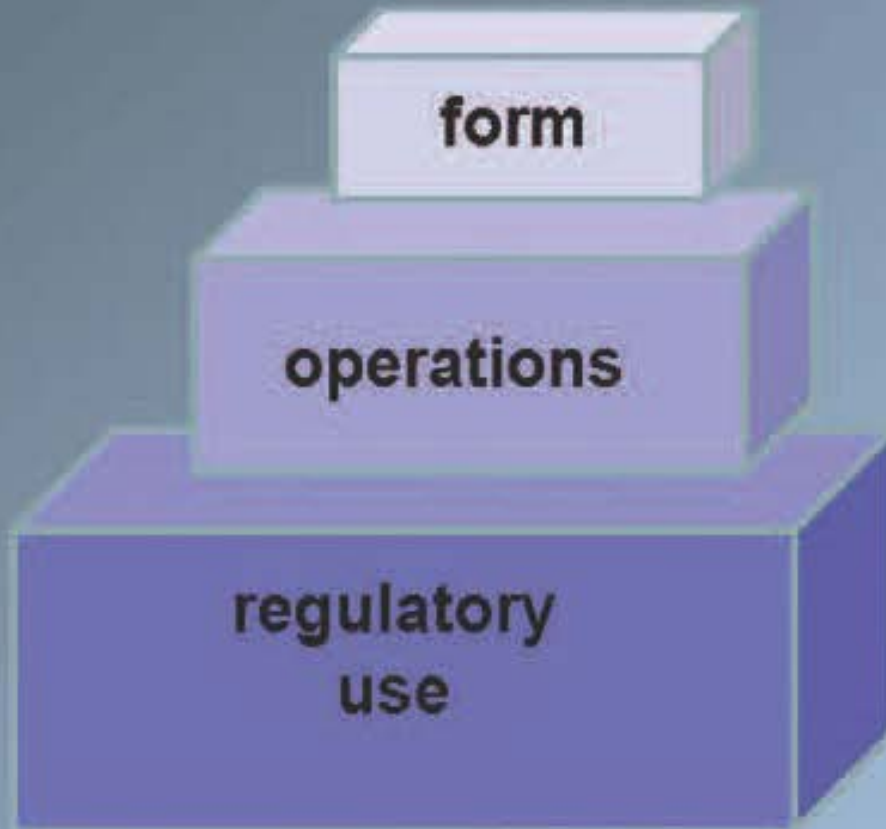
Garden City

Sprawl

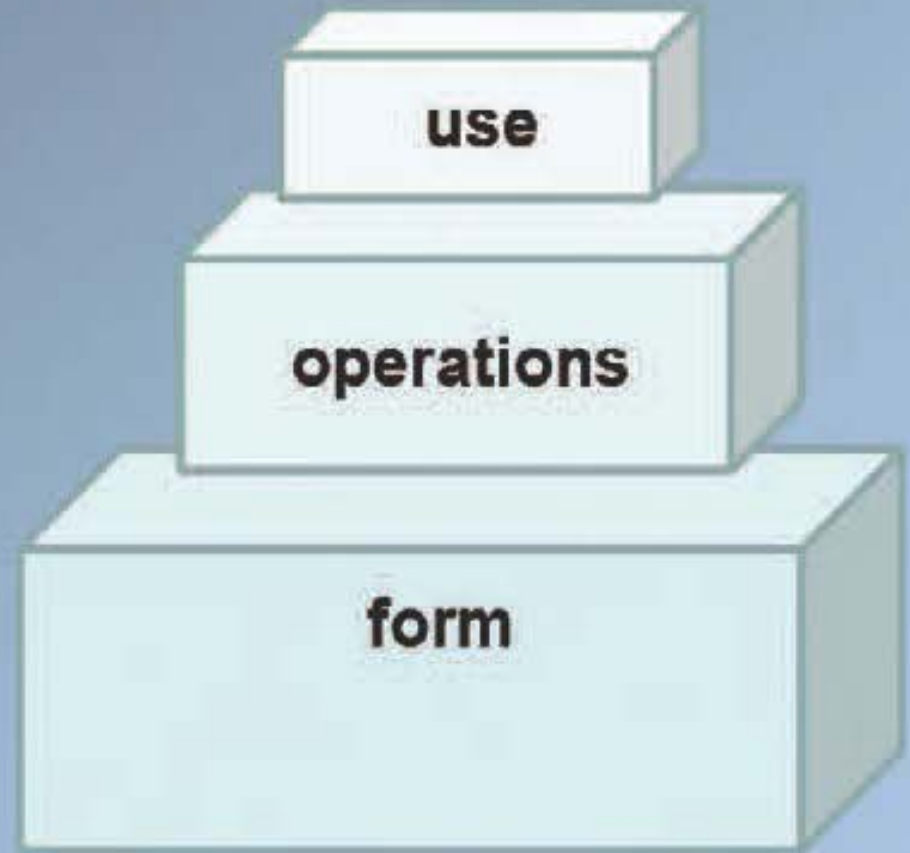
Mixed-use
FBCs



Conventional Zoning



Form-based Codes



Traditional Zoning Weaknesses

- **Works here, works everywhere?**
- **Reactive, not proactive**
- **Mixing of Uses**
- **Dealing with Density**
- **Dealing with Design**
- **Not good at defining “what do we want to see in the built environment”?**



What kind of place do you want?



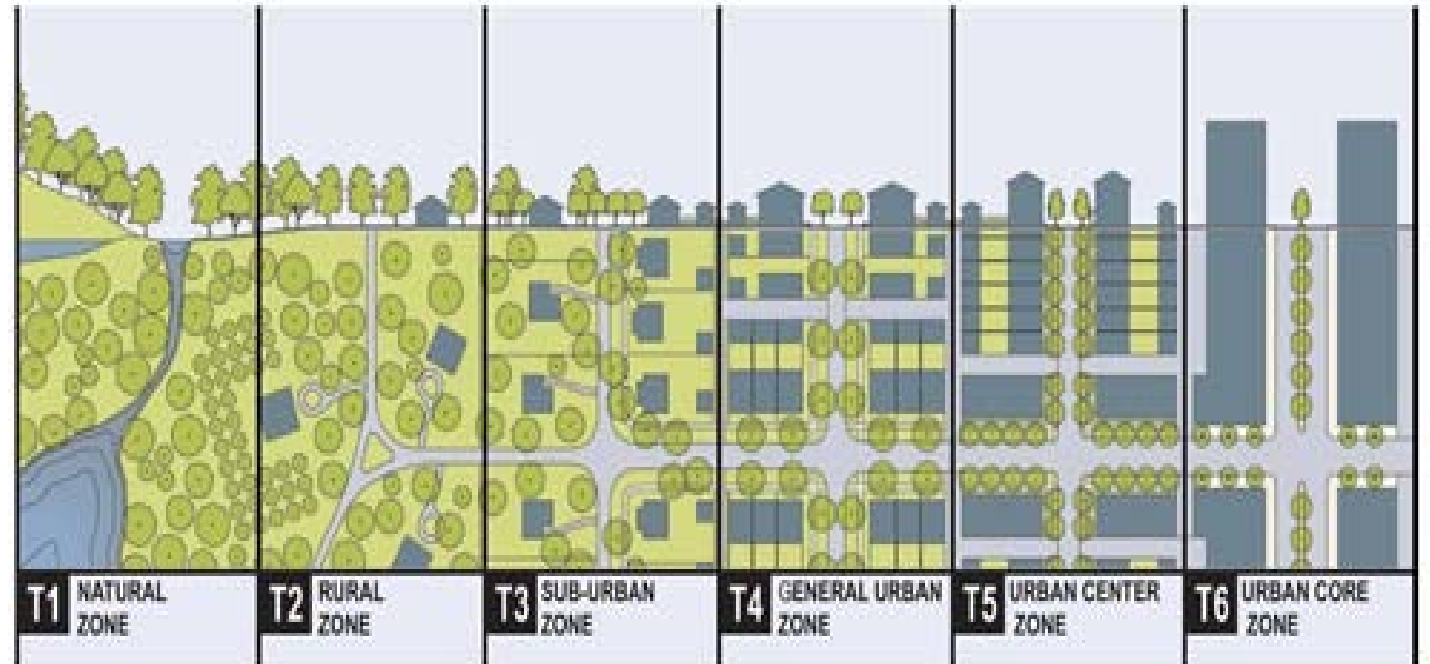
What are the components of successful people place?

- **Vision/purpose**
- **Streets**
- **Public realm**
- **Buildings**
- **Open space/Parks**
- **Landscaping**
- **Parking**
- **Signs**
- **Uses**



Smart Code

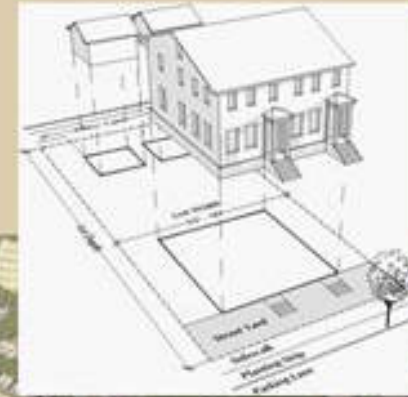
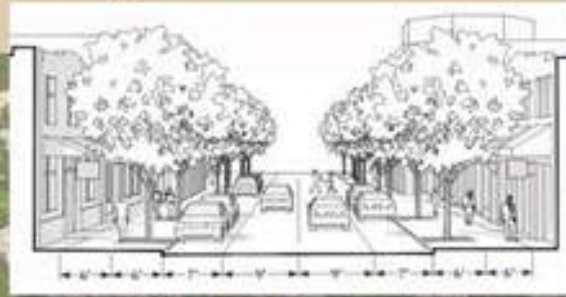
- **Initial Foundation for all FBCs**
- **Based on “transects”**
- **A series of organizing principles**



Parts of an FBC

What are Form-Based Codes?

This brief slide show explains how form-based codes help communities achieve development goals.



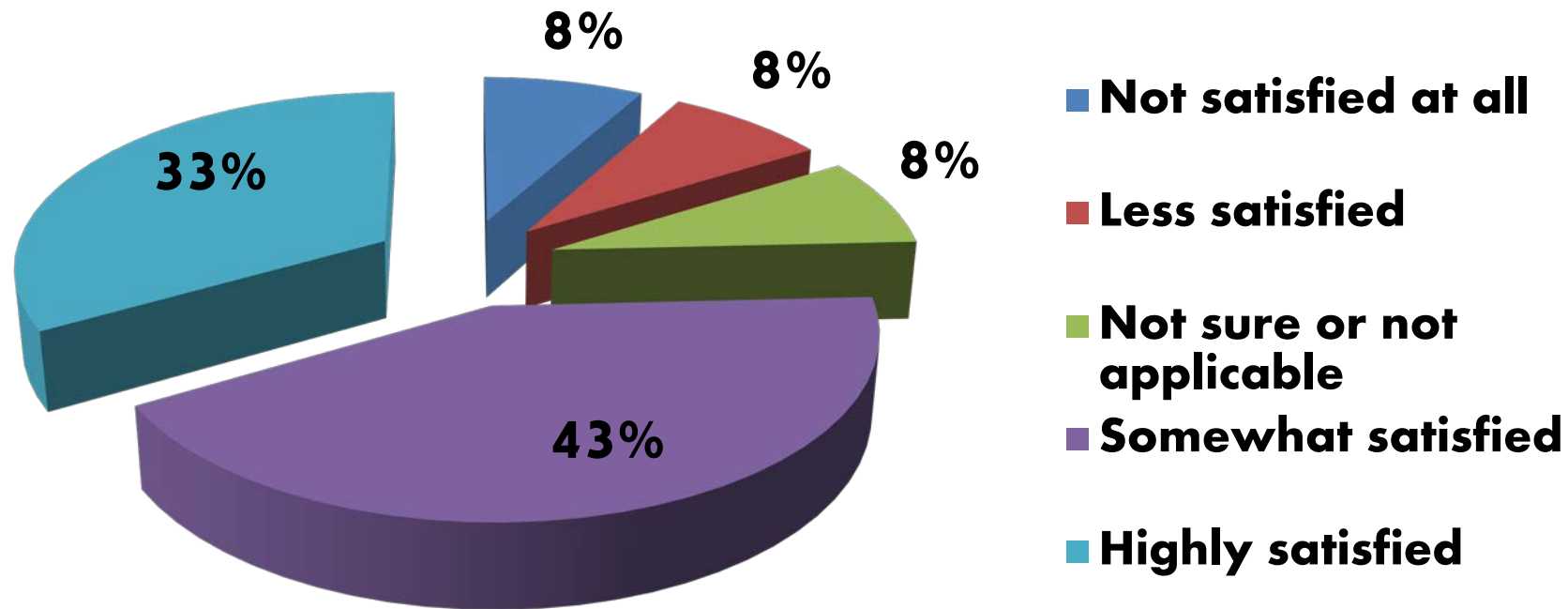
Who took the FBC Survey (city planners)?

Logan City	County	Highland
City of Orem	Draper City	Bountiful City
Uintah	American	Farmington
County	Fork City	Salt lake City
Pleasant	Layton City	Weber
Grove	Brigham City	County
Vineyard	Pleasant	
Santaquin	View City	
Duchesne	South Salt	
County	Lake	
Heber City	Saratoga	
Kaysville City	Springs City	
Clearfield	North Logan	
City	Hurricane	
Grand	Provo	



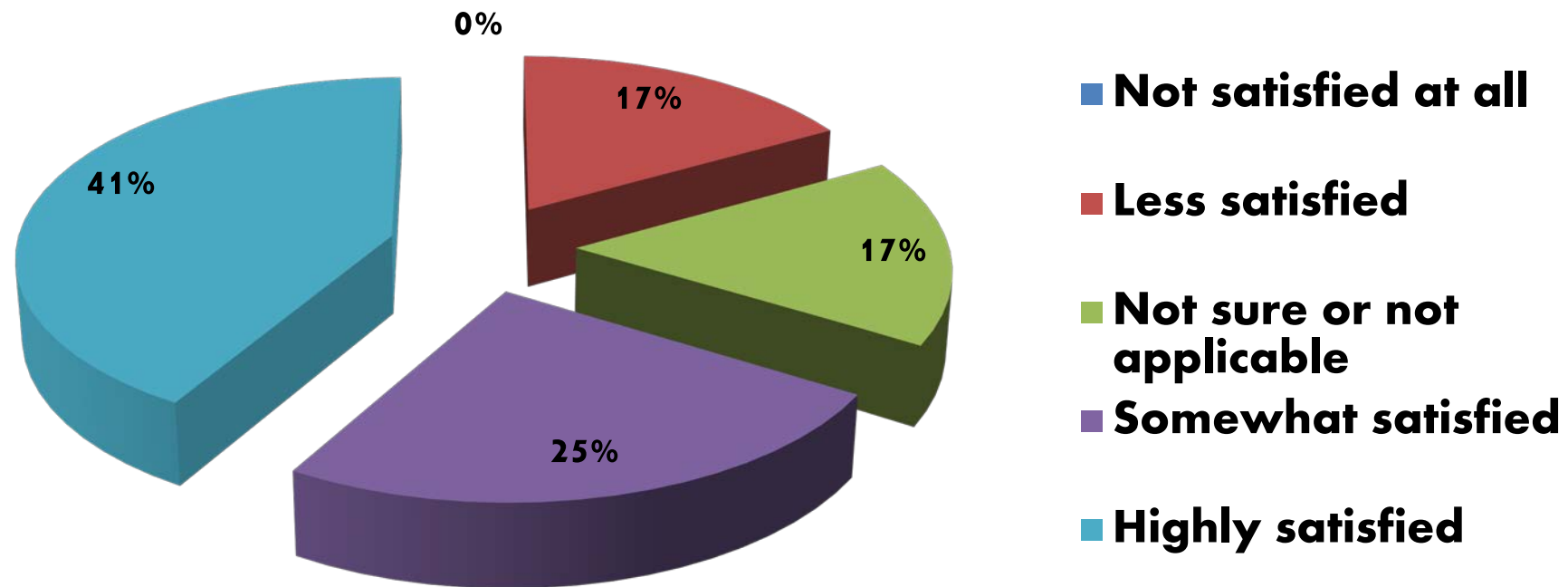
FBC city survey

Meeting the intent of the ordinance and zone.



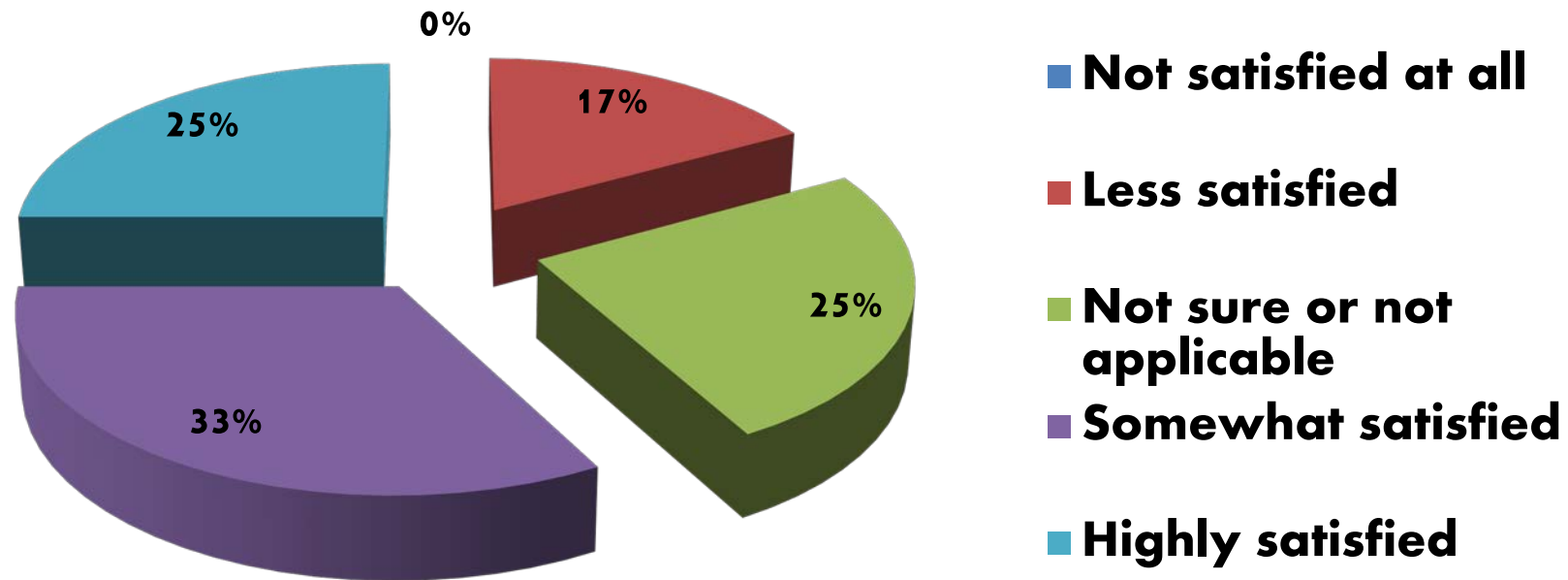
FBC city survey

Higher quality buildings



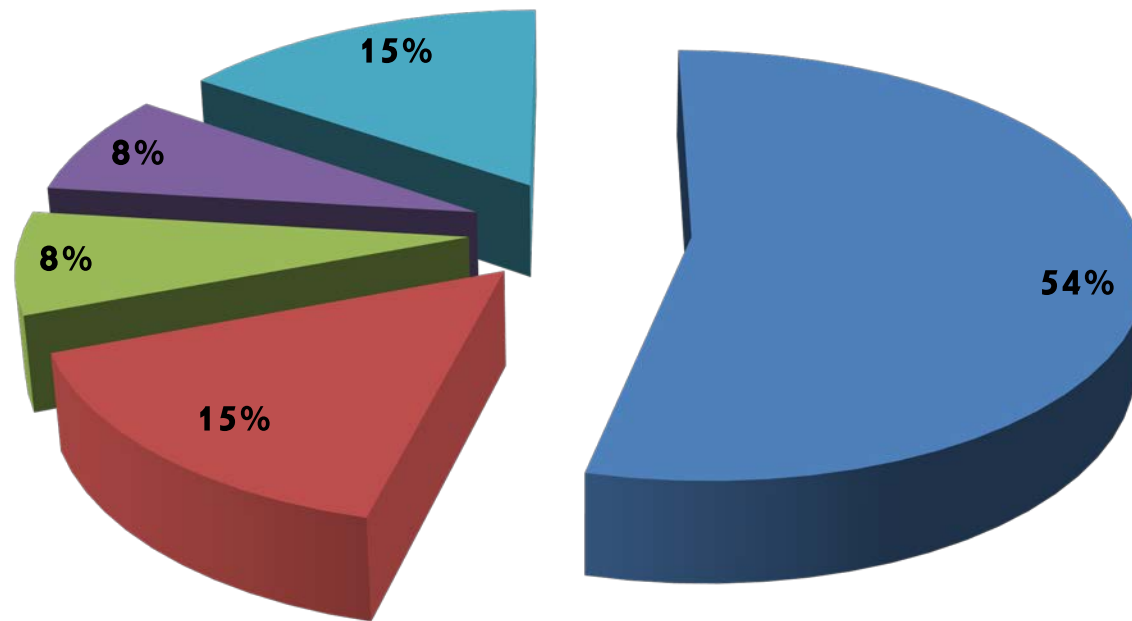
FBC city survey

Higher quality sites



FBC city survey

How would you compare FBC proposed projects (proposed or built) to previous projects (proposed or built) under non-FBC ordinance (if you have no FBC ordinance no answer required)?

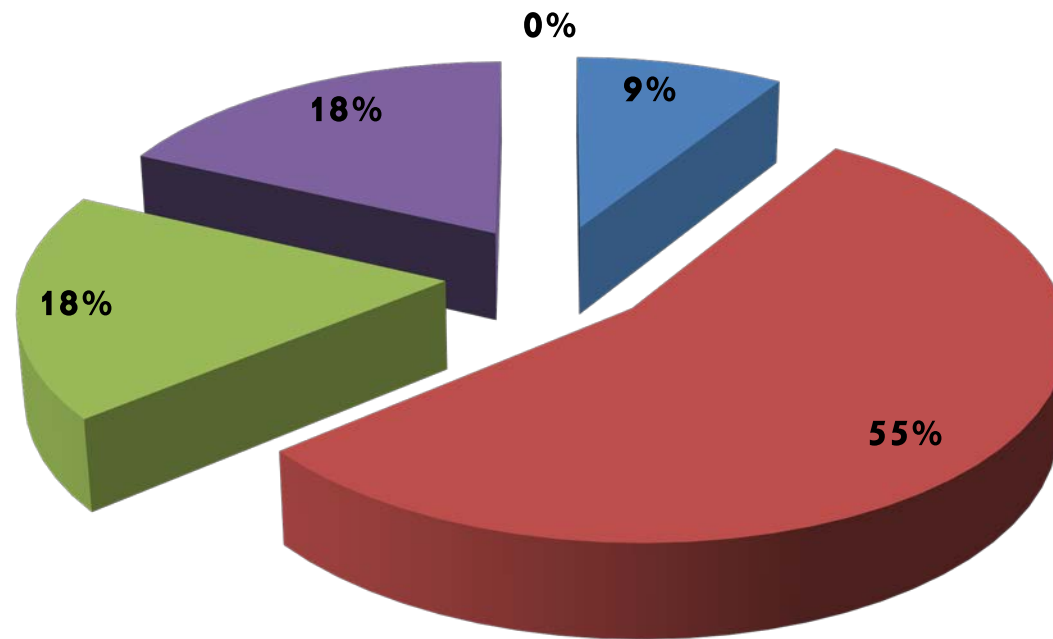


- FBC projects are resulting in higher quality
- FBC projects are resulting in similar quality
- FBC projects are resulting in lesser quality
- Unsure



FBC city survey

Easier to administer



- Not satisfied at all
- Less satisfied
- Not sure or not applicable
- Somewhat satisfied
- Highly satisfied



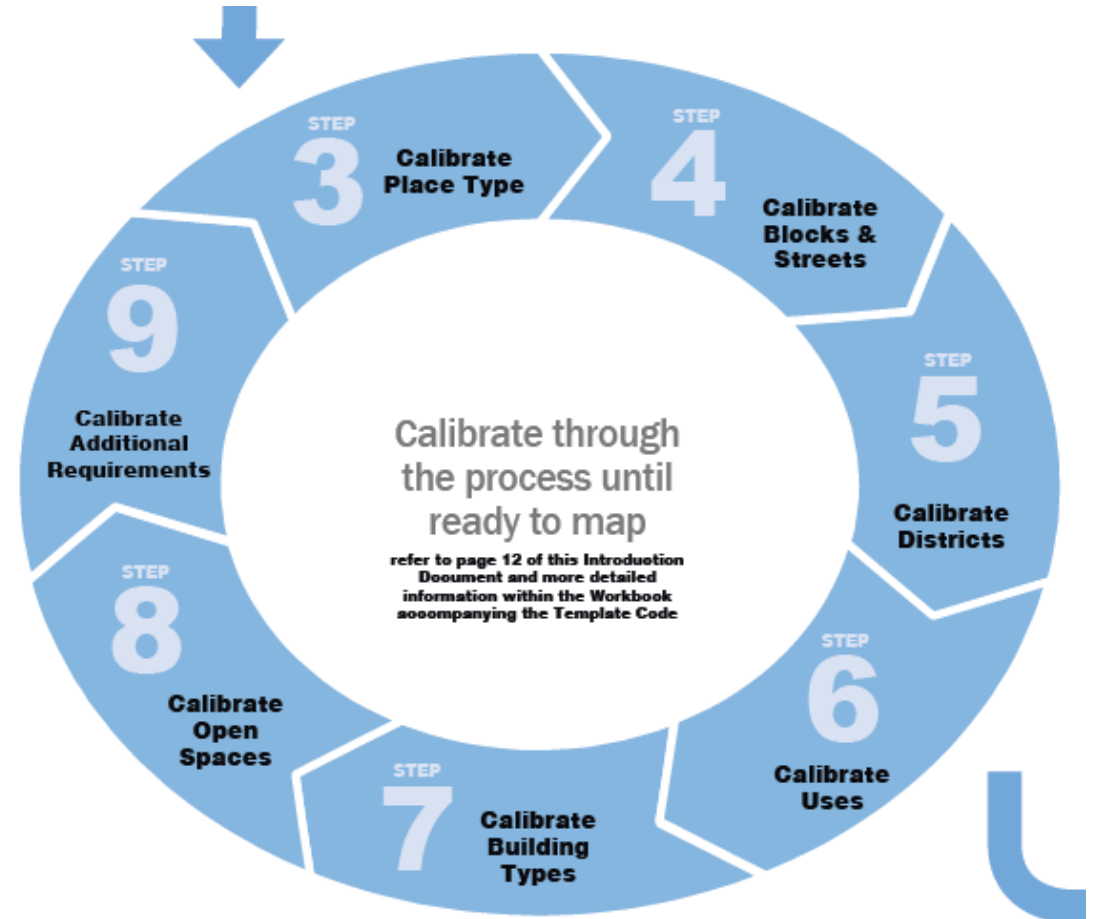
FBC Myths

- **Controlling form is a new idea**
- **FBCs can't handle creative buildings**
- **FBCs usually never involve uses (what about prohibited uses?)**
- **The Utah Template can just be copied over to your community**
- **You have to FBC the whole community! (not!!!)**



FBC Challenges

- **Process**
- **More intensive staff review requirement**
- **Training of elected and appointed officials**
- **Getting your community to accept more permitted uses**
- **Failure to trust the design**

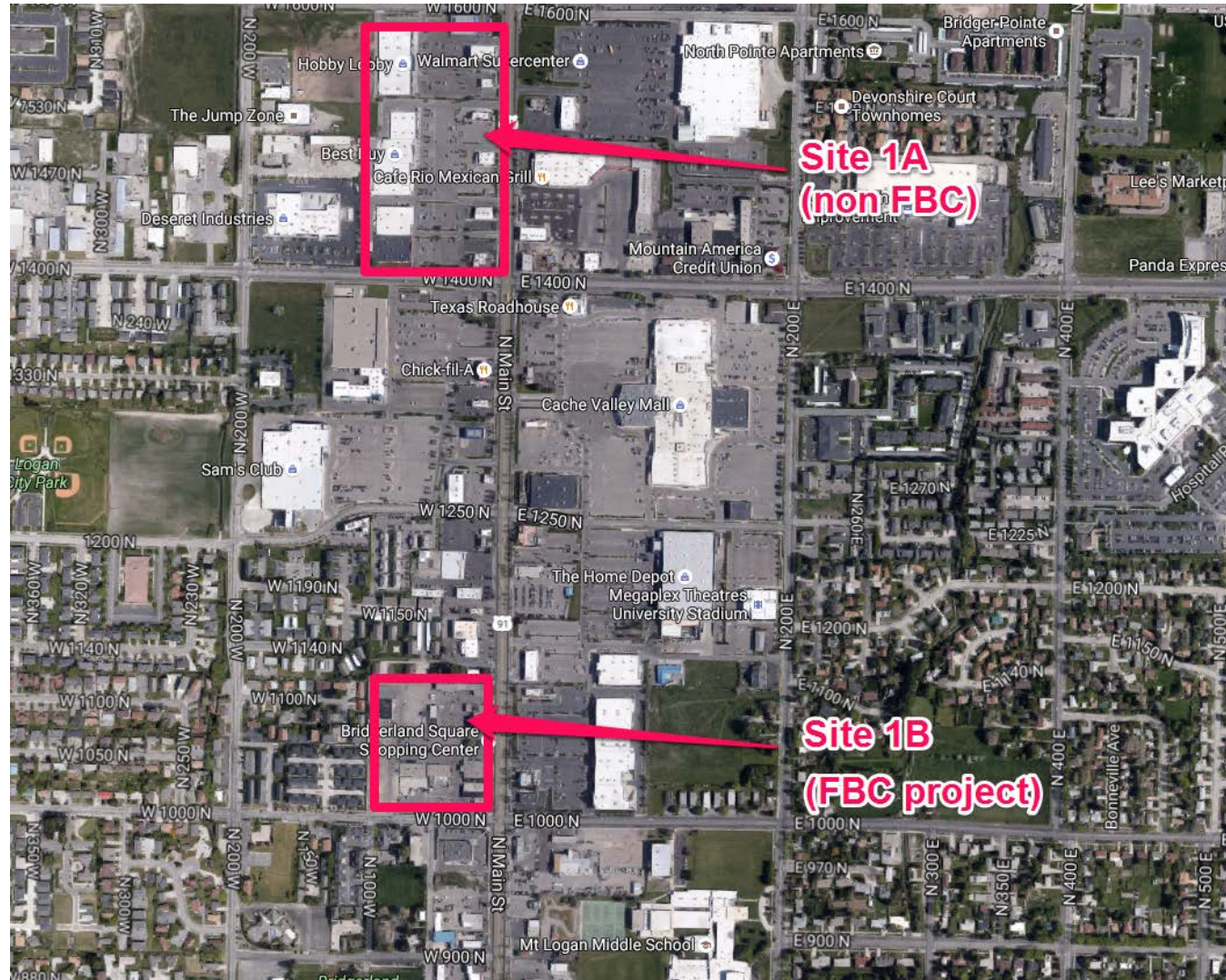


FBC Challenges continued

- **Comprehensive place making infringes on other departments**
- **Adding flexibility to standards**
- **InDesign is incompatible with your codification system**



Case Studies 1 – Logan, UT



Case Studies 1a – Logan, UT



Less building frontage
Less pedestrian
connection to street
Less glass
Non FBC project

Case Studies 1a – Logan, UT



Less building frontage
Less pedestrian connection to street
Less glass
Non FBC project

Case Studies 1b – Logan, UT



Building frontage 50%
Pedestrian connection
to street
More glass
Doors on street
FBC project

Case Studies 1b – Logan, UT

Building frontage on
street 50%
Pedestrian connection
to street
More glass
Doors on street
Wider sidewalks
FBC project



Case Studies 1b – Logan, UT



Building articulation
break every 30 feet
Covering over doors
More glass
Doors on street
Wider sidewalks
FBC project

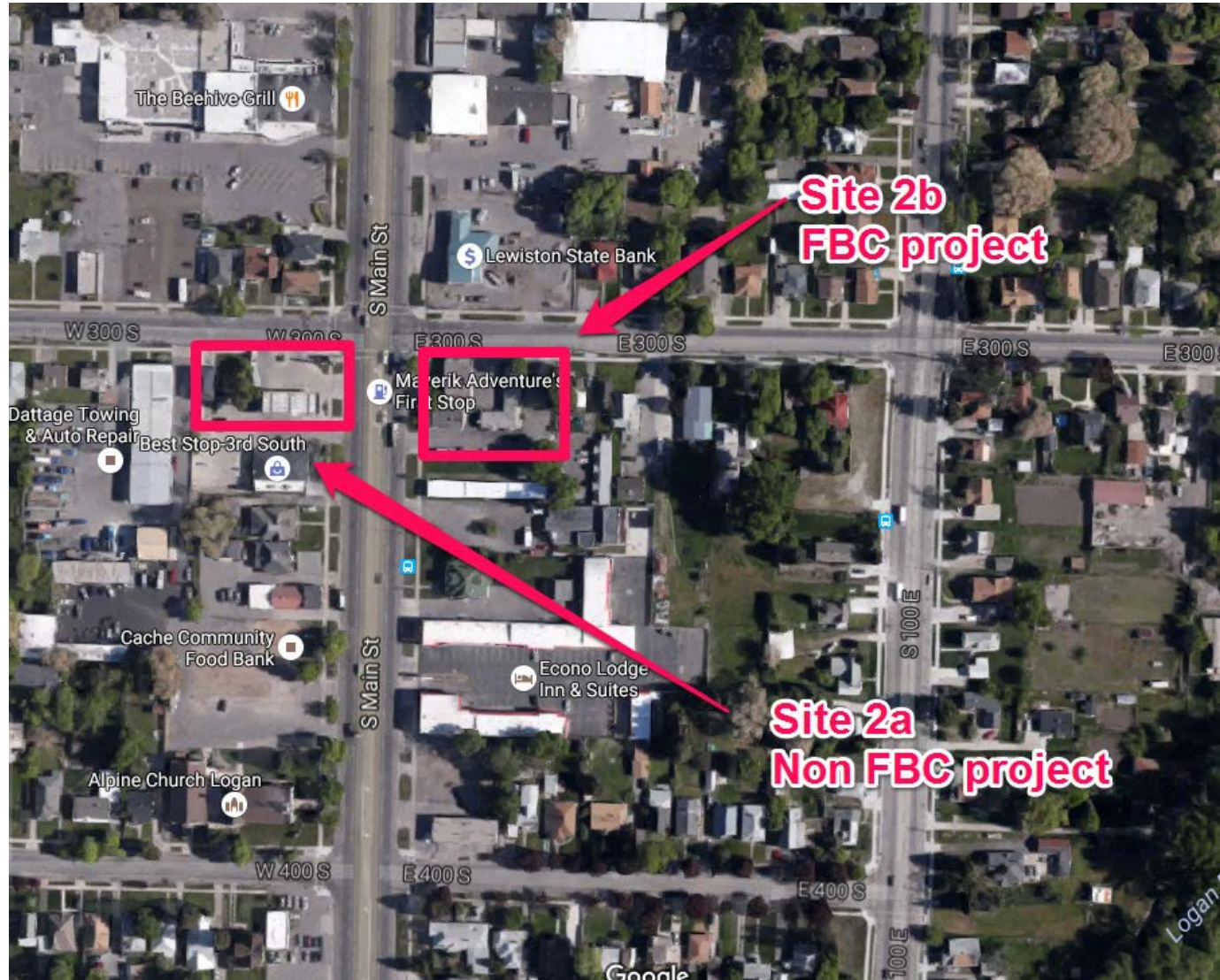


Case Studies 1b – Logan, UT

Monument low profile
Group signs
Screening
drives/parking
FBC project



Case Studies 2 – Logan, UT



Case Studies 2a – Logan, UT

Typical gas station
Non FBC project



Case Studies 2a – Logan, UT

Typical gas station layout
No ped connection
Building set back
Major sign
Non FBC project



Case Studies 2b – Logan, UT

Building on corner
facing street
Ped connection
Four sided
architecture
Monument sign
More glass
FBC project



Case Studies 2b – Logan, UT

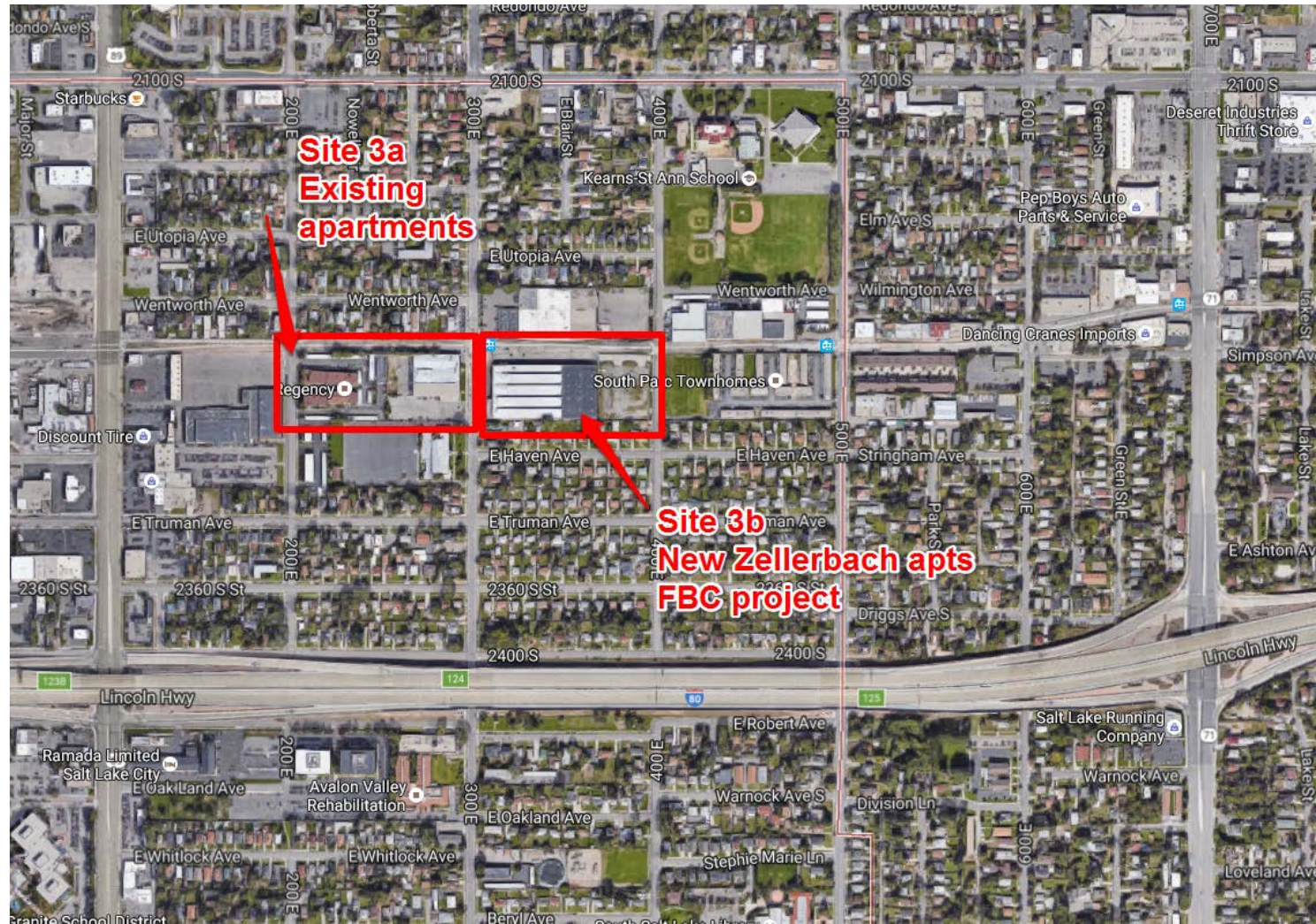


UT

Building on corner
facing street
Ped connection
Four sided
architecture
Monument sign
More glass
FBC project



Case Studies – 3 South Salt Lake



Case Studies – 3a



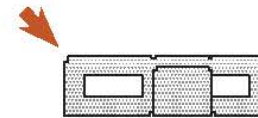
Existing Apartment project



Case Studies – 3b



Significant investment in SSL (\$55 Million dollars)
Fast approval process by staff (30 days)
The FBC was part of a major game change movement in SSL
FBC Project



ZELLERBACH MULTI FAMILY - NW Entry Perspective

South Salt Lake, UT

10.01.2015

Project No. 150830

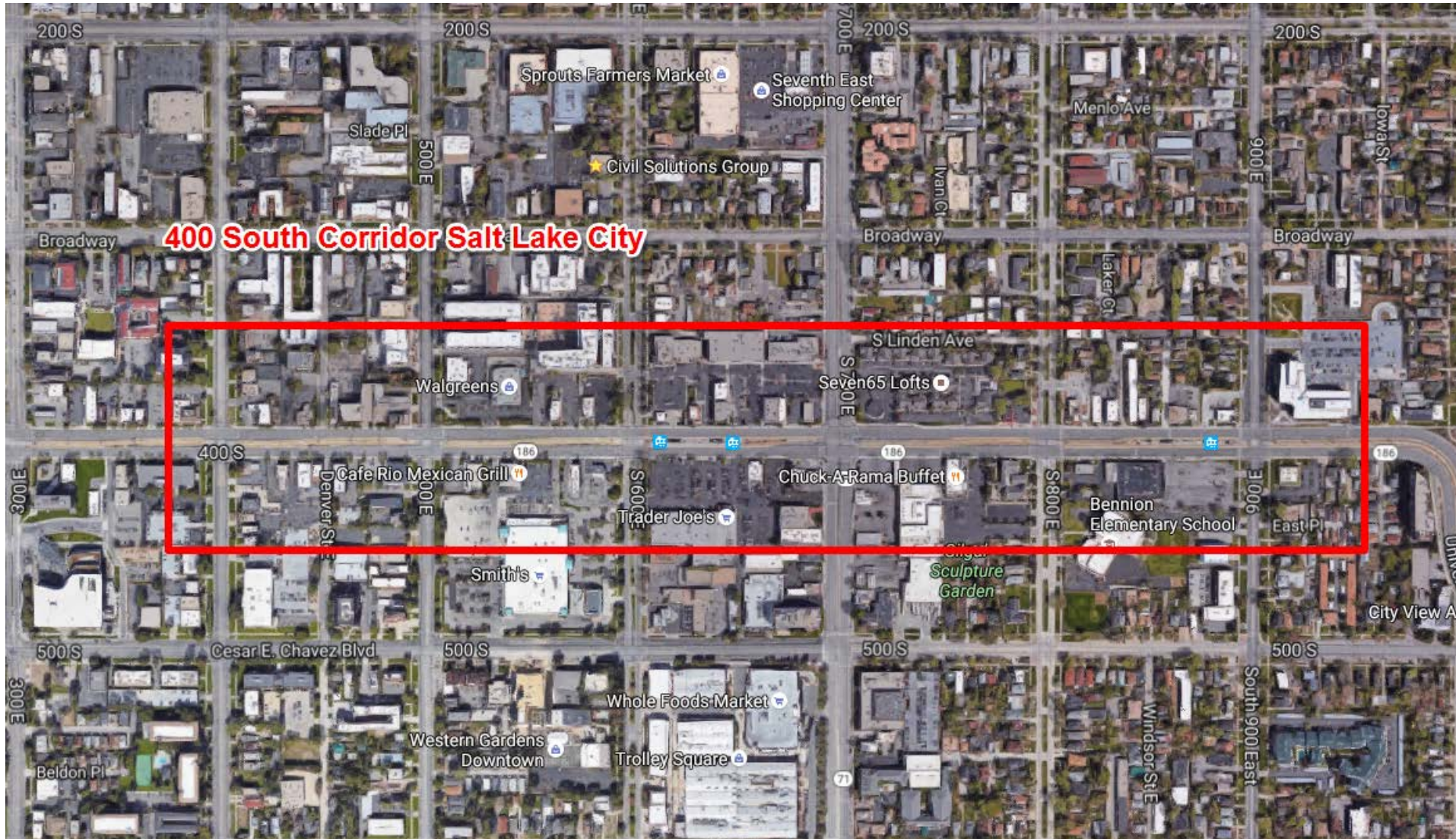
620 SW 5th Avenue, Suite 500
Portland, Oregon 97204
503.236.6000
www.myhregroup.com

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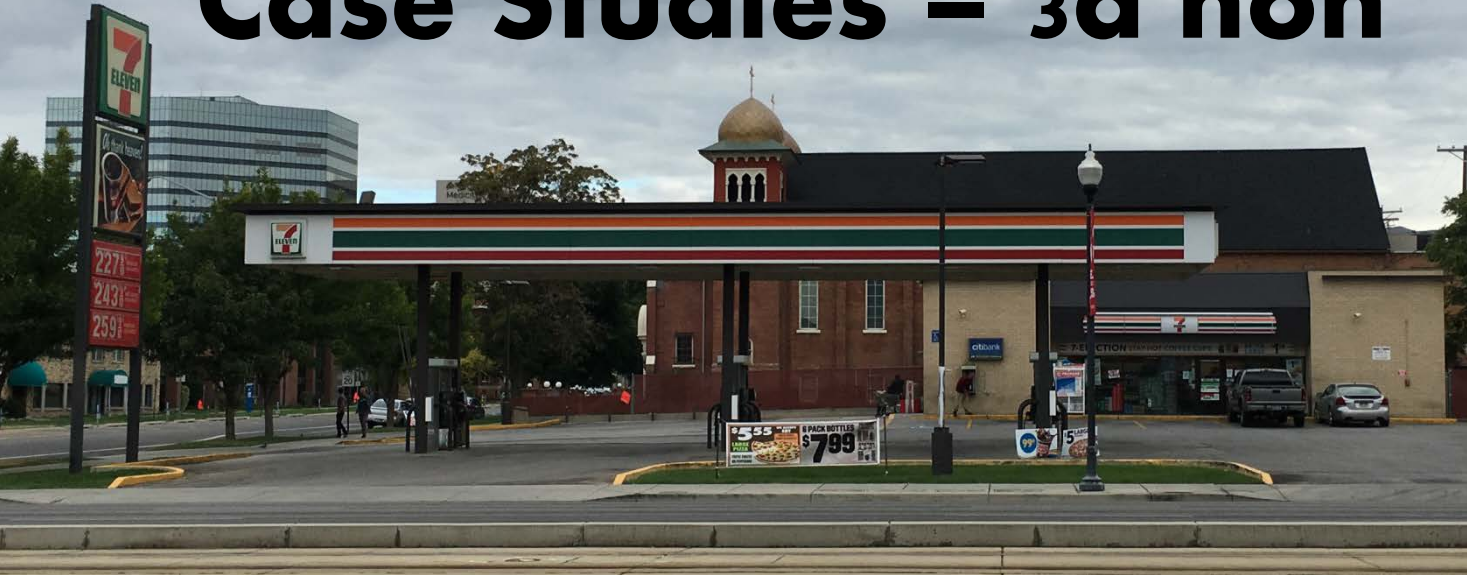
MGA
MYHREGROUP ARCHITECTS

11

Case Studies – 4 Salt Lake 4th South



Case Studies – 3a non



FB C projects



Case Studies – 3b FBC



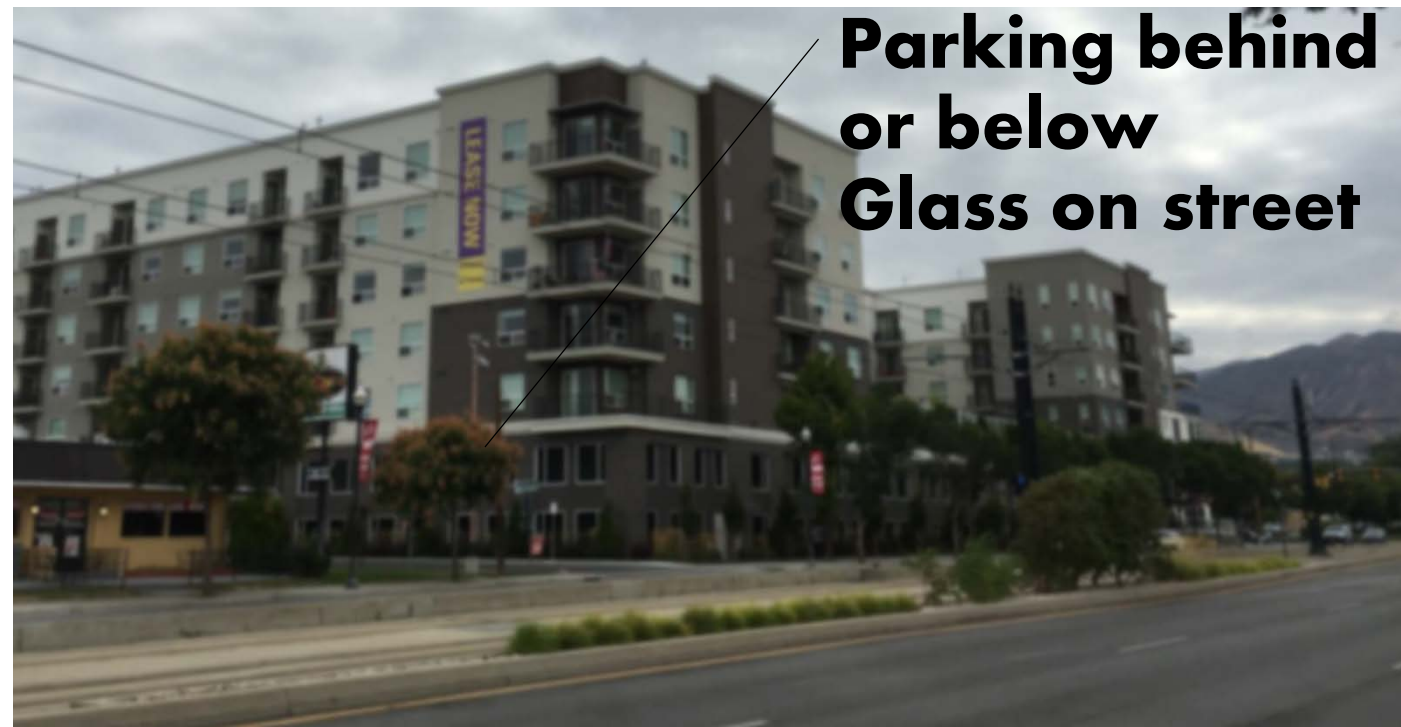
projects



Corner feature



Parking behind or below Glass on street



FBC Best Practices

- Design – fieldtrips, pick features apart



FBC Best Practices

- **Vision – what kind of place are we trying to create?**
- **Understand the components of “place” – deal with all the parts!**
- **Invite the development community**
- **Educate – your CC and PC, the public (September 29th at 10:30 in Farmington)**
- **Eliminate the word density aka Trust the design**



Thoughts, questions, comments?

- **Thank you!**



Call or email any time...

Jake Young

iyoung@civilsolutionsgroup.net



civilsolutionsgroup inc.

Water Division Review

3/7/17

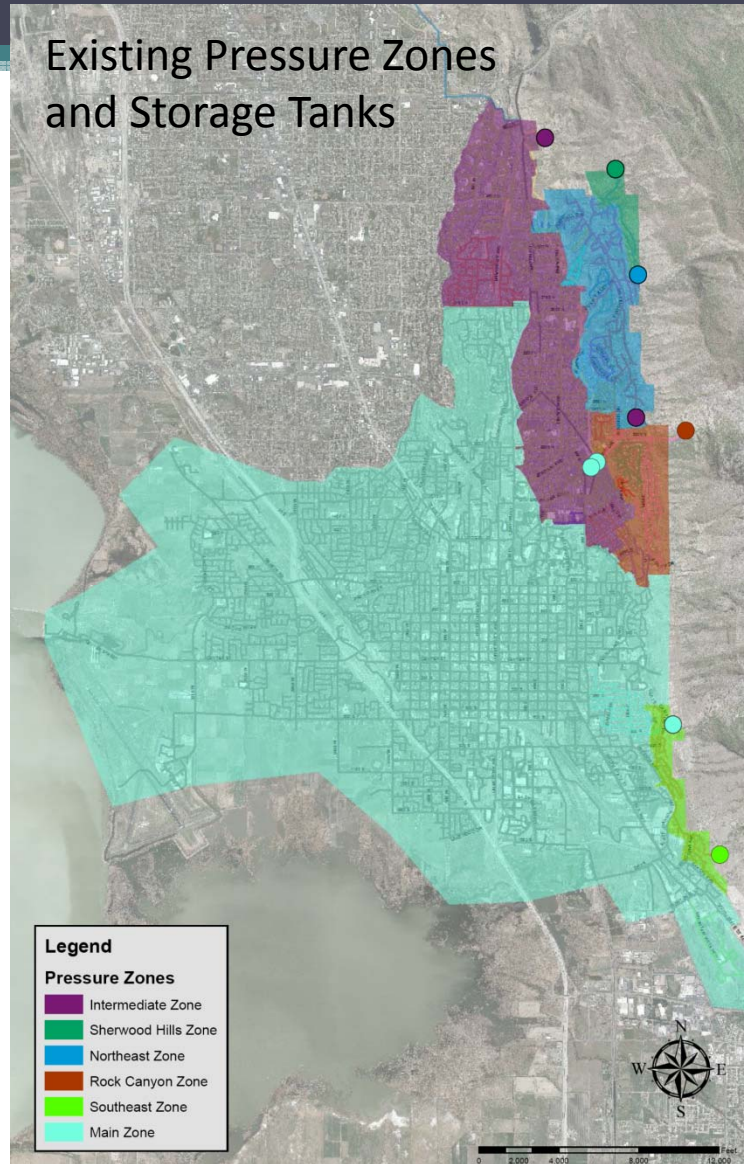




7 Topics

- 1-Overview of the 2010 Water System Master Plan**
- 2-Financial review of the Water Utility Fund**
- 3-Review of financial recommendations for the future**
- 4-Water rights**
- 5-Water audit and water conservation**
- 6-Water system operations**
- 7-Water system testing and regulations**

Existing Pressure Zones and Storage Tanks



Future Pressure Zones and Storage Tanks

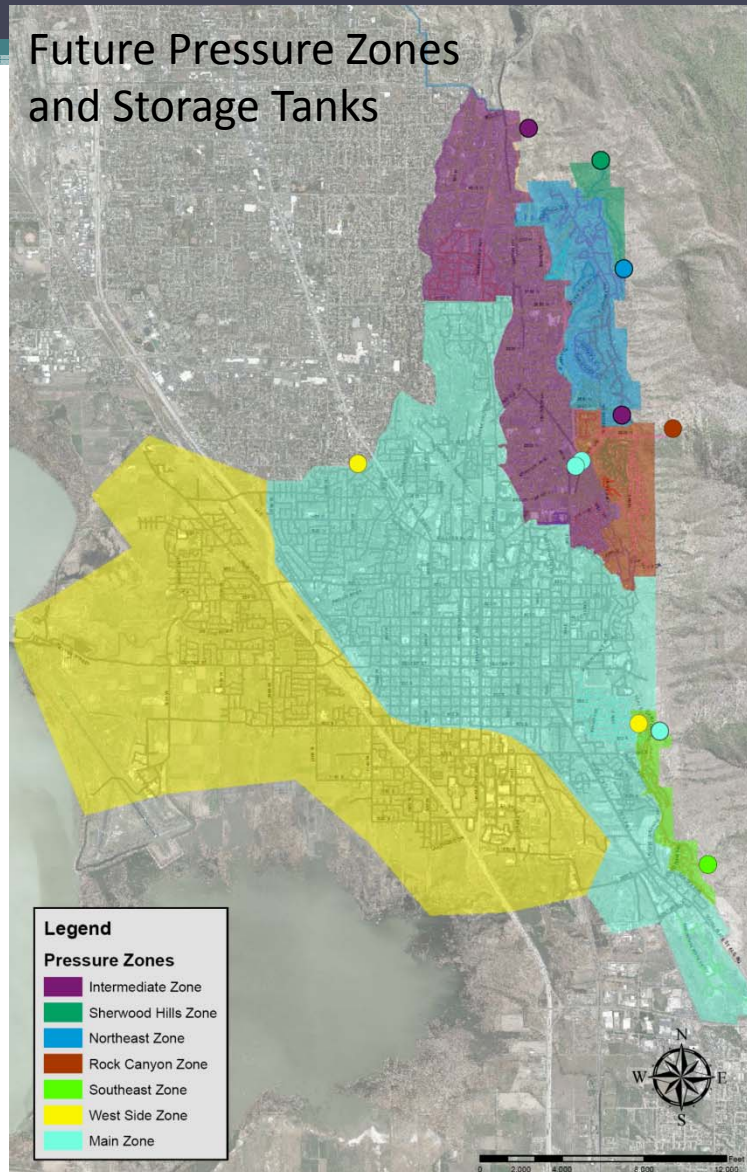


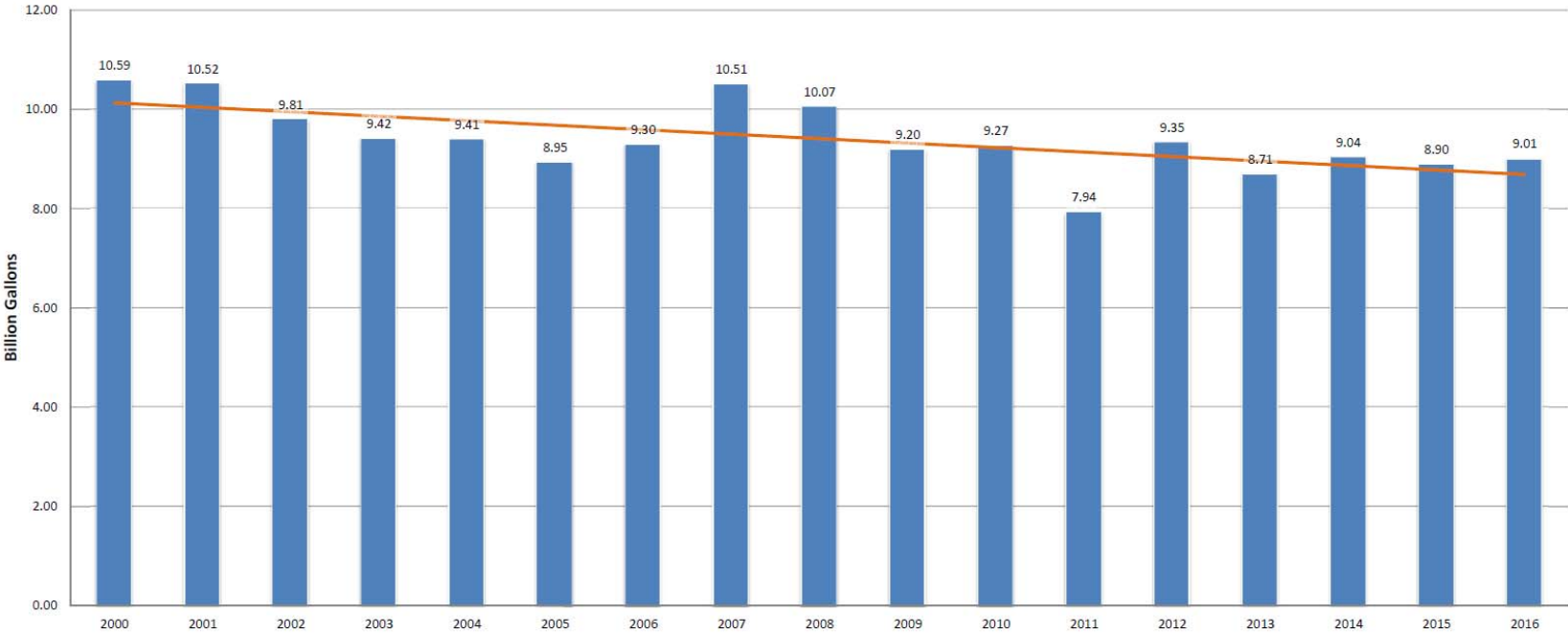
Table ES-1
Projected Water Production Requirements (Based on 2000 usage)

	Average Annual Production Requirements (acre-feet)					
	2010	2020	2030	2040	2050	Buildout
<i>No Conservation</i>	37,889	42,587	48,590	54,667	59,294	60,949
<i>With State Conservation Goal¹</i>	35,521	37,264	40,491	43,278	44,471	45,712
	Peak Day Production Requirements (mgd)					
	2010	2020	2030	2040	2050	Buildout
<i>No Conservation</i>	67.8	76.2	86.9	97.8	106.0	109.0
<i>With State Conservation Goal¹</i>	63.5	66.6	72.4	77.4	79.5	81.7

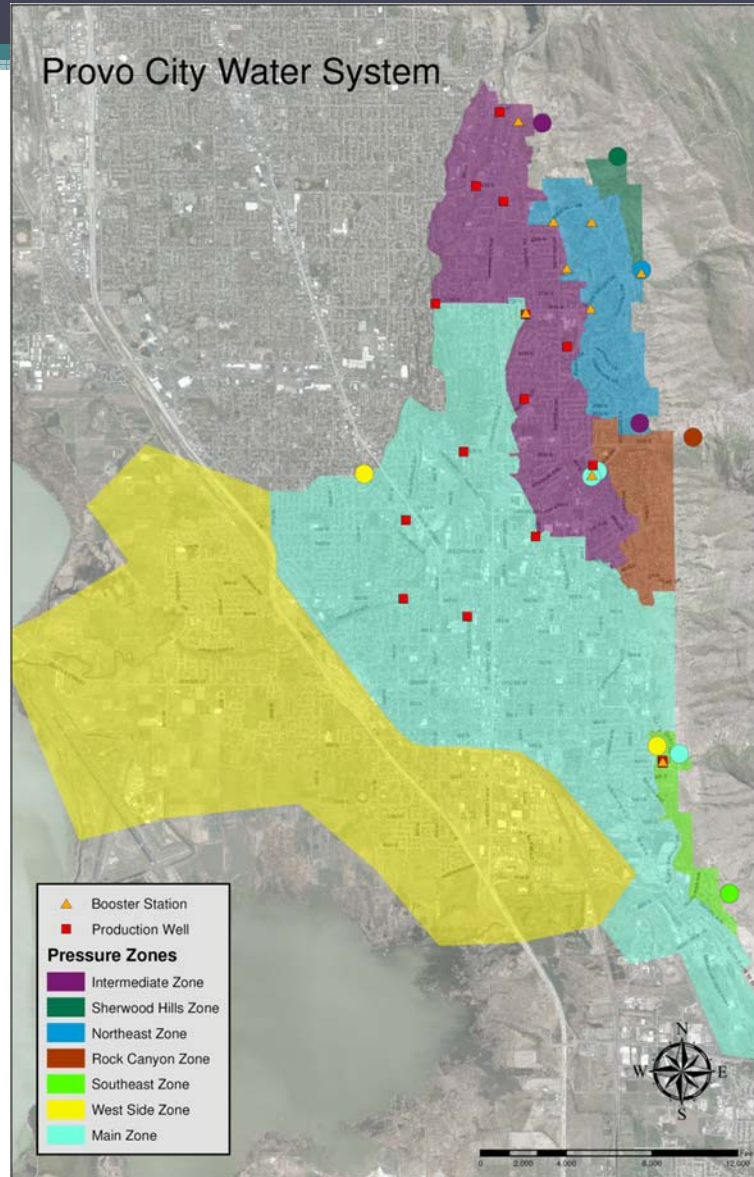
¹ Based on State of Utah's conservation goal in 2000.



PROVO CITY TOTAL ANNUAL WATER PRODUCTION



Provo City Water System

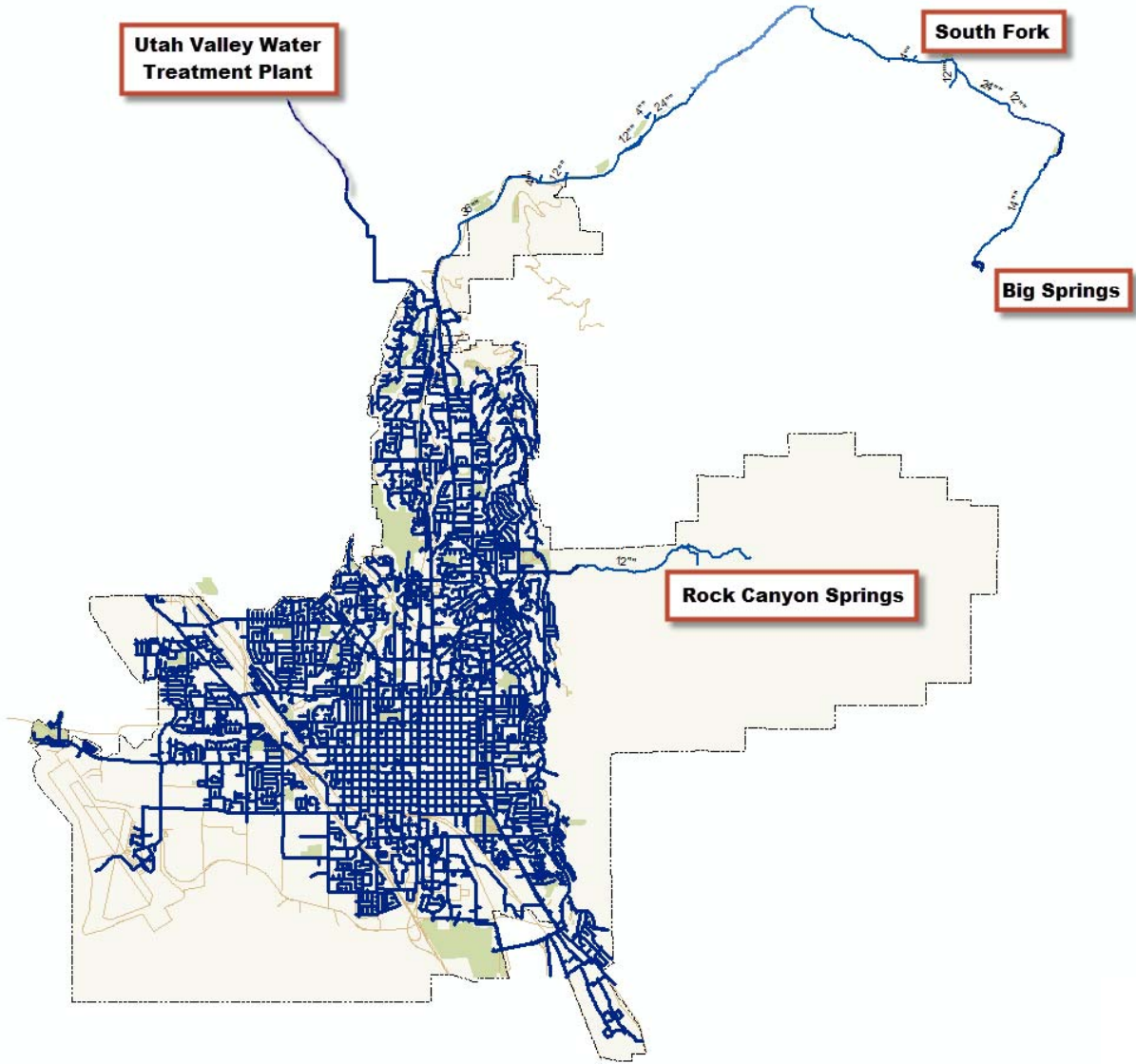


**Utah Valley Water
Treatment Plant**

South Fork

Big Springs

Rock Canyon Springs



Tables ES-2 and ES-3 summarize the amount of water available to Provo City in 2010 and 2060 respectively. Estimated usable yield is provided for both average and dry years.

**Table ES-2
Usable Yield of Current Provo City Culinary Water Sources**

Water Source	Usable Yield in Average Year (acre-ft)	Usable Yield in Dry Year (acre-ft)
Springs ¹	14,100	10,070
Big Springs ¹	0	0
a9902 Consolidation Wells, BYU Well, and Misc. Other Wells	20,940	20,940
a22983 UMPA Wells	1,570	1,570
a19153 Provo River Rights ²	14,240	12,120
Misc. Provo River Rights	870	695
Deer Creek Storage ²	2,150	1,080
Jordanelle Storage	860	860
CUP Water	1,800	1,800
Total	56,530	49,135

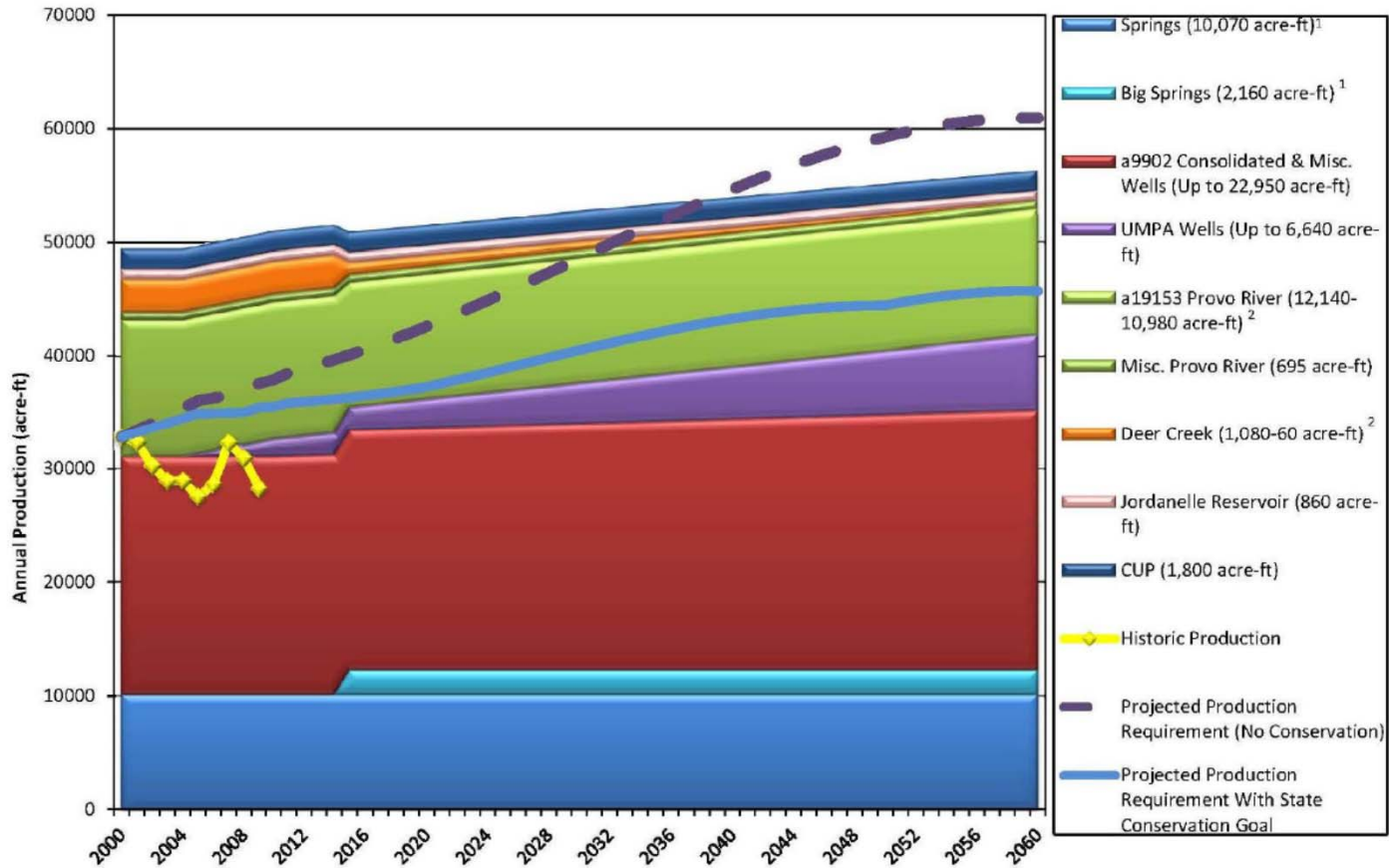
Table ES-3
Projected Usable Yield of Future Provo City Culinary Water Sources at Buildout

Water Source	Usable Yield in Average Year (acre-ft)	Usable Yield in Dry Year (acre-ft)
Springs ¹	14,100	10,070
Big Springs ¹	3,870	2,160
a9902 Consolidation Wells, BYU Well, and Misc. Other Wells	22,950	22,950
a22983 UMPA Wells	6,640	6,640
a19153 Provo River Rights ²	12,140	10,980
Misc. Provo River Rights	870	695
Deer Creek Storage ²	380	60
Jordanelle Storage	860	860
CUP Water	1,800	1,800
Total	63,610	56,215

¹ Includes Provo City rights and exchange water from a19153 Provo River Rights & Deer Creek Storage.

² Available after exchanges are satisfied.

**Figure ES-1
Annual Projected Production Requirement (Dry Year)**

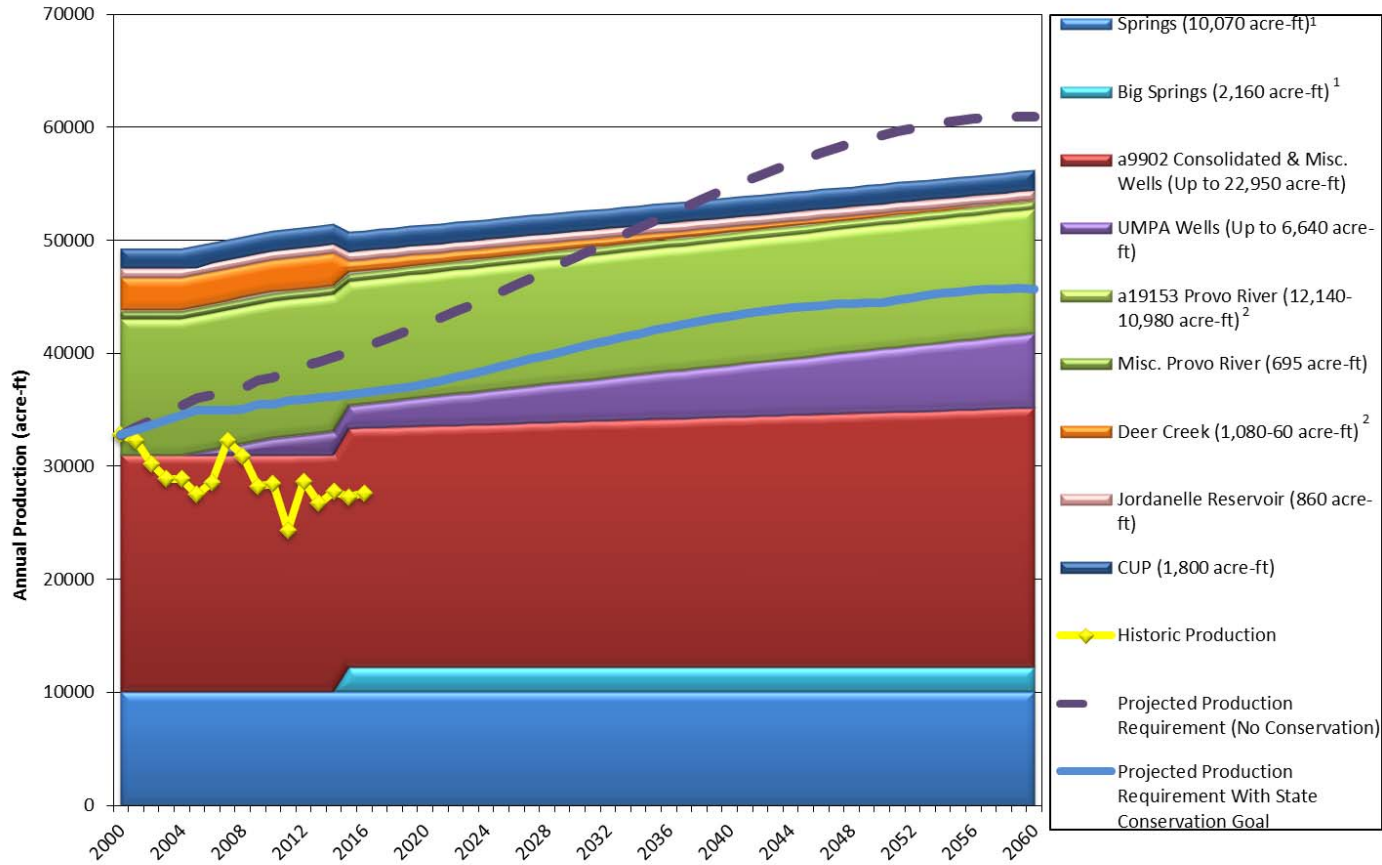


¹ Includes rights along exchange water from a19153 Provo River Rights & Deer Creek Storage.

² Available after exchanges are satisfied.

³ Production estimated based on historic water production.

Annual Projected Production Requirements (Dry Year) Updated through 2016

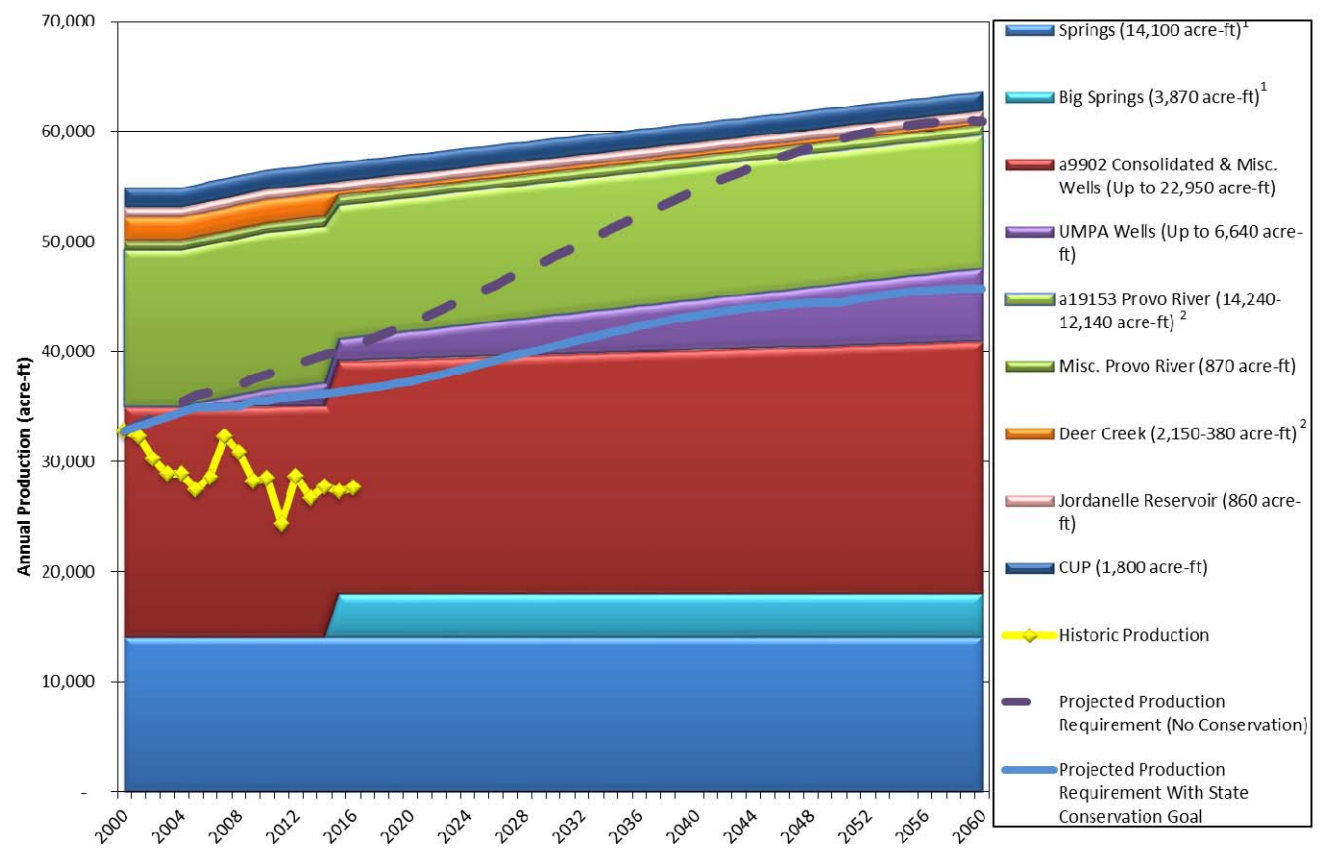


¹ Includes rights along exchange water from a19153 Provo River Rights & Deer Creek Storage.

² Available after exchanges are satisfied.

³ Production estimated based on historic water production.

Annual Projected Production Requirements (Average Year) Updated Through 2016



¹ Includes rights along exchange water from a19153 Provo River Rights & Deer Creek Storage.
² Available after exchanges are satisfied.
³ Production estimated based on historic water production.




Figure ES-1 shows the projected annual production requirement for Provo City through 2060. Also shown in the figure are the potential sources available to meet the projected annual production requirements during dry water year conditions. Based on this analysis, a number of conclusions can be made regarding annual yield of Provo City sources:

- During dry years, there appears to be adequate usable yield to meet projected production requirements through buildout, but only with significant conservation. If no conservation occurs, the yield of City sources in dry years will fall short of projected annual production requirements.
- In the five years since the City's last conservation plan, the City has demonstrated an average reduction in per capita water production of 20 percent. From this, it is apparent that the City is ahead of the State's recommended minimum level of conservation and is already making significant progress toward the State's long-term goal of 25 percent conservation. However, Provo City will need to continue to emphasize and encourage conservation if it wants to sustain its current levels of conservation and meet its long-term conservation goals.

Peak Day Production Capacity

It is not enough to consider source availability only on an annual basis. It must also be adequate to meet production requirements on a peak day. Projected peak day production capacities of each Provo City source are also summarized in Tables ES-4 and ES-5.

Table ES-4
Peak Day Production Capacity of Current Provo City Culinary Water Sources

Water Source	Peak Production in Average Year (mgd)	Peak Production in Dry Year (mgd)
Existing Springs ¹	13.9	9.9
Big Springs ¹	0	0
a9902 Consolidation Wells, BYU Well, and Misc. Other Wells	31.1	31.1
a22983 UMPA Wells	5.4	5.4
Surface Water Treatment	25.9	25.9
Total	76.3	72.3

Table ES-5
Peak Day Production Capacity of Future Provo City Culinary Water Sources at Buildout

Water Source	Peak Production in Average Year (mgd)	Peak Production in Dry Year (mgd)
Existing Springs ¹	13.9	9.9
Big Springs ¹	2.9	1.5
a9902 Consolidation Wells, BYU Well, and Misc. Other Wells	31.1	31.1
a22983 UMPA Wells	20.7	20.7
Surface Water Treatment	25.9	25.9
Total	94.5	89.1

Figure ES-2 shows the projected peak day production requirement for the Provo City distribution system through 2060. Also shown on the figure are the potential sources available to meet the projected peak day production requirements during a dry year. Based on this analysis, several conclusions can be made regarding peak day production capacity:


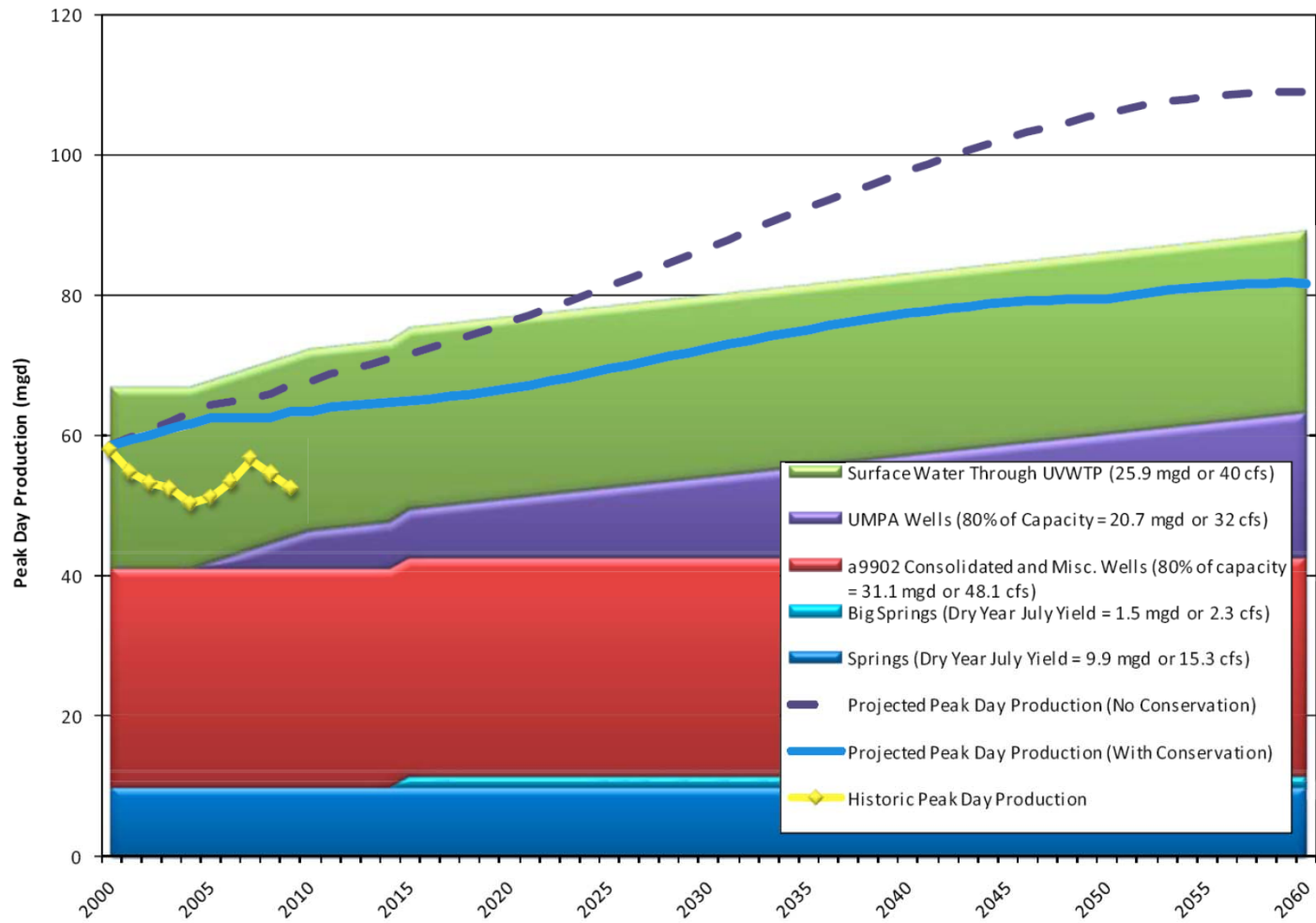
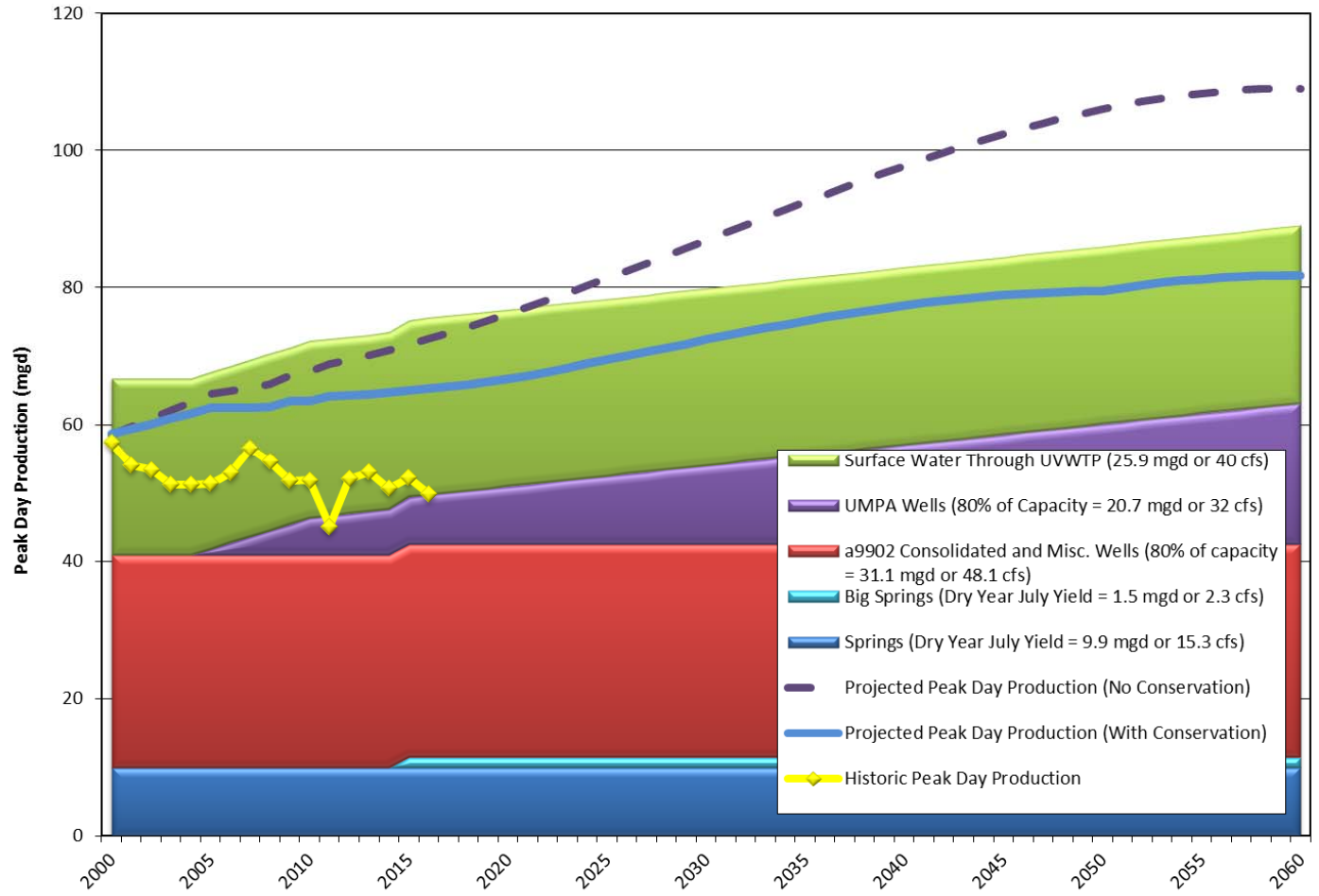
- 
- If the City does not conserve, it will not have adequate peak day production capacity to meet future production requirements. Even with the development of all currently planned future sources, production requirements without conservation will exceed production capacity as early as 2020.
 - If the City does meet its future conservation goals, its peak day production capacity should be adequate to meet future production requirements.
 - The development of new source production capacity including Big Springs and additional UMPA wells is critical to meeting future production requirements. Without these new sources, the peak day production capacity of the City will begin to fall short of production by about 2025, even with conservation.
 - The UVWTP is essential to the City's ability to meet future peak production requirements. Even with conservation, the City will require no less than 30 cfs of reliable capacity from the plant.

Figure ES-2
Projected Peak Day Production Requirements vs. Source Capacity (Dry Year)



*2009 was a wet year.

Projected Peak Day Production Requirements vs. Source Capacity (Dry Year) Updated Through 2016



*2009 was a wet year.

Table 3-11
Peak Day Production Capacity of Current Provo City Culinary Water Sources

Water Source	Peak Production in Average Year (mgd)	Peak Production in Dry Year (mgd)
Springs ¹	13.9	9.9
Big Springs ¹	0	0
a9902 Consolidation Wells, BYU Well, and Misc. Other Wells	31.1	31.1
a22983 UMPA Wells	5.4	5.4
Surface Water Treatment	25.9	25.9
Total	76.3	72.3

Table 3-12
Peak Day Production Capacity of Future Provo City Culinary Water Sources at Buildout

Water Source	Peak Production in Average Year (mgd)	Peak Production in Dry Year (mgd)
Springs ¹	13.9	9.9
Big Springs ¹	2.9	1.5
a9902 Consolidation Wells, BYU Well, and Misc. Other Wells	31.1	31.1
a22983 UMPA Wells	20.7	20.7
Surface Water Treatment	25.9	25.9
Total	94.5	89.1



Supply and Demand Recommendations

A number of recommendations can be made based on the supply and demand analysis above:

- If current growth and water use patterns continue, Provo City will have sufficient water supplies to meet average and dry water year annual production requirements through buildout with conservation. Therefore, it is not necessary for the City to aggressively pursue any new water sources beyond those identified here.
- It is recommended that conservation programs be continued as outlined in the City's Conservation Plan to help ensure that the City will continue to make progress toward the State's conservation goal.
- Two currently planned water supply projects will be critical to meeting future needs. It is recommended that the City move forward with the development of Big Springs and several new wells under the available UMPA water rights. Total UMPA well capacity should be no less than 25.9 mgd (40 cfs).
- The City should investigate using the City Center well again in the culinary system.
- The City currently uses water from the UVWTP on a capacity available basis. To meet future production requirements, it is recommended that the City work to ensure that it has priority in the plant during summer months for the treatment of its surface water supplies. Based on current projections, it appears that the current capacity of 25.9 mgd (40 cfs) should be adequate to meet production requirements though buildout.



SYSTEM STORAGE


Regulations established by the State of Utah require that water systems have storage facilities sufficient to provide three types of storage:

- Equalization storage – Storage needed to supply the system for periods when demands exceed the supply on a day to day basis.
- Emergency storage – Storage needed to meet water demand during an emergency situation such as a supply line break a long-term power outage.
- Fire suppression storage – Storage needed to provide a required fire flow for a period of time as specified by the local fire authority.

An evaluation of the City water storage facilities for projected future conditions is shown in Table ES-6.

**Table ES-6
Storage Requirements by Zone – Projected Demand 2060**

Zone	Peak Day Demand (gpm)	Equalization Storage (gallons)	Emergency Storage (gallons)	Fire Flow Storage (gallons)	Total Storage Requirement (gallons)	Zone of Tank Serving This Zone	Available Storage (gallons)	Storage Surplus/(shortage) by Zone (gallons)	Storage Surplus/(shortage) Total (gallons)	Potential Contributing Upstream Zones
1	105	37,800	37,800	0	75,600	18	0	(75,600)	0	Zone 18 (Northeast)
2	2	700	700	0	1,400	18	0	(1,400)	0	
3	26	9,400	9,400	0	18,800	18	0	(18,800)	0	
4	1	400	400	0	800	18	0	(800)	0	
5	1	400	400	0	800	18	0	(800)	0	
6	164	59,000	59,000	0	118,000	27	0	(118,000)	(118,000)	Zone 27 (Rock Canyon)
7	249	89,600	89,600	0	179,200	27	0	(179,200)	(179,200)	
8	62	22,300	22,300	0	44,600	27	0	(44,600)	(44,600)	
9	195	70,200	70,200	0	140,400	18	0	(140,400)	0	
10	485	174,600	174,600	0	349,200	18	0	(349,200)	0	Zone 18 (Northeast)
12	159	57,200	57,200	0	114,400	18	0	(114,400)	0	
13 (Intermediate)	6,073	2,186,300	2,186,300	1,440,000	5,812,600	13	8,000,000	2,187,400	1,121,800	None
14	441	158,800	158,800	0	317,600	17	0	(317,600)	0	Zone 17 (Main)
15	238	85,700	85,700	0	171,400	18	0	(171,400)	0	Zone 18 (Northeast)
16	60	21,600	21,600	0	43,200	18	0	(43,200)	0	
17 (Main)	43,588	15,691,700	15,691,700	1,440,000	32,823,400	17	11,000,000	(21,823,400)	(22,143,200)	None
18 (Northeast)	612	220,300	220,300	0	440,600	18	5,000,000	4,559,400	3,465,800	None
19	430	154,800	154,800	0	309,600	13	0	(309,600)	0	Zone 13 (Intermediate)
20	64	23,000	23,000	0	46,000	18	0	(46,000)	0	Zone 18 (Northeast)
21	84	30,200	30,200	0	60,400	18	0	(60,400)	0	
22	99	35,600	35,600	0	71,200	18	0	(71,200)	0	
23 (Sherwood Hills)	103	37,100	37,100	240,000	314,200	23	500,000	185,800	185,800	None
24 (Slate Canyon)	793	285,500	285,500	240,000	811,000	24	5,000,000	4,189,000	4,189,000	None
25 (Southeast)	615	221,400	221,400	240,000	682,800	25	2,000,000	1,317,200	1,317,200	None
26	224	80,600	80,600	0	161,200	27	0	(161,200)	(161,200)	Zone 27 (Rock Canyon)
27 (Rock Canyon)	841	302,800	302,800	240,000	845,600	27	500,000	(345,600)	(345,600)	None
28 (Gillespie)	1	400	400	0	800	17	0	(800)	0	Zone 17 (Main)
29	961	346,000	346,000	0	692,000	13	0	(692,000)	0	Zone 13 (Intermediate)
30	2	700	700	0	1,400	17	0	(1,400)	0	Zone 17 (Main)
31	89	32,000	32,000	0	64,000	13	0	(64,000)	0	Zone 13 (Intermediate)
Total	56,767	20,436,100	20,436,100	3,840,000	44,712,200		32,000,000		(12,712,200)	



The following conclusions can be made regarding storage in the Provo City water distribution system:

1. Total Storage – The Provo City water system currently has a total of 32.0 mg of storage. Based on the criteria described previously, the water system currently has a deficiency of 3.6 mg of storage. By 2060, the system will have a storage deficiency of 12.7 mg if additional storage facilities are not constructed. It should be noted that these totals only reflect the system as a whole. When storage is considered for individual zones, there are existing deficits in Zones 17 and 27.
2. Zone 27 (Rock Canyon) – The Rock Canyon storage reservoir provides storage to pressure zones 6, 7, 8, 26, and 27. Approximately 800,000 gallons of additional storage is required now, with an additional 50,000 needed by buildout. One thing that may help with this deficit is a normally closed connection with between Zone 27 (Rock Canyon) and Zone 18 (Northeast). The Northeast Reservoir has a large surplus of storage for both existing and future conditions. In an emergency, this connection could be opened to bring water from the Northeast Reservoir into Zone 27.
3. Zone 17 (Main) – The Main and Gallery storage reservoirs provides storage to Zones 14 and 17 (Main). There is an existing shortfall of 9 mg and a buildout shortfall of 22 mg. However, Zone 17 (Main) is connected to Zone 24 (Slate Canyon) by a normally closed 12-inch connection that will allow approximately 4 mg of storage from Zone 24 to be utilized in an emergency. This connection is controlled by a spring loaded one-way valve that opens when pressure drops in Zone 17 (Main).



System Storage Recommendations

Based on the storage analysis above, BC&A would recommend the following action:

1. **Construct New Storage in Zone 17 (Main)** – It is recommended that plans be made to construct new storage facilities in Zone 17 (Main). The immediate need for storage appears to be at least 10 mg with a long-term need of 18 mg. It is recommended that approximately 10 mg of additional storage be constructed to meet short-term system requirements. In the future, an additional 8 mg of storage should be constructed as demands increase.




Model Results

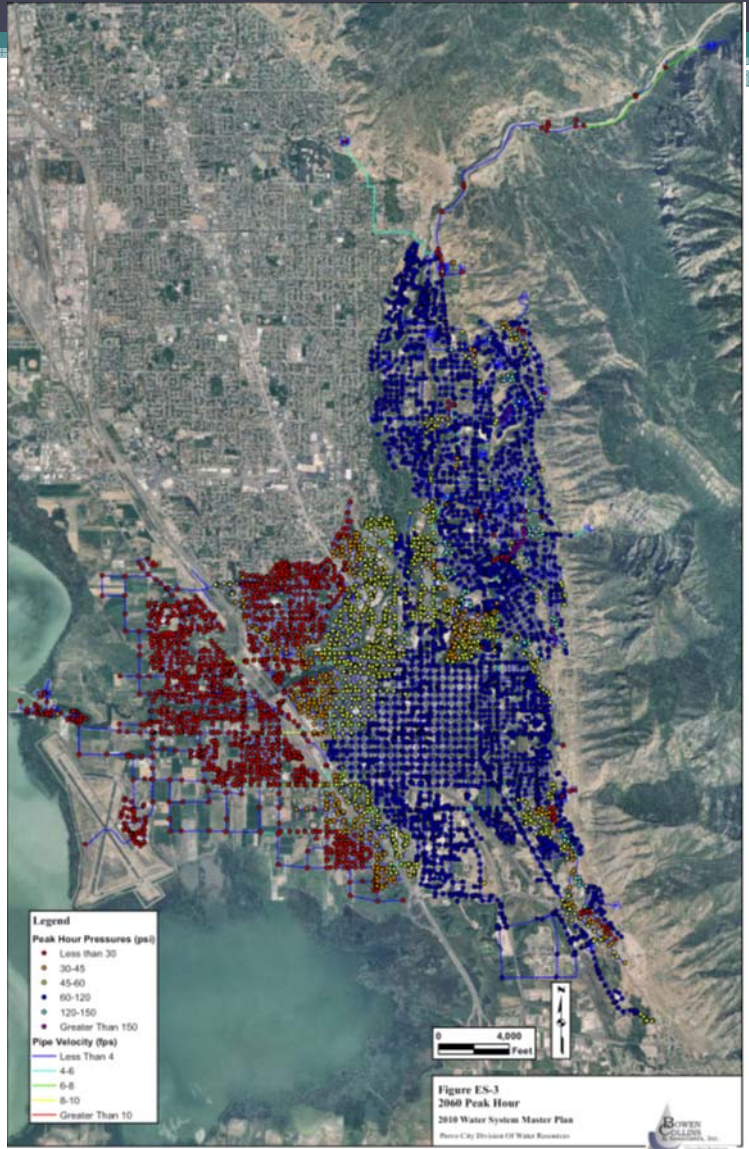
Model results for the most critical evaluation scenarios are included in the following figures:

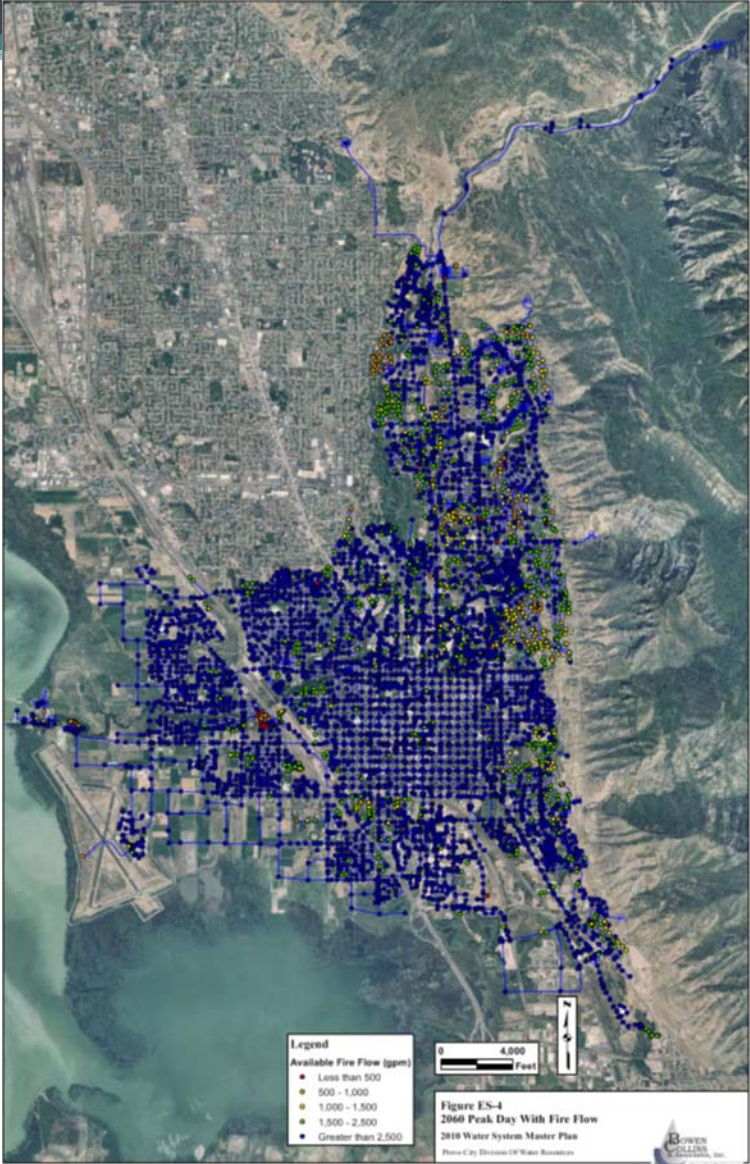
1. Figure ES-3 shows pressures for the 2060 Peak Hour Scenario.
2. Figure ES-4 shows available fire flow for the 2060 Peak Day Scenario.

Based on the results of the computer model evaluation, other analysis, and input from City personnel, a number of projected future deficiencies in the Provo City distribution system have been identified:

- **Zone 17 Conveyance Capacity** – A number of the pressure problems exist develop in the buildout scenario on the west side of Zone 17 (Main). This is the result of insufficient capacity to convey water to the high growth areas west of I-15.

- 
- **Static Pressures West of I-15** – The lower part of Zone 17 currently has static pressures well above 120 psi. To limit the area with high pressures, it is recommended that the area west of the freeway and south of the railroad be separated into a new pressure zone.
 - **48” Pipeline Redundancy** – There is an existing 48” pipeline that runs from the Gillespie Weir House to the Gallery and Main storage reservoirs. This pipeline provides the sole means of conveyance for water from the City’s spring sources in Provo Canyon and treated water from the UVWTP. If this pipeline were damaged or otherwise taken out of service, the City would be unable to provide service to its customers. A redundant means of conveyance is needed for this pipeline.
 - **Fire Flow Deficiencies** – While the vast majority of Provo City fire flows look good, there are a few scattered areas where improvements are needed. This includes areas served by 4-inch pipelines or areas at the end of long dead end pipelines.









SYSTEM IMPROVEMENTS

Various alternatives for correcting the deficiencies identified above were evaluated using the system hydraulic model. Those improvements that appear to result in the most cost effective solutions are shown in Figure ES-5. The estimated cost of the improvements shown in the figure is summarized in Table ES-7.

**Table ES-7
Recommended Capital Improvements**

Project	Description	Quantity	Unit	Unit Cost	Construction Cost (With 20% Contingency)	Engineering (15%)	Total Project Cost
CAPITAL IMPROVEMENT PROJECTS							
1	Zone 17 Storage and Transmission Project						
	10 MG of Storage	10	MG	\$ 483,799			
	20" Pipeline	4,400	LF	\$ 179			
	16" Pipeline	2,200	LF	\$ 144			
	12" Pipeline	500	LF	\$ 117	\$ 7,201,000	\$ 1,080,000	\$ 8,281,000
2	48" Pipeline	21,000	LF	\$ 533	\$ 13,432,000	\$ 2,015,000	\$ 15,447,000
3	Creation of a New Zone II (Six New PRV's)	1	LS	\$ 420,000	\$ 504,000	\$ 76,000	\$ 580,000
4	Canyon Road Transmission Line						
	36" Pipeline	4,600	LF	\$ 373			
	24" Pipeline	2,300	LF	\$ 226			
	20" Pipeline	600	LF	\$ 179	\$ 2,812,000	\$ 422,000	\$ 3,234,000
5	800 N. Transmission Line						
	24" Pipeline	16,000	LF	\$ 226			
	16" Pipeline	3,250	LF	\$ 144			
	20" PRV Station	1	LS	\$ 75,000	\$ 4,991,000	\$ 749,000	\$ 5,740,000
6	Center Street Transmission Line						
	24" Pipeline	2,600	LF	\$ 226			
	20" Pipeline	5,450	LF	\$ 179			
	20" PRV Station	1	LS	75,000	\$ 1,966,000	\$ 295,000	\$ 2,261,000
7	8 MG of Storage in Zone 17	8	0	483,799	\$ 4,644,000	\$ 697,000	\$ 5,341,000
8	Upsize of Distribution Pipelines for Future Development	73,000	LF	39	\$ 3,416,000	\$ 512,000	\$ 3,928,000
TOTAL CAPITAL IMPROVEMENT PROJECTS COST							\$ 44,812,000
SUPPLY IMPROVEMENT PROJECTS							
S-1	Big Springs	1	LS	\$ 1,957,000	\$ 2,348,000	\$ 352,000	\$ 2,700,000
S-2	UMPA Well Improvements (Six Wells Total)	6	EA	\$ 1,062,000	\$ 7,646,000	\$ 1,144,000	\$ 8,790,000
TOTAL SUPPLY IMPROVEMENTS							\$ 11,490,000

Project	Description	Quantity	Unit	Unit Cost	Construction Cost (With 20% Contingency)	Engineering (15%)	Total Project Cost
FIREFLOW IMPROVEMENT PROJECTS							
FF-1	1,600 feet of 8" pipe from 3500 N to 3900 N. between Univ. Ave. and Canyon Rd.	1,600	LF	\$ 103	\$ 198,000	\$ 30,000	\$ 228,000
FF-2	250 feet of 8" pipe from Crestview west along 3950 N.	250	LF	\$ 103	\$ 31,000	\$ 5,000	\$ 36,000
FF-3	1,500 feet of 10" pipe along 300 W then West along 4630 N. then south along 450 W.	1,500	LF	\$ 112	\$ 202,000	\$ 30,000	\$ 232,000
FF-4	6" PRV and 1,700 feet of 8" pipeline along Oneida and 2680 N.	1,700	LF	\$ 103	\$ 210,000	\$ 32,000	\$ 242,000
FF-5	300 feet of 8" pipe at approximately 200 E. and 2500 N.	300	LF	\$ 103	\$ 37,000	\$ 6,000	\$ 43,000
FF-6	50 feet of 8" pipe to replace 2" line at Compost Yard.	50	LF	\$ 103	\$ 6,000	\$ 1,000	\$ 7,000
FF-7	50 feet of 8" pipe to connect 140 E. and 3200 N. with apartment complex.	50	LF	\$ 103	\$ 6,000	\$ 1,000	\$ 7,000
FF-8	225 feet of 8" pipe from 2320 N. to connect to School pipeline.	225	LF	\$ 103	\$ 28,000	\$ 4,000	\$ 32,000
FF-9	Ensure there's multiple connections for pipe connecting Wymount to Oak Lane.	100	LF	\$ 103	\$ 12,000	\$ 2,000	\$ 14,000
FF-10	150 feet of 8" pipe and 6" PRV to Connect Wymount to Locust.	150	LF	\$ 103	\$ 19,000	\$ 3,000	\$ 22,000
FF-11	950 feet of 8" pipe along Terrace Dr. to connect waterlines.	950	LF	\$ 103	\$ 117,000	\$ 18,000	\$ 135,000
FF-12	500 feet of 8" pipe from 2200 N. south along 2300 W.	500	LF	\$ 103	\$ 62,000	\$ 9,000	\$ 71,000
FF-13	2,050 feet of 8" pipe from 2300 N. running north along 850 W.	2,050	LF	\$ 103	\$ 253,000	\$ 38,000	\$ 291,000
FF-14	850 feet of 8" along Brentwood Dr.	850	LF	\$ 103	\$ 105,000	\$ 16,000	\$ 121,000
FF-15	6" PRV on Bannock Dr. and Apache Lane	-	LF	\$ 103	\$ 48,000	\$ 7,000	\$ 55,000
FF-16	300 feet of 8" pipe in apartment complex at intersection Stadium Dr and	300	LF	\$ 103	\$ 37,000	\$ 6,000	\$ 43,000
FF-17	6" PRV on 1060 E. and 2570 N.	-	LF	\$ 103	\$ 48,000	\$ 7,000	\$ 55,000
FF-18	2,500 feet of 8" pipe within KOA campground to replace 4" pipes.	2,500	LF	\$ 103	\$ 309,000	\$ 46,000	\$ 355,000
FF-19	6,000 feet of 12" and 3,600 feet of 8" from Center St. and 3110 W. west to boat harbor and campground. 8" pipe is within campground and boat	9,600	LF	\$ 119	\$ 1,371,000	\$ 206,000	\$ 1,577,000
FF-20	900 feet of 8" pipe from Timpvew and 2550N. west and north to 530 E. and 2600 N.	900	LF	\$ 103	\$ 111,000	\$ 17,000	\$ 128,000
FF-21	700 feet of 8" pipe near intersection of Canyon Rd and University Ave. east.	700	LF	\$ 103	\$ 87,000	\$ 13,000	\$ 100,000
FF-22	530 feet of 8" pipe along Park View Ln.	530	LF	\$ 103	\$ 66,000	\$ 10,000	\$ 76,000
TOTAL FIRE FLOW PROJECTS COST							\$ 3,870,000
TOTAL IMPROVEMENT PROJECTS COST							\$ 60,172,000

SYSTEM RENEWAL

As with most things, each component of a water system has a finite service life. As such, it is necessary to continually budget money for the rehabilitation or replacement of these system components. If adequate funds are not set aside for regular system renewal, the water system will fall into disrepair and be incapable of providing the level of service customers in Provo City expect. Based on the value of the City's existing system, it is recommended that the City's annual budget for system renewal be between \$5.0 and \$6.6 million to maintain the water system in good operating condition. Historically, the City has spent about \$2.5 million per year for capital improvements in the water system. Because much of the system is still relatively new, this may be acceptable for a short period. However, in the long run, it is recommended that the City gradually increase its capital improvement budget until it falls within the range recommended above.

CAPITAL FACILITIES PLAN

A proposed capital facilities plan and budget for the Provo City water system are shown in Table ES-8 and Figure ES-6. Included in these exhibits is the budget required for system improvements as outlined in this report as well as an annual budget category for replacement/rehabilitation of water facilities. Since available funds for rehabilitation and replacement in the Provo City system have historically been less than recommended amounts, the table and figure include a 10 year phase in period to slowly increase funding into the system.

**Table ES-8
Capital Improvements Budgeting Schedule**

Project #	Project Description	Estimated FYE 2012 Total Cost ^{1,2}	FYE 2012	FYE 2013	FYE 2014	FYE 2015	FYE 2016	FYE 2017	FYE 2018	FYE 2019	FYE 2020	FYE 2021
CIP-1	Zone 17 Storage and Transmission Project	\$ 8,281,000	\$ 100,000	\$ 8,426,430								
CIP-2	48" Pipeline	\$ 15,447,000		\$ 600,000	\$ 3,000,000	\$ 13,152,814						
CIP-3	Creation of a New Zone 11 (Six New PRV's)	\$ 580,000				\$ 633,782						
CIP-4	Canyon Road Transmission Line	\$ -										
CIP-5	800 N. Transmission Line	\$ 5,740,000					\$ 1,292,084	\$ 3,327,117	\$ 2,056,158			
CIP-6	Center Street Transmission Line	\$ -										
CIP-7	8 MG of Storage in Zone 17	\$ -										
CIP-8	Upsize of Distribution Pipelines for Future Development	\$ 3,928,000	\$ 131,000	\$ 134,930	\$ 138,978	\$ 143,147	\$ 147,442	\$ 151,865	\$ 156,421	\$ 161,113	\$ 165,947	\$ 170,925
S-1	UMPA Well Development	\$ 1,290,000	\$ 600,000	\$ 710,700								
S-2	Big Springs	\$ 2,700,000	\$ 50,000	\$ 2,729,500								
FF-1	1,600 feet of 8" pipe from 3500 N to 3900 N. between Univ. Ave. and Canyon Rd.	\$ 228,000					\$ 256,616					
FF-2	250 feet of 8" pipe from Crestview west along 3950 N.	\$ 36,000					\$ 40,518					
FF-3	1,500 feet of 10" pipe along 300 W then West along 4630 N. then south along 450 W.	\$ 232,000					\$ 261,118					
FF-4	6" PRV and 1,700 feet of 8" pipeline along Oncida and 2680 N.	\$ 242,000					\$ 272,373					
FF-5	300 feet of 8" pipe at approximately 200 E. and 2500 N.	\$ 43,000					\$ 48,397					
FF-6	50 feet of 8" pipe to replace 2" line at Compost Yard.	\$ 7,000					\$ 7,879					
FF-7	50 feet of 8" pipe to connect 140 E. and 3200 N. with apartment complex.	\$ 7,000					\$ 7,879					
FF-8	225 feet of 8" pipe from 2320 N. to connect to School pipeline.	\$ 32,000					\$ 36,016					
FF-9	Ensure there's multiple connections for pipe connecting Wymount to Oak Lane.	\$ 14,000					\$ 15,757					
FF-10	150 feet of 8" pipe and 6" PRV to Connect Wymount to Locust.	\$ 22,000					\$ 24,761					
FF-11	950 feet of 8" pipe along Terrace Dr. to connect waterlines.	\$ 135,000							\$ 161,197			
FF-12	500 feet of 8" pipe from 2200 N. south along 2300 W.	\$ 71,000							\$ 84,778			
FF-13	2,050 feet of 8" pipe from 2300 N. running north along 850 W.	\$ 291,000							\$ 347,469			
FF-14	850 feet of 8" along Brentwood Dr.	\$ 121,000							\$ 144,480			
FF-15	6" PRV on Bannock Dr. and Apache Lane	\$ 55,000							\$ 65,673			
FF-16	300 feet of 8" pipe in apartment complex at intersection Stadium Dr and Canyon Rd.	\$ 43,000							\$ 51,344			
FF-17	6" PRV on 1060 E. and 2570 N.	\$ 55,000							\$ 65,673			
FF-18	2,500 feet of 8" pipe within KOA campground to replace 4" pipes.	\$ 355,000								\$ 436,605		
FF-19	6,000 feet of 12" and 3,600 feet of 8" from Center St. and 3110 W. west to boat harbor.	\$ 1,577,000									\$ 1,997,696	
FF-20	900 feet of 8" pipe from Timpvie and 2550N. west and north to 530 E. and 2600 N.	\$ 128,000								\$ 157,424		
FF-21	700 feet of 8" pipe near intersection of Canyon Rd and University Ave. east.	\$ 100,000								\$ 122,987		
FF-22	530 feet of 8" pipe along Park View Ln.	\$ 100,000								\$ 122,987		
	Replacement of Existing Facilities ⁴		\$ 565,000	\$ 250,000	\$ 600,000	\$ 642,000	\$ 973,634	\$ 125,000	\$ 934,225	\$ 3,389,449	\$ 2,561,795	\$ 4,856,691
	Further Capital Facility and Impact Fee Studies				\$ 10,000			\$ 115,927				
	Miscellaneous Projects		\$ 2,461,000	\$ 115,070	\$ 118,522	\$ 122,078	\$ 125,740	\$ 129,512	\$ 133,398	\$ 137,400	\$ 141,522	\$ 145,767
	Total Improvements	\$ 41,860,000	\$ 3,907,000	\$ 12,966,630	\$ 3,867,500	\$ 14,693,821	\$ 3,510,214	\$ 3,849,421	\$ 4,200,816	\$ 4,527,966	\$ 4,866,960	\$ 5,173,384
	Bond Revenue	\$ (19,100,000)		\$ (8,700,000)		\$ (10,400,000)						
	Existing Bond Payments		\$ 212,262	\$ 212,262	\$ 212,262	\$ 212,262	\$ 212,262	\$ 212,262	\$ 212,262	\$ 212,262	\$ 212,262	\$ 212,262
	Bond Payment (2013)				\$ 758,506	\$ 758,506	\$ 758,506	\$ 758,506	\$ 758,506	\$ 758,506	\$ 758,506	\$ 758,506
	Bond Payment (2015)						\$ 906,719	\$ 906,719	\$ 906,719	\$ 906,719	\$ 906,719	\$ 906,719
	Total Capital Improvement Budget	\$ 41,860,000	\$ 4,119,262	\$ 4,478,892	\$ 4,838,268	\$ 5,264,588	\$ 5,387,701	\$ 5,726,908	\$ 6,078,303	\$ 6,405,453	\$ 6,744,447	\$ 7,050,871

¹ Carry-over amounts from previous fiscal years are not shown.

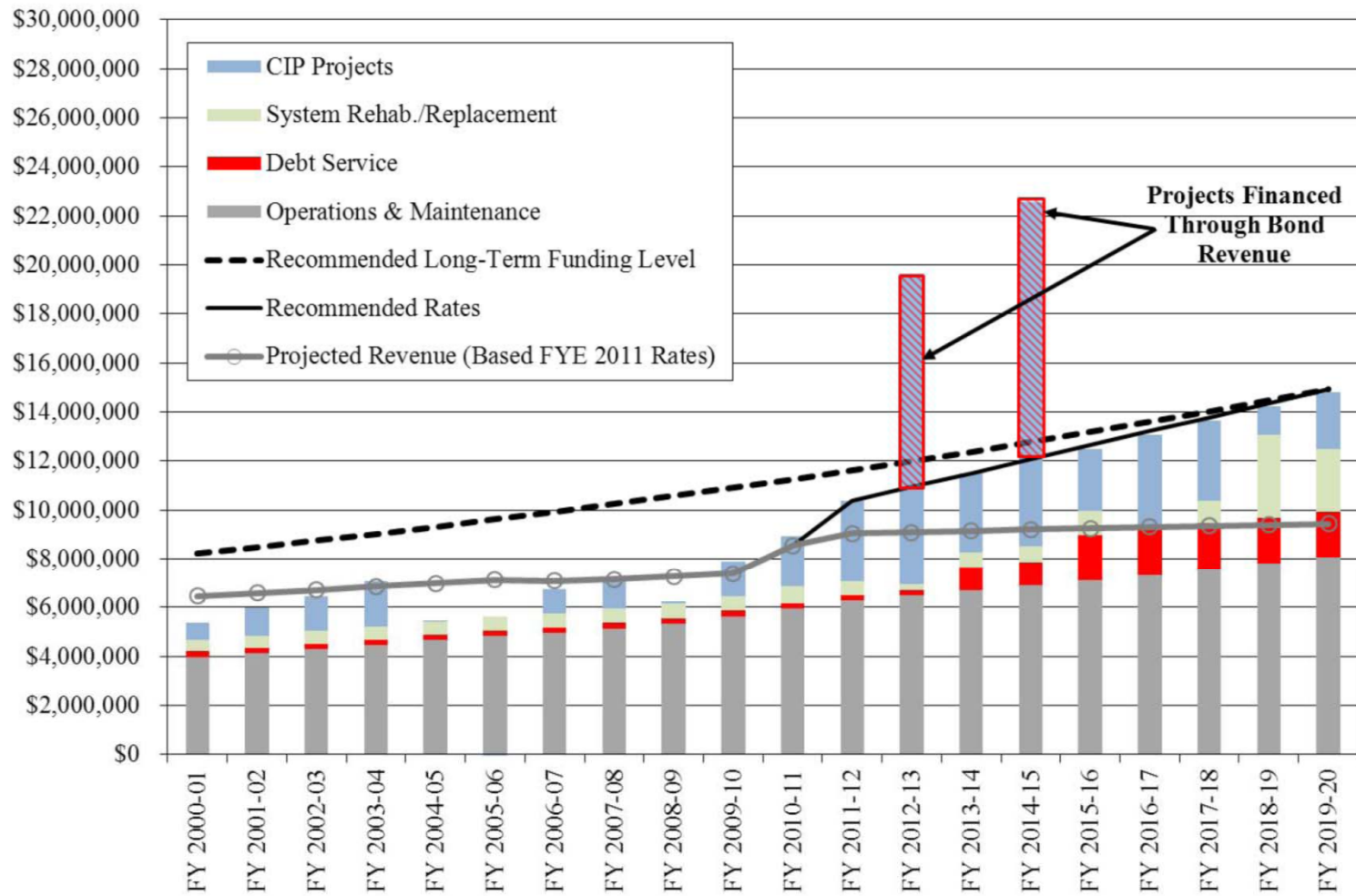
² Inflation rate of 3.0% applied to capital costs in future years.

³ Estimated costs above the budgeted values or surplus budget dollars are applied in future years.

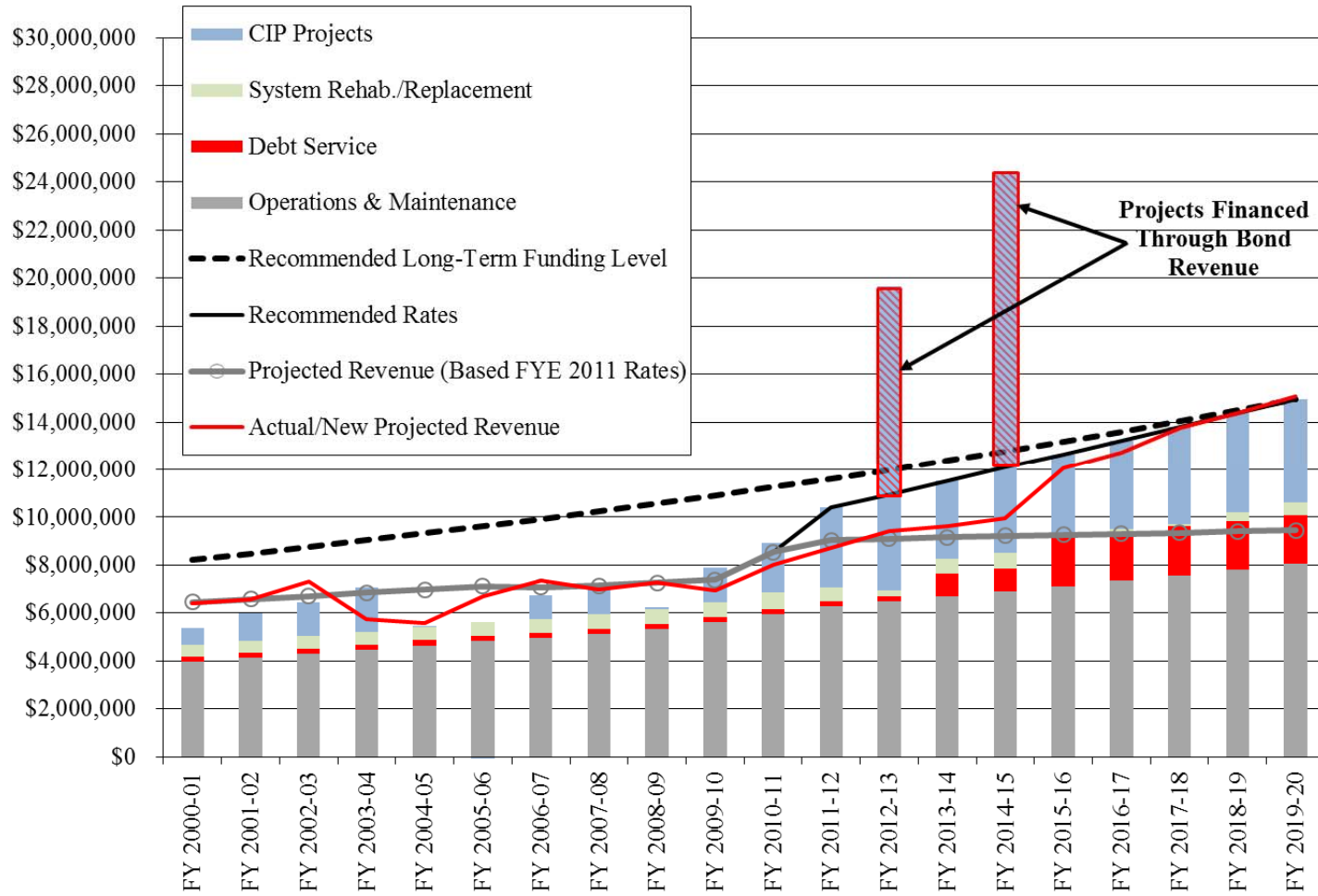
⁴ Total Infrastructure Replacement Value estimated to be \$400,000,000 with an average life of 60 years.

⁶ Includes miscellaneous Capital Outlays such as: meter replacement, security improvements, hydrant replacement, service line replacement, raise valves, cash to reserves, etc.

**Figure ES-6
10-Year Implementation Plan**



10-Year Implementation Plan with Updated Revenue





IMPACT FEE FACILITIES PLAN

The capital facilities plan outlined above includes all system improvements recommended for the Provo City water system. As defined in Section 11-36-304, the impact fee facilities plan should only include “the proportionate share of the costs of public facilities [that] are reasonably related to the new development activity.” While most projects from the capital facilities plan are required to meet future growth, some projects do remedy existing deficiencies. Projects that benefit existing users include those projects addressing existing capacity deficiencies and maintenance related projects.

To satisfy the requirements of state law, Table ES-9 provides a breakdown of the capital facility plan projects and the percentage of the project costs attributed to existing and future users. Included in the table are bond costs for those bonds that will be used to pay for impact fee eligible improvements. As summarized in the table, the total cost of future projects to be recovered from impact fees (including applicable bond costs) is \$46.2 million.

Table ES-9
Impact Fee Facilities Plan - Costs Required for Future Growth

Project #	Project Description	Estimated FYE 2012 Total Cost ¹	% Attributable to New Users	Estimated FYE 2012 Cost Attributable to New Users	FYE 2012	FYE 2013	FYE 2014	FYE 2015	FYE 2016	FYE 2017	FYE 2018	FYE 2019	FYE 2020	FYE 2021	Total (Inflated Costs)
CIP-1	Zone 17 Storage and Transmission Project	\$ 8,281,000	64.5%	\$ 5,341,245	\$ 64,500	\$ 5,435,047									\$ 5,499,547
CIP-2	48" Pipeline	\$ 15,447,000	21.3%	\$ 3,290,211		\$ 127,800	\$ 639,000	\$ 2,801,549							\$ 3,568,349
CIP-3	Creation of a New Zone 11 (Six New PRVs)	\$ 580,000	0.0%	\$ -											\$ -
CIP-5	800 N. Transmission Line	\$ 5,740,000	100.0%	\$ 5,740,000					\$ 1,292,084	\$ 3,327,117	\$ 2,056,158				\$ 6,675,359
CIP-8	Upsize of Distribution Pipelines for Future Development	\$ 3,928,000	100.0%	\$ 1,310,000	\$ 131,000	\$ 134,930	\$ 138,978	\$ 143,147	\$ 147,442	\$ 151,865	\$ 156,421	\$ 161,113	\$ 165,947	\$ 170,925	\$ 1,501,768
S-1	UMPA Well Development	\$ 1,290,000	100.0%	\$ 1,290,000	\$ 600,000	\$ 710,700									\$ 1,310,700
S-2	Big Springs	\$ 2,700,000	100.0%	\$ 2,700,000	\$ 50,000	\$ 2,729,500									\$ 2,779,500
FF-All	Fire Flow Improvements	\$ 3,870,000	0.0%	\$ -								\$ -			\$ -
	Further Capital Facility and Impact Fee Studies	\$ 110,000	100.0%	\$ 110,000			\$ 10,000			\$ 115,927					\$ 125,927
	Total Improvements	\$ 41,946,000		\$ 19,781,456	\$ 845,500	\$ 9,137,977	\$ 787,978	\$ 2,944,697	\$ 1,439,526	\$ 3,594,909	\$ 2,212,579	\$ 161,113	\$ 165,947	\$ 170,925	\$ 21,461,151
	Bond Revenue ²					\$ (5,611,500)		\$ (2,215,200)							\$ (7,826,700)
	Total Bond Payment (FYE 2013 Bond) ²														\$ 9,784,723
	Total Bond Payment (FYE 2015 Bond) ²														\$ 3,862,625
	Total Capital Improvements Attributable to New Users														\$ 27,281,799

¹ Inflation rate of 3.0% applied to capital costs in future years.

² Bond revenue and payments also allocated based on % attributable to new users for projects that require bonding.

2016 Facts Sheet for Provo City Water System

9.01 Billion Gallons - 2016 Total Annual Consumption

50 Million Gallons – 2016 Peak Day Consumption (July 2016) = 34,700 GPM

24.7 Million Gallons – 2016 Average Day Consumption = 17,150 GPM

13.2 Million Gallons – 2016 Minimum Day Consumption (Feb 2016) = 9,160 GPM

7,000 – 12,000 GPM - Provo Canyon Spring production (Dry year – Wet year)

32,000 GPM – Well Production Capacity (with all 15 current wells operating)

32 Million Gallons – Water Storage Capacity (will increase by 10 MG in 2017)

2 million feet of water lines (390 miles)

4-8 inch lines – 267 miles

10-20 inch lines – 99 miles

24-48 inch lines – 23 miles

10 large capacity booster pump stations (full capacity of 27,500 gpm)

33 PRV's

Definitions

1 acre foot = 325,000 gallons

1 cubic foot = 7.48 gallons

1 cfs = 450 gpm

1 MGD = 700 gpm

EXECUTIVE SUMMARY

INTRODUCTION

In December of 2009, Provo City contracted the services of Bowen, Collins & Associates, Inc. (BC&A) to complete a Water System Master Plan and Rate Study. The purpose of this study is to provide Provo with an updated plan to maintain a viable and efficient water system capable of meeting future customer expectations. As part of this process, this report will also include an Impact Fee Facilities Plan in accordance with the new requirements of State law.

WATER DEMAND PROJECTIONS

When the City's last master plan was completed in 2002, Provo City's Community Development Department estimated that the future buildout population of the City would be approximately 170,000. Since that time, however, the City has adopted a 2010 General Plan that has made some significant changes to projected development patterns. Specifically, there has been a large increase in potential development densities on the City's west side as well as the annexation of additional area. As a result the revised buildout population based on the 2010 General Plan is 197,000.

Based on the revised general plan, the projected water production requirements for the City's system is summarized on Table ES-1. Included in the table are two sets of projections based on average per capita water production in 2000 without future conservation and projections based on meeting the State of Utah's conservation goal of a 25 percent reduction in per capita water use by 2050. The projections include estimates for both average annual production and peak day production requirements.

Table ES-1
Projected Water Production Requirements (Based on 2000 usage)

	Average Annual Production Requirements (acre-feet)					
	2010	2020	2030	2040	2050	Buildout
<i>No Conservation</i>	37,889	42,587	48,590	54,667	59,294	60,949
<i>With State Conservation Goal¹</i>	35,521	37,264	40,491	43,278	44,471	45,712
	Peak Day Production Requirements (mgd)					
	2010	2020	2030	2040	2050	Buildout
<i>No Conservation</i>	67.8	76.2	86.9	97.8	106.0	109.0
<i>With State Conservation Goal¹</i>	63.5	66.6	72.4	77.4	79.5	81.7

¹ Based on State of Utah's conservation goal in 2000.

WATER SUPPLY

Existing and potential Provo City sources of water include the following:

- **Springs**
 - *Existing Springs* – Much of Provo City’s municipal water originates from springs located in Provo Canyon and Rock Canyon. Springs are the City’s first choice for culinary water due to their low cost of production. They do not require treatment (except for the addition of chlorine) and do not need to be pumped into the system.
 - *Big Springs* – For several years, Provo City has been planning the development of the Big Springs area in the South Fork of Provo Canyon. It is expected that development of the springs will occur within the next five years.

- **Wells**
 - *a9902 Consolidated Rights* – In 1977, Provo City consolidated 16 separate water rights into Change Application a9902. The change application provides Provo City with the right to pull water associated with this right from any of 11 different municipal water wells.
 - *BYU Well* – Brigham Young University and the LDS Church are the named owners of a water right associated with the BYU Well on the Provo campus. BYU and Provo City have an agreement in which Provo City uses the water right and maintains the BYU Well in return for municipal water from the City’s distribution system.
 - *Miscellaneous Other Municipal Well Rights* – Provo City and its partner Metropolitan Water District of Provo have acquired a number of other small ground water rights. The most significant of these is the Thorn Well.
 - *UMPA Wells* – In 1991, Provo City purchased six water rights from the Utah Municipal Power Agency (UMPA). Through Change Application a22983, this water was moved to a number of proposed well locations for municipal use. The City has begun to drill the wells required to use the UMPA rights. Four have been completed and one more is currently under design. Seven other sites are under consideration for future wells.

- **Surface Water**
 - *Provo River Direct Flow Rights* – Provo City owns a number of water rights in the Provo River. For the purposes of this analysis, these water rights have been consolidated into two major groups:
 - **Provo River a19153 Water** – Provo City’s largest claim to water rights in the Provo River is the result of “The Provo River Decree”. In this decree, the City received several Class A water rights, available during the irrigation season from April 15 to October 15. This water can be exchanged for water from springs in South Fork during the irrigation season and/or treated to culinary quality for direct use. Yield of this right is dependent on water year conditions and flows in the Provo River.

- **Miscellaneous Provo River Water Rights** – Provo City also owns other miscellaneous direct flow rights in the Provo River. Most of this water is approved for irrigation water use only, but a small portion is also approved for culinary use.
- *Storage Water* – Provo City currently holds water rights in several reservoirs in the Provo River Drainage:
 - **Deer Creek Storage** – Provo City’s largest storage right is for 8,000 acre-ft in Deer Creek Reservoir. The primary use of this water is as exchange water for South Fork spring water outside of the irrigation season but it can also be treated to culinary quality for direct use.
 - **Jordanelle Storage** – A second storage right held by Provo City is in Jordanelle Reservoir. Up to 860 acre-ft of water is available from the Lost Lake water rights that are stored in this reservoir.
 - **CUP Water** – Provo City has a contract for up to 1,800 acre-ft of Central Utah Project (CUP) water stored in the Jordanelle Reservoir. To date, the City has never used any of this water, but can use it as necessary to meet future needs.
- *Treatment* – The Utah Valley Water Treatment Plant (UVWTP) is where all surface water is treated for direct use. Historically, the UUVWTP has been used mainly to meet demands during the peak summer months. To date, all of the water Provo City has received from the UUVWTP is from Provo City rights in the Provo River, and is not CUP water. Because it is not CUP water, Provo City has a lower priority in the treatment plant than other entities. Running non-CUP water through a CUP facility is only an option when there is capacity available. If any CUP water was needed in the plant it would take first priority over the non-CUP water rights.

Tables ES-2 and ES-3 summarize the amount of water available to Provo City in 2010 and 2060 respectively. Estimated usable yield is provided for both average and dry years.

Table ES-2
Usable Yield of Current Provo City Culinary Water Sources

Water Source	Usable Yield in Average Year (acre-ft)	Usable Yield in Dry Year (acre-ft)
Springs ¹	14,100	10,070
Big Springs ¹	0	0
a9902 Consolidation Wells, BYU Well, and Misc. Other Wells	20,940	20,940
a22983 UMPA Wells	1,570	1,570
a19153 Provo River Rights ²	14,240	12,120
Misc. Provo River Rights	870	695
Deer Creek Storage ²	2,150	1,080
Jordanelle Storage	860	860
CUP Water	1,800	1,800
Total	56,530	49,135

Table ES-3
Projected Usable Yield of Future Provo City Culinary Water Sources at Buildout

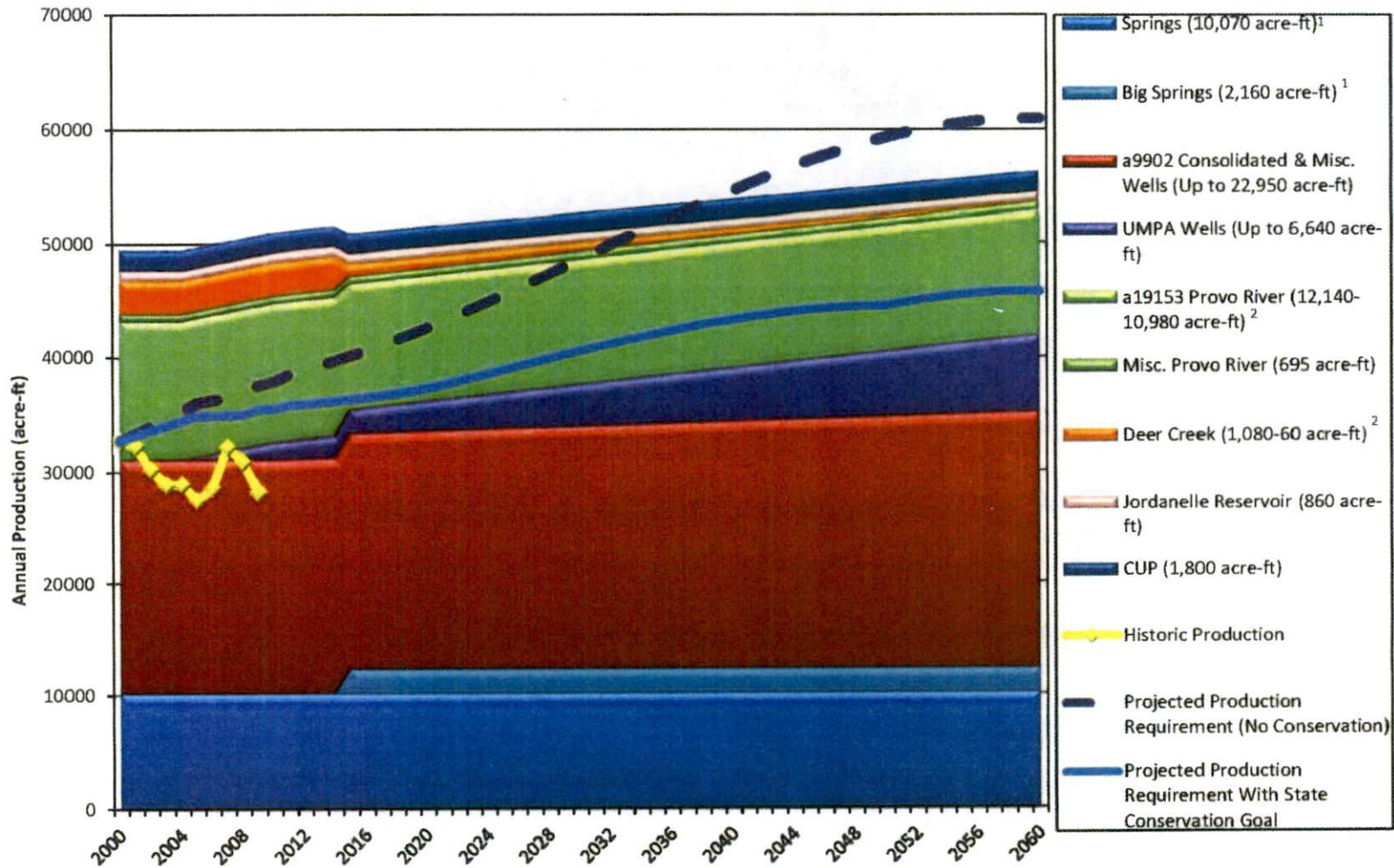
Water Source	Usable Yield in Average Year (acre-ft)	Usable Yield in Dry Year (acre-ft)
Springs ¹	14,100	10,070
Big Springs ¹	3,870	2,160
a9902 Consolidation Wells, BYU Well, and Misc. Other Wells	22,950	22,950
a22983 UMPA Wells	6,640	6,640
a19153 Provo River Rights ²	12,140	10,980
Misc. Provo River Rights	870	695
Deer Creek Storage ²	380	60
Jordanelle Storage	860	860
CUP Water	1,800	1,800
Total	63,610	56,215

¹ Includes Provo City rights and exchange water from a19153 Provo River Rights & Deer Creek Storage.

² Available after exchanges are satisfied.

Figure ES-1 shows the projected annual production requirement for Provo City through 2060. Also shown in the figure are the potential sources available to meet the projected annual

Figure ES-1
Annual Projected Production Requirement (Dry Year)

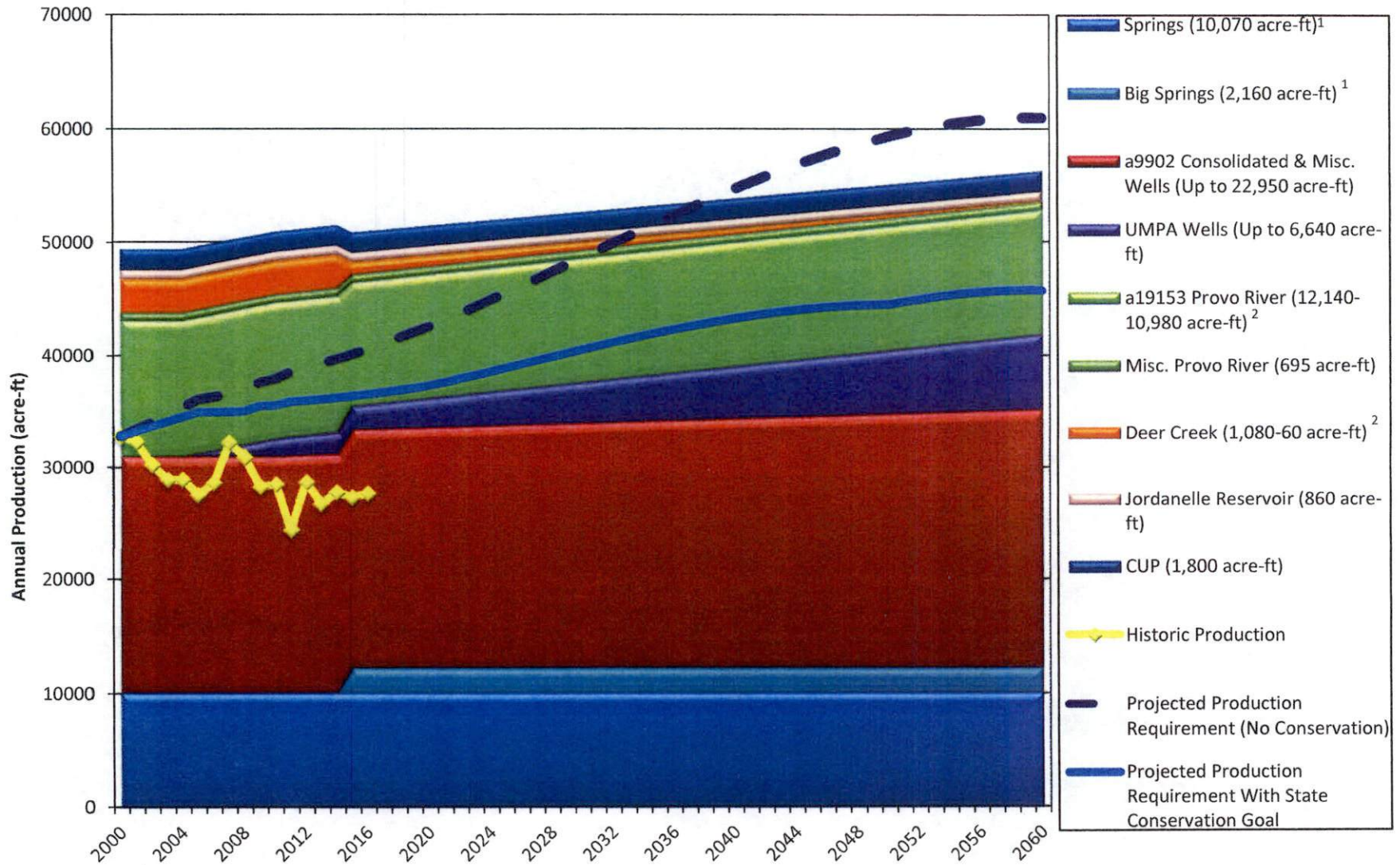


¹ Includes rights along exchange water from a19153 Provo River Rights & Deer Creek Storage.

² Available after exchanges are satisfied.

³ Production estimated based on historic water production.

Figure ES-1 Updated with Historical Production through 2016
Annual Projected Production Requirement (Dry Year)



¹ Includes rights along exchange water from a19153 Provo River Rights & Deer Creek Storage.

² Available after exchanges are satisfied.

³ Production estimated based on historic water production.

production requirements during dry water year conditions. Based on this analysis, a number of conclusions can be made regarding annual yield of Provo City sources:

- During dry years, there appears to be adequate usable yield to meet projected production requirements through buildout, but only with significant conservation. If no conservation occurs, the yield of City sources in dry years will fall short of projected annual production requirements.
- In the five years since the City's last conservation plan, the City has demonstrated an average reduction in per capita water production of 20 percent. From this, it is apparent that the City is ahead of the State's recommended minimum level of conservation and is already making significant progress toward the State's long-term goal of 25 percent conservation. However, Provo City will need to continue to emphasize and encourage conservation if it wants to sustain its current levels of conservation and meet its long-term conservation goals.

Peak Day Production Capacity

It is not enough to consider source availability only on an annual basis. It must also be adequate to meet production requirements on a peak day. Projected peak day production capacities of each Provo City source are also summarized in Tables ES-4 and ES-5.

Table ES-4
Peak Day Production Capacity of Current Provo City Culinary Water Sources

Water Source	Peak Production in Average Year (mgd)	Peak Production in Dry Year (mgd)
Existing Springs ¹	13.9	9.9
Big Springs ¹	0	0
a9902 Consolidation Wells, BYU Well, and Misc. Other Wells	31.1	31.1
a22983 UMPA Wells	5.4	5.4
Surface Water Treatment	25.9	25.9
Total	76.3	72.3

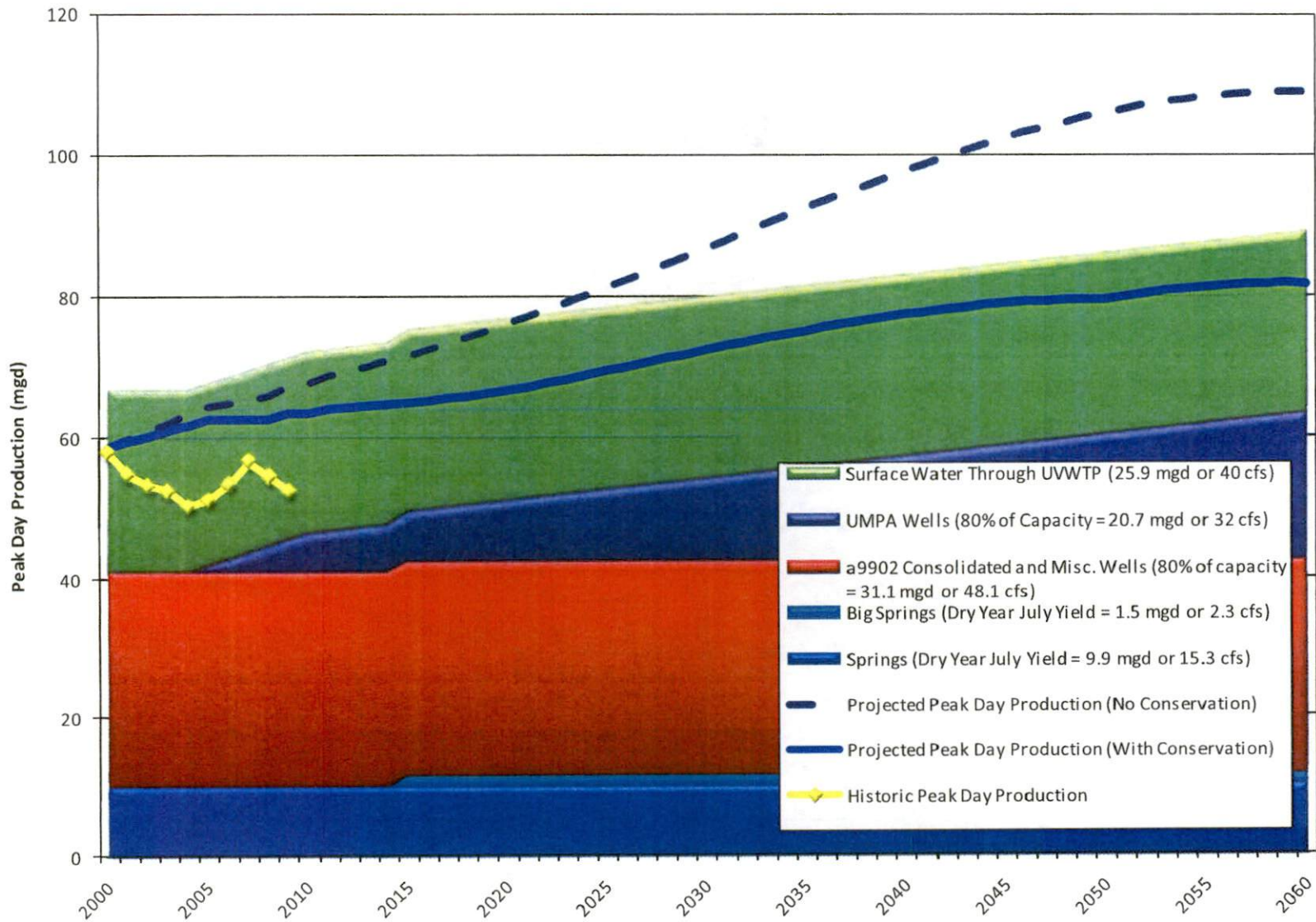
Table ES-5
Peak Day Production Capacity of Future Provo City Culinary Water Sources at Buildout

Water Source	Peak Production in Average Year (mgd)	Peak Production in Dry Year (mgd)
Existing Springs ¹	13.9	9.9
Big Springs ¹	2.9	1.5
a9902 Consolidation Wells, BYU Well, and Misc. Other Wells	31.1	31.1
a22983 UMPA Wells	20.7	20.7
Surface Water Treatment	25.9	25.9
Total	94.5	89.1

Figure ES-2 shows the projected peak day production requirement for the Provo City distribution system through 2060. Also shown on the figure are the potential sources available to meet the projected peak day production requirements during a dry year. Based on this analysis, several conclusions can be made regarding peak day production capacity:

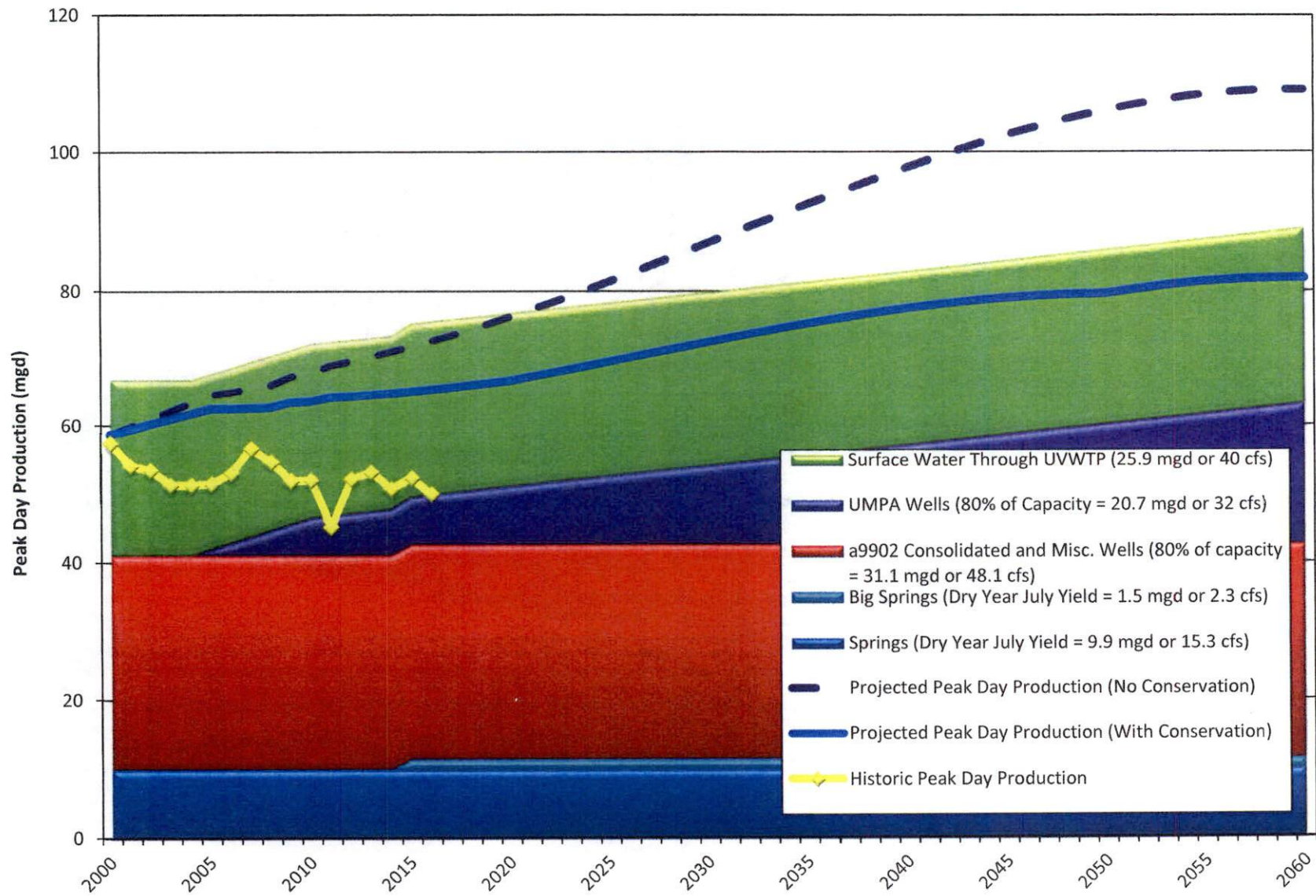
- If the City does not conserve, it will not have adequate peak day production capacity to meet future production requirements. Even with the development of all currently planned future sources, production requirements without conservation will exceed production capacity as early as 2020.
- If the City does meet its future conservation goals, its peak day production capacity should be adequate to meet future production requirements.
- The development of new source production capacity including Big Springs and additional UMPA wells is critical to meeting future production requirements. Without these new sources, the peak day production capacity of the City will begin to fall short of production by about 2025, even with conservation.
- The UVWTP is essential to the City's ability to meet future peak production requirements. Even with conservation, the City will require no less than 30 cfs of reliable capacity from the plant.

Figure ES-2
Projected Peak Day Production Requirements vs. Source Capacity (Dry Year)



*2009 was a wet year.

Figure ES-2 Updated with Historical Production through 2016
Projected Peak Day Production Requirements vs. Source Capacity (Dry Year)



*2009 was a wet year.

Supply and Demand Recommendations

A number of recommendations can be made based on the supply and demand analysis above:

- If current growth and water use patterns continue, Provo City will have sufficient water supplies to meet average and dry water year annual production requirements through buildout with conservation. Therefore, it is not necessary for the City to aggressively pursue any new water sources beyond those identified here.
- It is recommended that conservation programs be continued as outlined in the City's Conservation Plan to help ensure that the City will continue to make progress toward the State's conservation goal.
- Two currently planned water supply projects will be critical to meeting future needs. It is recommended that the City move forward with the development of Big Springs and several new wells under the available UMPA water rights. Total UMPA well capacity should be no less than 25.9 mgd (40 cfs).
- The City should investigate using the City Center well again in the culinary system.
- The City currently uses water from the UVWTP on a capacity available basis. To meet future production requirements, it is recommended that the City work to ensure that it has priority in the plant during summer months for the treatment of its surface water supplies. Based on current projections, it appears that the current capacity of 25.9 mgd (40 cfs) should be adequate to meet production requirements though buildout.

SYSTEM STORAGE

Regulations established by the State of Utah require that water systems have storage facilities sufficient to provide three types of storage:

- Equalization storage – Storage needed to supply the system for periods when demands exceed the supply on a day to day basis.
- Emergency storage – Storage needed to meet water demand during an emergency situation such as a supply line break a long-term power outage.
- Fire suppression storage – Storage needed to provide a required fire flow for a period of time as specified by the local fire authority.

An evaluation of the City water storage facilities for projected future conditions is shown in Table ES-6.

**Table ES-6
Storage Requirements by Zone – Projected Demand 2060**

Zone	Peak Day Demand (gpm)	Equalization Storage (gallons)	Emergency Storage (gallons)	Fire Flow Storage (gallons)	Total Storage Requirement (gallons)	Zone of Tank Serving This Zone	Available Storage (gallons)	Storage Surplus/(shortage) by Zone (gallons)	Storage Surplus/(shortage) Total (gallons)	Potential Contributing Upstream Zones
1	105	37,800	37,800	0	75,600	18	0	(75,600)	0	
2	2	700	700	0	1,400	18	0	(1,400)	0	
3	26	9,400	9,400	0	18,800	18	0	(18,800)	0	
4	1	400	400	0	800	18	0	(800)	0	
5	1	400	400	0	800	18	0	(800)	0	Zone 18 (Northeast)
6	164	59,000	59,000	0	118,000	27	0	(118,000)	(118,000)	
7	249	89,600	89,600	0	179,200	27	0	(179,200)	(179,200)	
8	62	22,300	22,300	0	44,600	27	0	(44,600)	(44,600)	Zone 27 (Rock Canyon)
9	195	70,200	70,200	0	140,400	18	0	(140,400)	0	
10	485	174,600	174,600	0	349,200	18	0	(349,200)	0	
12	159	57,200	57,200	0	114,400	18	0	(114,400)	0	Zone 18 (Northeast)
13 (Intermediate)	6,073	2,186,300	2,186,300	1,440,000	5,812,600	13	8,000,000	2,187,400	1,121,800	None
14	441	158,800	158,800	0	317,600	17	0	(317,600)	0	Zone 17 (Main)
15	238	85,700	85,700	0	171,400	18	0	(171,400)	0	
16	60	21,600	21,600	0	43,200	18	0	(43,200)	0	Zone 18 (Northeast)
17 (Main)	43,588	15,691,700	15,691,700	1,440,000	32,823,400	17	11,000,000	(21,823,400)	(22,143,200)	None
18 (Northeast)	612	220,300	220,300	0	440,600	18	5,000,000	4,559,400	3,465,800	None
19	430	154,800	154,800	0	309,600	13	0	(309,600)	0	Zone 13 (Intermediate)
20	64	23,000	23,000	0	46,000	18	0	(46,000)	0	
21	84	30,200	30,200	0	60,400	18	0	(60,400)	0	
22	99	35,600	35,600	0	71,200	18	0	(71,200)	0	Zone 18 (Northeast)
23 (Sherwood Hills)	103	37,100	37,100	240,000	314,200	23	500,000	185,800	185,800	None
24 (Slate Canyon)	793	285,500	285,500	240,000	811,000	24	5,000,000	4,189,000	4,189,000	None
25 (Southeast)	615	221,400	221,400	240,000	682,800	25	2,000,000	1,317,200	1,317,200	None
26	224	80,600	80,600	0	161,200	27	0	(161,200)	(161,200)	Zone 27 (Rock Canyon)
27 (Rock Canyon)	841	302,800	302,800	240,000	845,600	27	500,000	(345,600)	(345,600)	None
28 (Gillespie)	1	400	400	0	800	17	0	(800)	0	Zone 17 (Main)
29	961	346,000	346,000	0	692,000	13	0	(692,000)	0	Zone 13 (Intermediate)
30	2	700	700	0	1,400	17	0	(1,400)	0	Zone 17 (Main)
31	89	32,000	32,000	0	64,000	13	0	(64,000)	0	Zone 13 (Intermediate)
Total	56,767	20,436,100	20,436,100	3,840,000	44,712,200		32,000,000		(12,712,200)	

The following conclusions can be made regarding storage in the Provo City water distribution system:

1. **Total Storage** – The Provo City water system currently has a total of 32.0 mg of storage. Based on the criteria described previously, the water system currently has a deficiency of 3.6 mg of storage. By 2060, the system will have a storage deficiency of 12.7 mg if additional storage facilities are not constructed. It should be noted that these totals only reflect the system as a whole. When storage is considered for individual zones, there are existing deficits in Zones 17 and 27.
2. **Zone 27 (Rock Canyon)** – The Rock Canyon storage reservoir provides storage to pressure zones 6, 7, 8, 26, and 27. Approximately 800,000 gallons of additional storage is required now, with an additional 50,000 needed by buildout. One thing that may help with this deficit is a normally closed connection with between Zone 27 (Rock Canyon) and Zone 18 (Northeast). The Northeast Reservoir has a large surplus of storage for both existing and future conditions. In an emergency, this connection could be opened to bring water from the Northeast Reservoir into Zone 27.
3. **Zone 17 (Main)** – The Main and Gallery storage reservoirs provides storage to Zones 14 and 17 (Main). There is an existing shortfall of 9 mg and a buildout shortfall of 22 mg. However, Zone 17 (Main) is connected to Zone 24 (Slate Canyon) by a normally closed 12-inch connection that will allow approximately 4 mg of storage from Zone 24 to be utilized in an emergency. This connection is controlled by a spring loaded one-way valve that opens when pressure drops in Zone 17 (Main).

System Storage Recommendations

Based on the storage analysis above, BC&A would recommend the following action:

1. **Construct New Storage in Zone 17 (Main)** – It is recommended that plans be made to construct new storage facilities in Zone 17 (Main). The immediate need for storage appears to be at least 10 mg with a long-term need of 18 mg. It is recommended that approximately 10 mg of additional storage be constructed to meet short-term system requirements. In the future, an additional 8 mg of storage should be constructed as demands increase.

WATER DISTRIBUTION SYSTEM EVALUATION

The Provo City water distribution system was evaluated using InfoWater, a hydraulic computer model developed by MWHSoft. A hydraulic computer model is a digital representation of physical features and characteristics of the water system, including pipes, valves, storage tanks, and pumps. Hydraulic computer models are useful because they allow the user to simulate operation of large, complex water systems and consider how future changes in flow will affect those systems.

Evaluation Criteria

The performance of the water distribution system was evaluated against the following criteria:

1. Under peak day production requirements, the system must be capable of maintaining constant levels at all system tanks and reservoirs. This criterion assures that the City has adequate transmission capacity to move its water from the points of supply to where it is needed.
2. Fluctuation of all tanks and reservoirs must be limited to 50 percent of their total volume during a peak day.
3. Under peak hour production requirements, pressure throughout the system should not generally drop lower than 60 psi. In some cases, where connections are at the upper ends of pressure zones and the primary issue is elevation and not conveyance capacity, the City will allow pressures slightly less than 60 psi, but in no case should pressures drop below 50 psi. Where practical, maximum pressures in the system should also be limited to less than 120 psi.
4. Regulations established by the State of Utah require that a water distribution system be able to provide a minimum of 1,000 gallons per minute while maintaining a minimum pressure of 20 psi at all points within the system during peak day production with fire flows. For this analysis, the minimum available fire flow requirement for all residential areas was set at 1,000 gpm with a goal to provide 1,500 gpm where feasible. Higher fire flow requirements were also evaluated at select commercial locations throughout the City.
5. System pressures and fire flows must not be dependent on the operation of any individual well. This means that the system must be capable of maintaining minimum system pressures at all delivery points with the failure of any individual well, even during peak hour production.

Model Results

Model results for the most critical evaluation scenarios are included in the following figures:

1. Figure ES-3 shows pressures for the 2060 Peak Hour Scenario.
2. Figure ES-4 shows available fire flow for the 2060 Peak Day Scenario.

Based on the results of the computer model evaluation, other analysis, and input from City personnel, a number of projected future deficiencies in the Provo City distribution system have been identified:

- **Zone 17 Conveyance Capacity** – A number of the pressure problems exist develop in the buildout scenario on the west side of Zone 17 (Main). This is the result of insufficient capacity to convey water to the high growth areas west of I-15.

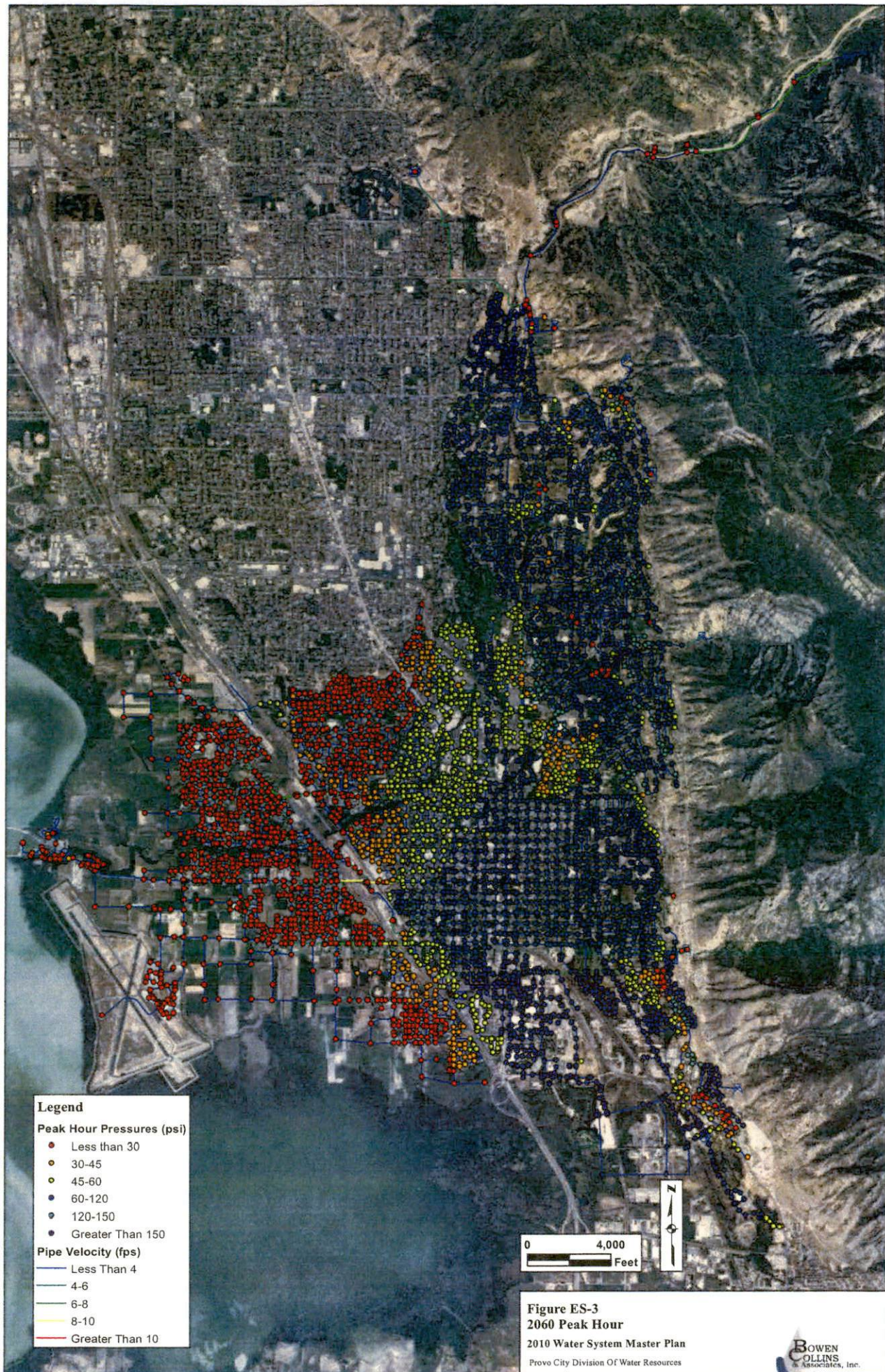
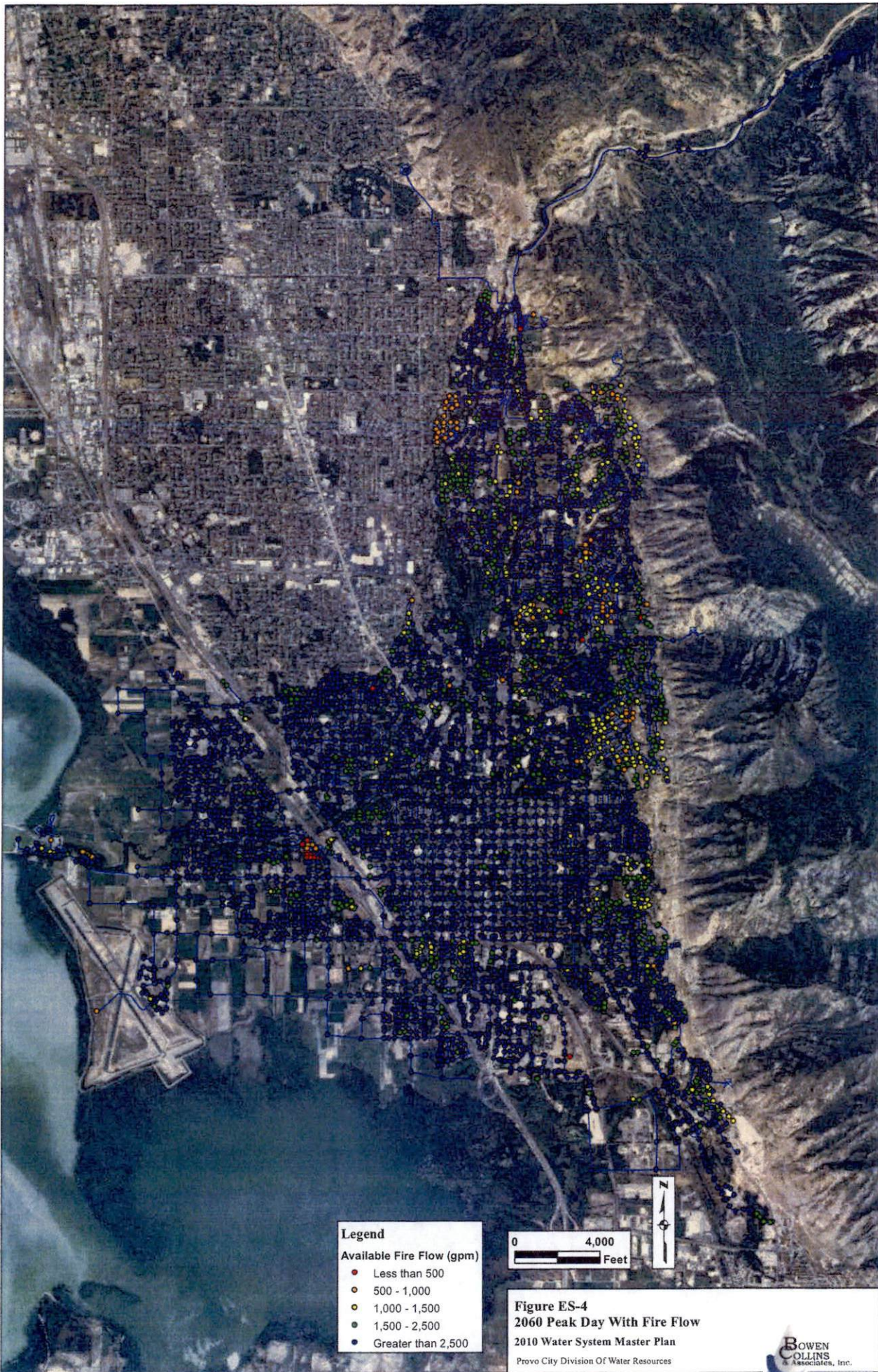


Figure ES-3
2060 Peak Hour

2010 Water System Master Plan
Provo City Division Of Water Resources





Legend

Available Fire Flow (gpm)

- Less than 500
- 500 - 1,000
- 1,000 - 1,500
- 1,500 - 2,500
- Greater than 2,500



Figure ES-4
2060 Peak Day With Fire Flow
 2010 Water System Master Plan
 Provo City Division Of Water Resources



- **Static Pressures West of I-15** – The lower part of Zone 17 currently has static pressures well above 120 psi. To limit the area with high pressures, it is recommended that the area west of the freeway and south of the railroad be separated into a new pressure zone.
- **48” Pipeline Redundancy** – There is an existing 48” pipeline that runs from the Gillespie Weir House to the Gallery and Main storage reservoirs. This pipeline provides the sole means of conveyance for water from the City’s spring sources in Provo Canyon and treated water from the UVWTP. If this pipeline were damaged or otherwise taken out of service, the City would be unable to provide service to its customers. A redundant means of conveyance is needed for this pipeline.
- **Fire Flow Deficiencies** – While the vast majority of Provo City fire flows look good, there are a few scattered areas where improvements are needed. This includes areas served by 4-inch pipelines or areas at the end of long dead end pipelines.

SYSTEM IMPROVEMENTS

Various alternatives for correcting the deficiencies identified above were evaluated using the system hydraulic model. Those improvements that appear to result in the most cost effective solutions are shown in Figure ES-5. The estimated cost of the improvements shown in the figure is summarized in Table ES-7.

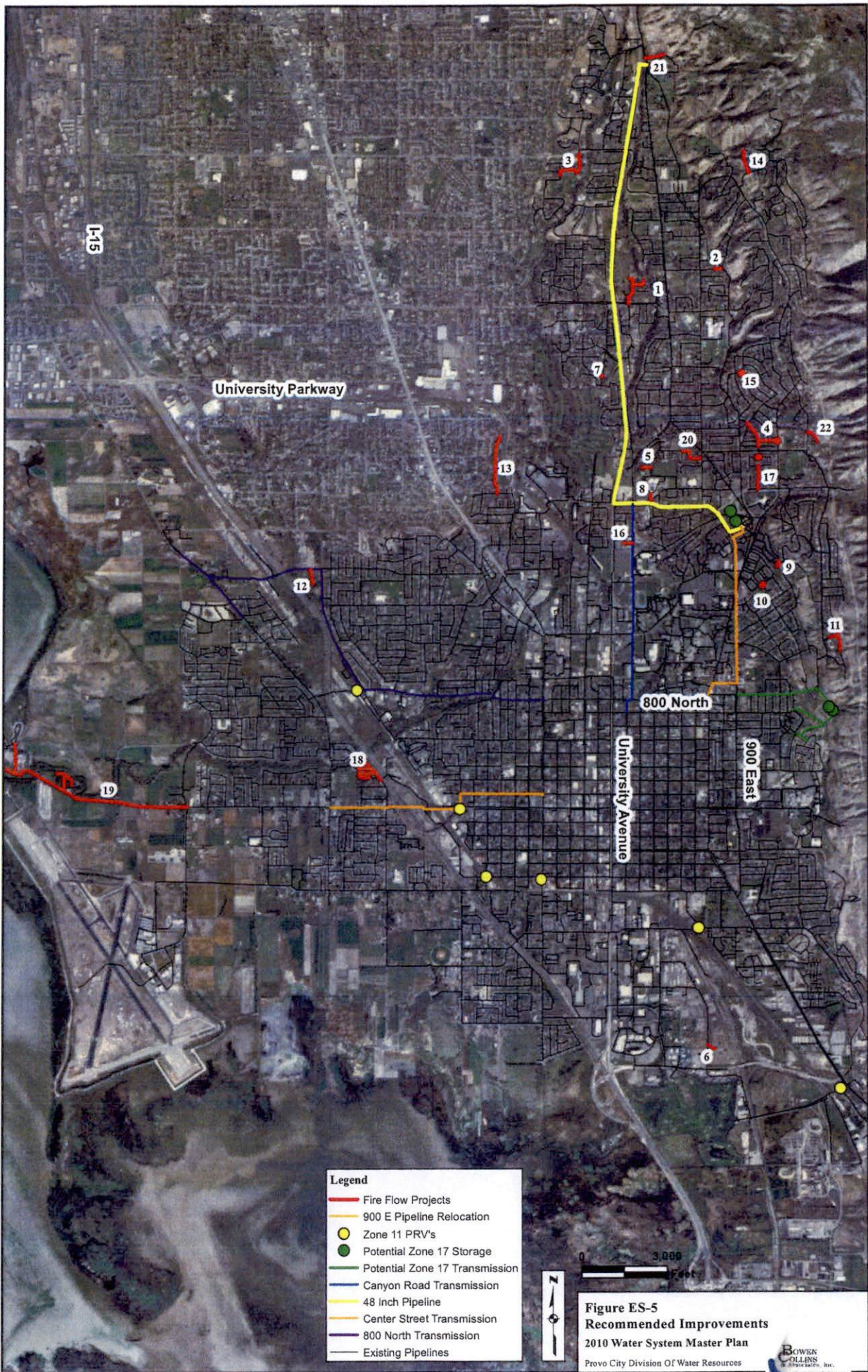


Figure ES-5
Recommended Improvements
 2010 Water System Master Plan
 Provo City Division Of Water Resources



**Table ES-7
Recommended Capital Improvements**

Project	Description	Quantity	Unit	Unit Cost	Construction Cost (With 20% Contingency)	Engineering (15%)	Total Project Cost
CAPITAL IMPROVEMENT PROJECTS							
1	Zone 17 Storage and Transmission Project						
	10 MG of Storage	10	MG	\$ 483,799			
	20" Pipeline	4,400	LF	\$ 179			
	16" Pipeline	2,200	LF	\$ 144			
	12" Pipeline	500	LF	\$ 117	\$ 7,201,000	\$ 1,080,000	\$ 8,281,000
2	48" Pipeline	21,000	LF	\$ 533	\$ 13,432,000	\$ 2,015,000	\$ 15,447,000
3	Creation of a New Zone 11 (Six New PRV's)	1	LS	\$ 420,000	\$ 504,000	\$ 76,000	\$ 580,000
4	Canyon Road Transmission Line						
	36" Pipeline	4,600	LF	\$ 373			
	24" Pipeline	2,300	LF	\$ 226			
	20" Pipeline	600	LF	\$ 179	\$ 2,812,000	\$ 422,000	\$ 3,234,000
5	800 N. Transmission Line						
	24" Pipeline	16,000	LF	\$ 226			
	16" Pipeline	3,250	LF	\$ 144			
	20" PRV Station	1	LS	\$ 75,000	\$ 4,991,000	\$ 749,000	\$ 5,740,000
6	Center Street Transmission Line						
	24" Pipeline	2,600	LF	\$ 226			
	20" Pipeline	5,450	LF	\$ 179			
	20" PRV Station	1	LS	75,000	\$ 1,966,000	\$ 295,000	\$ 2,261,000
7	8 MG of Storage in Zone 17	8	0	483,799	\$ 4,644,000	\$ 697,000	\$ 5,341,000
8	Upsize of Distribution Pipelines for Future Development	73,000	LF	39	\$ 3,416,000	\$ 512,000	\$ 3,928,000
TOTAL CAPITAL IMPROVEMENT PROJECTS COST							\$ 44,812,000
SUPPLY IMPROVEMENT PROJECTS							
S-1	Big Springs	1	LS	\$ 1,957,000	\$ 2,348,000	\$ 352,000	\$ 2,700,000
S-2	UMPA Well Improvements (Six Wells Total)	6	EA	\$ 1,062,000	\$ 7,646,000	\$ 1,144,000	\$ 8,790,000
TOTAL SUPPLY IMPROVEMENTS							\$ 11,490,000

Project	Description	Quantity	Unit	Unit Cost	Construction Cost (With 20% Contingency)	Engineering (15%)	Total Project Cost
FIREFLOW IMPROVEMENT PROJECTS							
FF-1	1,600 feet of 8" pipe from 3500 N to 3900 N. between Univ. Ave. and Canyon Rd.	1,600	LF	\$ 103	\$ 198,000	\$ 30,000	\$ 228,000
FF-2	250 feet of 8" pipe from Crestview west along 3950 N.	250	LF	\$ 103	\$ 31,000	\$ 5,000	\$ 36,000
FF-3	1,500 feet of 10" pipe along 300 W then West along 4630 N. then south along 450 W.	1,500	LF	\$ 112	\$ 202,000	\$ 30,000	\$ 232,000
FF-4	6" PRV and 1,700 feet of 8" pipeline along Oneida and 2680 N.	1,700	LF	\$ 103	\$ 210,000	\$ 32,000	\$ 242,000
FF-5	300 feet of 8" pipe at approximately 200 E. and 2500 N.	300	LF	\$ 103	\$ 37,000	\$ 6,000	\$ 43,000
FF-6	50 feet of 8" pipe to replace 2" line at Compost Yard.	50	LF	\$ 103	\$ 6,000	\$ 1,000	\$ 7,000
FF-7	50 feet of 8" pipe to connect 140 E. and 3200 N. with apartment complex.	50	LF	\$ 103	\$ 6,000	\$ 1,000	\$ 7,000
FF-8	225 feet of 8" pipe from 2320 N. to connect to School pipeline.	225	LF	\$ 103	\$ 28,000	\$ 4,000	\$ 32,000
FF-9	Ensure there's multiple connections for pipe connecting Wymount to Oak Lane.	100	LF	\$ 103	\$ 12,000	\$ 2,000	\$ 14,000
FF-10	150 feet of 8" pipe and 6" PRV to Connect Wymount to Locust.	150	LF	\$ 103	\$ 19,000	\$ 3,000	\$ 22,000
FF-11	950 feet of 8" pipe along Terrace Dr. to connect waterlines.	950	LF	\$ 103	\$ 117,000	\$ 18,000	\$ 135,000
FF-12	500 feet of 8" pipe from 2200 N. south along 2300 W.	500	LF	\$ 103	\$ 62,000	\$ 9,000	\$ 71,000
FF-13	2,050 feet of 8" pipe from 2300 N. running north along 850 W.	2,050	LF	\$ 103	\$ 253,000	\$ 38,000	\$ 291,000
FF-14	850 feet of 8" along Brentwood Dr.	850	LF	\$ 103	\$ 105,000	\$ 16,000	\$ 121,000
FF-15	6" PRV on Bannock Dr. and Apache Lane	-	LF	\$ 103	\$ 48,000	\$ 7,000	\$ 55,000
FF-16	300 feet of 8" pipe in apartment complex at intersection Stadium Dr and	300	LF	\$ 103	\$ 37,000	\$ 6,000	\$ 43,000
FF-17	6" PRV on 1060 E. and 2570 N.	-	LF	\$ 103	\$ 48,000	\$ 7,000	\$ 55,000
FF-18	2,500 feet of 8" pipe within KOA campground to replace 4" pipes.	2,500	LF	\$ 103	\$ 309,000	\$ 46,000	\$ 355,000
FF-19	6,000 feet of 12" and 3,600 feet of 8" from Center St. and 3110 W. west to boat harbor and campground. 8" pipe is within campground and boat	9,600	LF	\$ 119	\$ 1,371,000	\$ 206,000	\$ 1,577,000
FF-20	900 feet of 8" pipe from Timpview and 2550N. west and north to 530 E. and 2600 N.	900	LF	\$ 103	\$ 111,000	\$ 17,000	\$ 128,000
FF-21	700 feet of 8" pipe near intersection of Canyon Rd and University Ave. east.	700	LF	\$ 103	\$ 87,000	\$ 13,000	\$ 100,000
FF-22	530 feet of 8" pipe along Park View Ln.	530	LF	\$ 103	\$ 66,000	\$ 10,000	\$ 76,000
TOTAL FIRE FLOW PROJECTS COST							\$ 3,870,000
TOTAL IMPROVEMENT PROJECTS COST							\$ 60,172,000

SYSTEM RENEWAL

As with most things, each component of a water system has a finite service life. As such, it is necessary to continually budget money for the rehabilitation or replacement of these system components. If adequate funds are not set aside for regular system renewal, the water system will fall into disrepair and be incapable of providing the level of service customers in Provo City expect. Based on the value of the City's existing system, it is recommended that the City's annual budget for system renewal be between \$5.0 and \$6.6 million to maintain the water system in good operating condition. Historically, the City has spent about \$2.5 million per year for capital improvements in the water system. Because much of the system is still relatively new, this may be acceptable for a short period. However, in the long run, it is recommended that the City gradually increase its capital improvement budget until it falls within the range recommended above.

CAPITAL FACILITIES PLAN

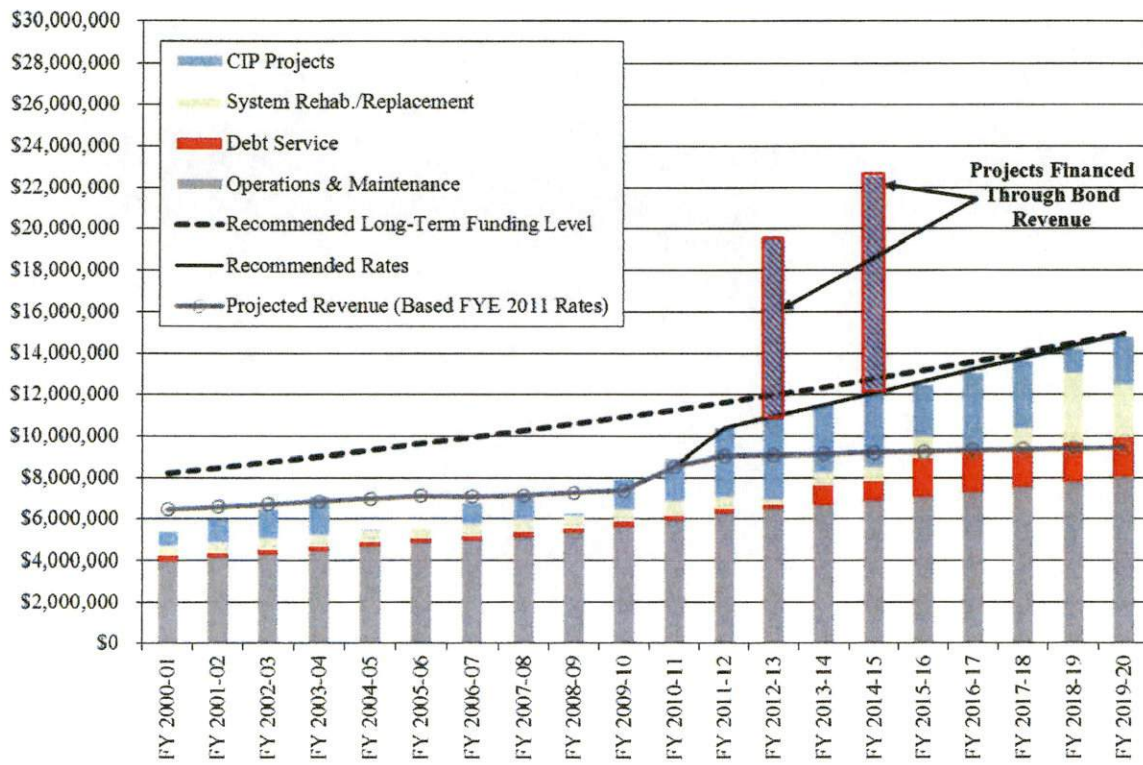
A proposed capital facilities plan and budget for the Provo City water system are shown in Table ES-8 and Figure ES-6. Included in these exhibits is the budget required for system improvements as outlined in this report as well as an annual budget category for replacement/rehabilitation of water facilities. Since available funds for rehabilitation and replacement in the Provo City system have historically been less than recommended amounts, the table and figure include a 10 year phase in period to slowly increase funding into the system.

Table ES-8
Capital Improvements Budgeting Schedule

Project #	Project Description	Estimated FYE 2012 Total Cost ^{1,2}	FYE 2012	FYE 2013	FYE 2014	FYE 2015	FYE 2016	FYE 2017	FYE 2018	FYE 2019	FYE 2020	FYE 2021
CIP-1	Zone 17 Storage and Transmission Project	\$ 8,281,000	\$ 100,000	\$ 8,426,430								
CIP-2	48" Pipeline	\$ 15,447,000		\$ 600,000	\$ 3,000,000	\$ 13,152,814						
CIP-3	Creation of a New Zone 11 (Six New PRV's)	\$ 290,000				\$ 633,783						
CIP-4	Canyon Road Transmission Line	\$ -										
CIP-5	800 N. Transmission Line	\$ 5,740,000					\$ 1,292,084	\$ 3,327,117	\$ 2,056,158			
CIP-6	Center Street Transmission Line	\$ -										
CIP-7	M/G of Storage in Zone 17	\$ -										
CIP-8	Upsize of Distribution Pipelines for Future Development	\$ 3,928,000	\$ 131,000	\$ 134,930	\$ 138,978	\$ 143,147	\$ 147,442	\$ 151,865	\$ 156,421	\$ 161,113	\$ 165,947	\$ 170,925
S-1	UMPA Well Development	\$ 1,290,000	\$ 600,000	\$ 710,700								
S-2	Big Springs	\$ 2,700,000	\$ 50,000	\$ 2,729,500								
FF-1	1,600 feet of 8" pipe from 3500 N to 3900 N, between Univ. Ave. and Canyon Rd.	\$ 228,000					\$ 256,616					
FF-2	250 feet of 8" pipe from Crestview west along 3950 N.	\$ 36,000					\$ 40,518					
FF-3	1,900 feet of 10" pipe along 300 W then West along 4630 N, then south along 450 W.	\$ 232,000					\$ 261,118					
FF-4	6" PRV and 1,700 feet of 8" pipeline along Ouedia and 2680 N.	\$ 242,000					\$ 272,373					
FF-5	300 feet of 8" pipe at approximately 200 E and 2500 N.	\$ 43,000					\$ 48,397					
FF-6	50 feet of 8" pipe to replace 2" line at Compost Yard.	\$ 7,000					\$ 7,879					
FF-7	50 feet of 8" pipe to connect 140 E. and 3200 N. with apartment complex.	\$ 7,000					\$ 7,879					
FF-8	225 feet of 8" pipe from 2320 N. to connect to School pipeline.	\$ 32,000					\$ 36,016					
FF-9	Ensure there's multiple connections for pipe connecting Wymount to Oak Lane.	\$ 14,000					\$ 15,757					
FF-10	150 feet of 8" pipe and 6" PRV to Connect Wymount to Locust.	\$ 22,000					\$ 24,761					
FF-11	950 feet of 8" pipe along Terrace Dr. to connect waterlines.	\$ 135,000						\$ 161,197				
FF-12	500 feet of 8" pipe from 2300 N. south along 2300 W.	\$ 71,000						\$ 84,778				
FF-13	2,050 feet of 8" pipe from 2500 N. running north along 850 W.	\$ 291,000						\$ 347,469				
FF-14	850 feet of 8" along Benitwood Dr.	\$ 121,000						\$ 144,480				
FF-15	6" PRV on Binnock Dr. and Apache Lane	\$ 55,000						\$ 65,673				
FF-16	300 feet of 8" pipe in apartment complex at intersection Stadium Dr and Canyon Rd.	\$ 43,000						\$ 51,344				
FF-17	6" PRV on 1060 E. and 2570 N.	\$ 55,000						\$ 65,673				
FF-18	2,500 feet of 8" pipe within KOA campground to replace 4" pipes.	\$ 355,000							\$ 436,605			
FF-19	6,000 feet of 12" and 3,600 feet of 8" from Center St. and 3110 W. west to boat harbor.	\$ 1,577,000								\$ 1,997,696		
FF-20	900 feet of 8" pipe from Timview and 2550 N. west and north to 530 E. and 2600 N.	\$ 128,000							\$ 157,424			
FF-21	700 feet of 8" pipe near intersection of Canyon Rd and University Ave. east.	\$ 100,000							\$ 122,987			
FF-22	530 feet of 8" pipe along Park View Ln.	\$ 100,000							\$ 122,987			
	Replacement of Existing Facilities ⁴		\$ 565,000	\$ 250,000	\$ 600,000	\$ 642,000	\$ 973,634	\$ 125,000	\$ 934,225	\$ 3,389,449	\$ 2,561,795	\$ 4,856,691
	Further Capital Facility and Impact Fee Studies			\$ 10,000				\$ 115,927				
	Miscellaneous Projects		\$ 2,461,000	\$ 115,070	\$ 118,523	\$ 122,078	\$ 125,740	\$ 129,512	\$ 133,398	\$ 137,400	\$ 141,522	\$ 145,767
	Total Improvements	\$ 41,860,000	\$ 3,907,000	\$ 12,966,630	\$ 3,867,500	\$ 14,693,821	\$ 3,510,214	\$ 3,849,421	\$ 4,200,816	\$ 4,527,966	\$ 4,866,960	\$ 5,173,384
	Bond Revenue	\$ (19,100,000)		\$ (8,700,000)								
	Existing Bond Payments		\$ 212,262	\$ 212,262	\$ 212,262	\$ 212,262	\$ 212,262	\$ 212,262	\$ 212,262	\$ 212,262	\$ 212,262	\$ 212,262
	Bond Payment (2012)				\$ 758,506	\$ 758,506	\$ 758,506	\$ 758,506	\$ 758,506	\$ 758,506	\$ 758,506	\$ 758,506
	Bond Payment (2015)						\$ 906,719	\$ 906,719	\$ 906,719	\$ 906,719	\$ 906,719	\$ 906,719
	Total Capital Improvement Budget	\$ 41,860,000	\$ 4,119,262	\$ 4,478,892	\$ 4,838,268	\$ 5,264,588	\$ 5,387,701	\$ 5,726,908	\$ 6,078,303	\$ 6,405,453	\$ 6,744,447	\$ 7,050,871

¹ Carry-over amounts from previous fiscal years are not shown.
² Inflation rate of 3.0% applied to capital costs in future years.
³ Estimated costs above the budgeted values or surplus budget dollars are applied in future years.
⁴ Total Infrastructure Replacement Value estimated to be \$400,000,000 with an average life of 60 years.
⁵ Includes miscellaneous Capital Outlays such as meter replacement, security improvements, hydrant replacement, service line replacement, raise valves, cash to reserves, etc.

Figure ES-6
10-Year Implementation Plan



IMPACT FEE FACILITIES PLAN

The capital facilities plan outlined above includes all system improvements recommended for the Provo City water system. As defined in Section 11-36-304, the impact fee facilities plan should only include “the proportionate share of the costs of public facilities [that] are reasonably related to the new development activity.” While most projects from the capital facilities plan are required to meet future growth, some projects do remedy existing deficiencies. Projects that benefit existing users include those projects addressing existing capacity deficiencies and maintenance related projects.

To satisfy the requirements of state law, Table ES-9 provides a breakdown of the capital facility plan projects and the percentage of the project costs attributed to existing and future users. Included in the table are bond costs for those bonds that will be used to pay for impact fee eligible improvements. As summarized in the table, the total cost of future projects to be recovered from impact fees (including applicable bond costs) is \$46.2 million.

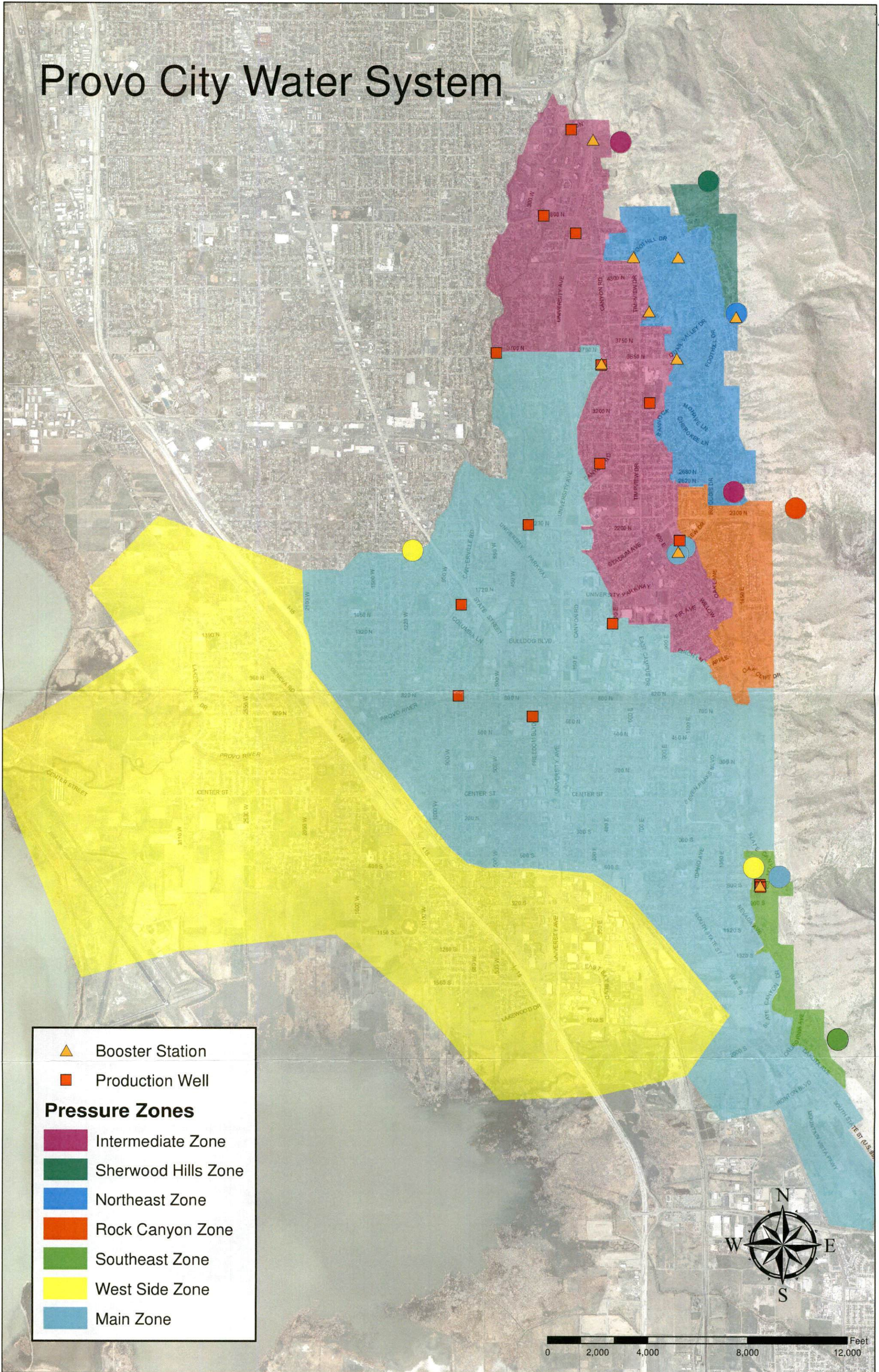
Table ES-9
Impact Fee Facilities Plan - Costs Required for Future Growth

Project #	Project Description	Estimated FYE 2012 Total Cost ¹	% Attributable to New Users	Estimated FYE 2012 Cost Attributable to New Users	FYE 2012	FYE 2013	FYE 2014	FYE 2015	FYE 2016	FYE 2017	FYE 2018	FYE 2019	FYE 2020	FYE 2021	Total (Inflated Cash)
CIP-1	Zone 17 Storage and Transmission Project	\$ 8,281,000	64.3%	\$ 5,341,245	\$ 64,500	\$ 5,435,047									\$ 5,499,547
CIP-2	48" Pipeline	\$ 15,447,000	21.3%	\$ 3,290,211	\$ 127,800		\$ 639,000	\$ 2,801,549							\$ 3,568,349
CIP-3	Creation of a New Zone 11 (Six New PRVs)	\$ 580,000	0.0%	\$ -											\$ -
CIP-5	800 N. Transmission Line	\$ 5,740,000	100.0%	\$ 5,740,000				\$ 1,292,084	\$ 3,327,117	\$ 2,056,158					\$ 6,675,359
CIP-8	Upsize of Distribution Pipelines for Future Development	\$ 3,928,000	100.0%	\$ 1,310,000	\$ 131,000	\$ 134,930	\$ 138,978	\$ 143,147	\$ 147,442	\$ 151,865	\$ 156,421	\$ 161,113	\$ 165,947	\$ 170,925	\$ 1,501,768
S-1	UMPA Well Development	\$ 1,290,000	100.0%	\$ 1,290,000	\$ 600,000	\$ 710,700									\$ 1,310,700
S-2	Big Springs	\$ 2,700,000	100.0%	\$ 2,700,000	\$ 50,000	\$ 2,729,500									\$ 2,779,500
FF-All	Fire Flow Improvements	\$ 3,870,000	0.0%	\$ -								\$ -			\$ -
	Further Capital Facility and Impact Fee Studies	\$ 110,000	100.0%	\$ 110,000			\$ 10,000			\$ 115,927					\$ 125,927
	Total Improvements	\$ 41,946,000		\$ 19,781,456	\$ 845,500	\$ 9,137,977	\$ 787,978	\$ 2,944,697	\$ 1,439,526	\$ 3,594,909	\$ 2,212,579	\$ 161,113	\$ 165,947	\$ 170,925	\$ 21,461,151
	Bond Revenue ²					\$ (5,611,500)		\$ (2,215,200)							\$ (7,826,700)
	Total Bond Payment (FYE 2013 Bond) ²														\$ 9,784,723
	Total Bond Payment (FYE 2015 Bond) ²														\$ 3,862,625
	Total Capital Improvements Attributable to New Users														\$ 27,281,799

¹ Inflation rate of 3.0% applied to capital costs in future years.

² Bond revenue and payments also allocated based on % attributable to new users for projects that require bonding.

Provo City Water System



2/28/2017 The Westside Planning Committee, after considering comments received at the stakeholders' meeting held 2/16/2017 and online at Open City Hall concerning draft policy statements, amended and approved the policy statements herein.

Westside Development Policies

As Recommended by the Westside Planning Committee

Purpose

The purpose of these policies is to guide development in southwest Provo in order to promote a smart, sustainable, vibrant community that offers a high quality of life for current and future residents while respecting Provo's agricultural heritage.

Policies

1. Preserve Provo's agricultural heritage and support agriculture for as long as farmers choose to farm:
 - a. Approve the creation of a Provo Agricultural Commission to support local commercial and non-commercial agriculture.
 - b. Request that the Provo Agricultural Commission identify obstacles to the success of current and prospective farmers, including non-traditional farmers, and recommend ways to remove these obstacles.
 - c. Request that the Provo Agricultural Commission explore tools for agricultural preservation. These tools may include: conservation easements, transfers of development rights, community land trusts, a privately funded farmland trust fund, and Utah's "Agricultural Protection" Program.¹
 - d. Encourage the Provo Agricultural Commission to improve the productive use of agricultural land.
 - e. Encourage Development-Supported Agriculture² and Agritourism³ to help preserve Provo's agricultural heritage.
 - f. Encourage our state lawmakers to increase funding for the LeRay McAllister Fund.⁴
 - g. Protect agricultural operations from the impact of residential encroachment.
 - h. Identify agricultural land owners, have their properties listed on developmental maps to better avoid encroachment onto agricultural lands.

¹ Utah Code Title 17 Chapter 41- a law that helps preserve vital food-producing land.

² Development-supported agriculture (DSA) is a movement in real estate development that preserves and invests in agricultural land use. As farmland is lost due to the challenging economics of farming and the pressures of the real estate industry, DSA attempts to reconcile the need for development with the need to preserve agricultural land.

³ Agritourism involves any agriculturally based operation or activity that brings visitors to a farm or ranch.

⁴ The LeRay McAllister Critical Land Conservation Fund is an incentive program providing grants to encourage communities and landowners to work together to conserve their critical lands. The fund targets lands that are deemed important to the community such as agricultural lands, wildlife habitat, watershed protection, and other culturally or historically unique landscapes.

2. Preserve and Create Quality Usable Open Space
 - a. Update and utilize the Parks and Recreation Master Plan to provide developed parks and open space that satisfy a range of leisure and recreational needs.
 - b. Preserve and develop natural amenities for sustained enjoyment by the community. Examples include the Provo River and banks, the Provo River Delta, Utah Lake shoreline, and wetlands.
 - c. Provide parks and trails of different uses and sizes.⁵
 - d. Encourage agritourism as a means to provide agriculturally themed open space.
 - e. Useable neighborhood open space should be an integral part of neighborhood design or combined to serve larger areas than the immediate development.

3. Encourage Sustainable Residential Development Patterns
 - a. Establish ordinances to require a mix of housing types, lot sizes, and designs to accommodate various stages of life.
 - b. Detached single-family homes should be the predominant housing type and the use of other types should augment and not detract from the single-family feel of the area.
 - c. Housing types should be mixed without barriers separating types or densities.
 - d. The scale and style of residences should enhance the surrounding area, regardless of housing type.
 - e. Create design standards for important road corridors in southwest Provo.
 - f. The overall density of the area should average four units to the acre.

4. Promote Development of Commercial Amenities and Employment Opportunities in Appropriate Locations
 - a. Regional commercial uses may be located adjacent to the I-15 or within the Airport Related Activities district.
 - b. Neighborhood and Community Shopping zones may be located at or adjacent to arterial or collector streets.
 - c. Design, scale and intensity of commercial zones or properties should transition to adjacent residential uses to minimize impact on the residential use.

5. Create a Robust Transportation Network
 - a. Update the Transportation Master Plan to accommodate the changing needs of southwest Provo.
 - b. The planned collector road network should be built as development occurs. No development should interrupt the collector road network.
 - c. Update the Provo City Major & Local Street Plan to include a network of proposed local streets to ensure connectivity in between the land between collector and arterial roads.

⁵ Examples include neighborhood parks, pedestrian, equestrian, and bike trails, community/school gardens, a regional sports park, a farm-themed park, and the Provo Beach concept.

- d. Utilize Complete Streets Policies to ensure all modes of transportation are considered.
 - e. Utilize the Transportation Master Plan to identify corridors that should have sufficient right-of-way to accommodate public transit.
 - f. Lakeview Parkway is to be maintained as an arterial roadway with limited access.
6. Require Proper Integration and Sequencing of Development
- a. The full block should be considered when rezoning away from agricultural uses
 - b. Conceptual Integrated Development Plan for the entire block should be required for zone change applications.
 - c. Discourage rezoning of land that is surrounded by agricultural zoning.⁶
 - d. Development may be limited or deferred depending on the availability of adequate municipal infrastructure (such as sewer, storm drainage, water, etc.).
7. Restrict Development in Wetlands and other Environmentally Sensitive Areas
- a. Land south and west of the Lake View Parkway up to Center Street (excepting the airport protection area) should be preserved for open space and agricultural uses.
 - b. No development should occur in flood-prone areas unless the risks can be mitigated. Plans for mitigation should be reviewed for adequacy by the Provo City Engineer and any State or Federal regulatory agency with jurisdiction to ensure that sensitive lands are appropriately developed to protect people, property or significant natural features. Mitigation plans should not adversely affect adjacent properties.

⁶ That is, no leap frog development.

BOUNDARY CHANGES

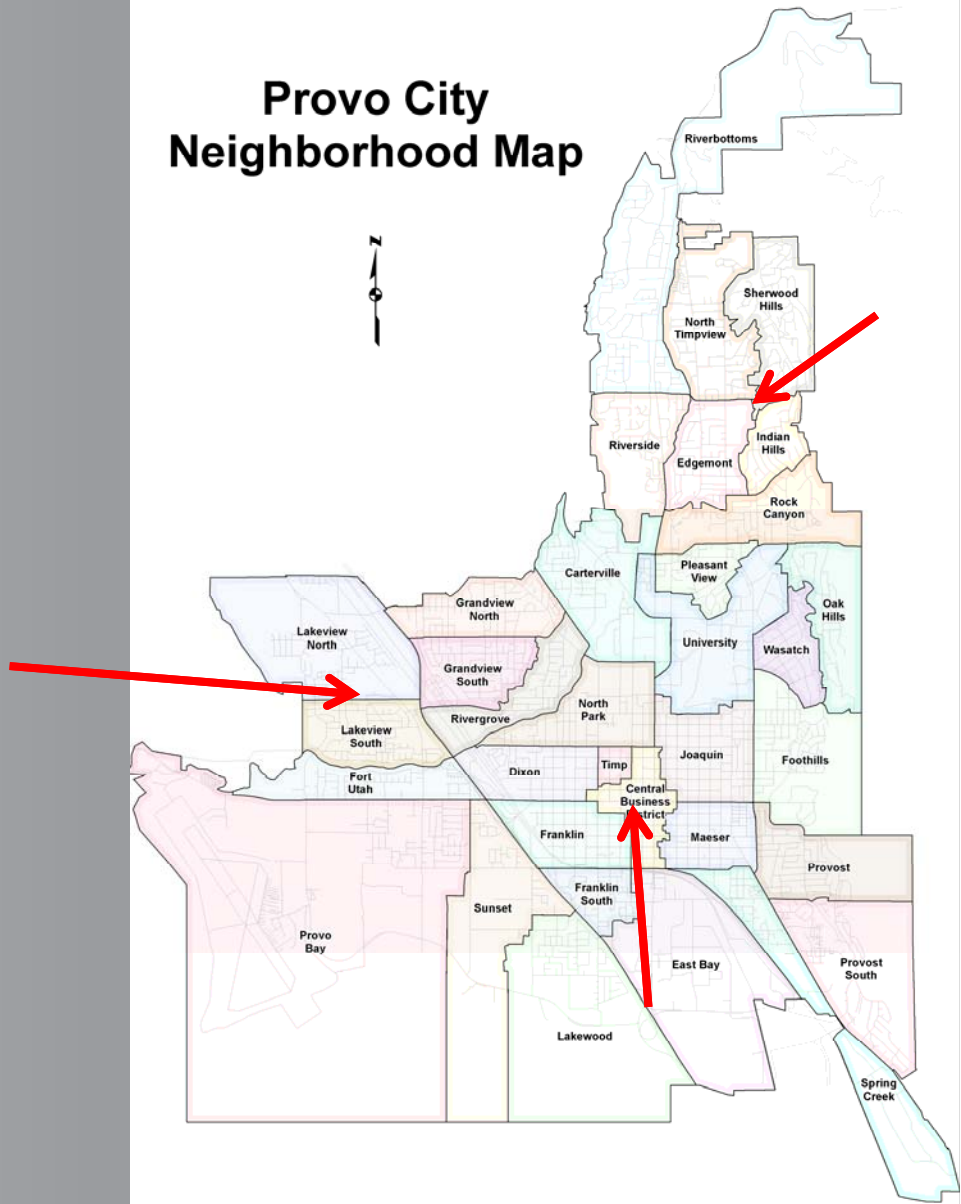
Neighborhood Program



PROPOSED CHANGES

- Lakeview North/Lakeview South
- Sherwood Hills/Edgemont
- Downtown/CBD

Provo City Neighborhood Map

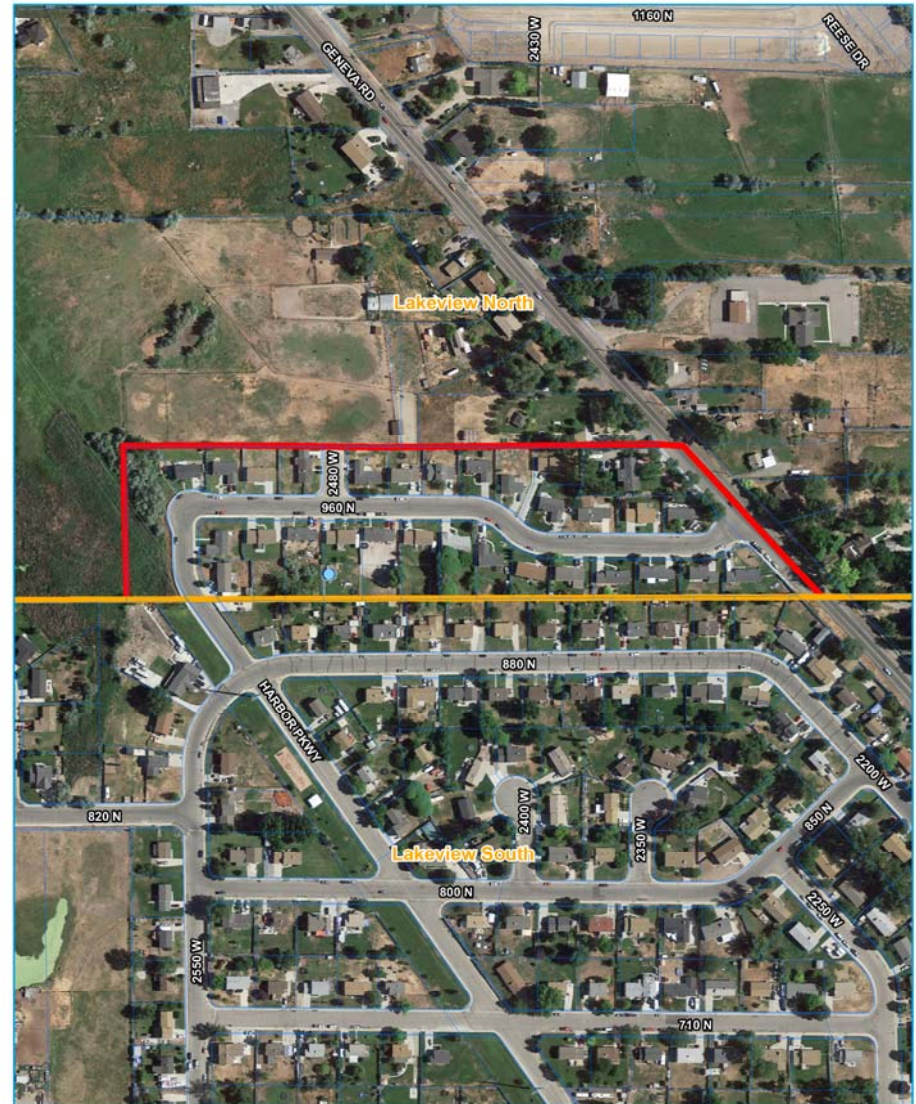


PROPOSED CHANGES

- Lakeview North/Lakeview South
 - 960 North moves to Lakeview South

Lakeview North / Lakeview South

Current Neighborhoods
Proposed Changes



Neighborhood Program Boundary Changes



PROPOSED CHANGES

- Sherwood Hills/Edgemont
 - Building on Quail Valley Drive moved to Edgemont to be with other nearby buildings

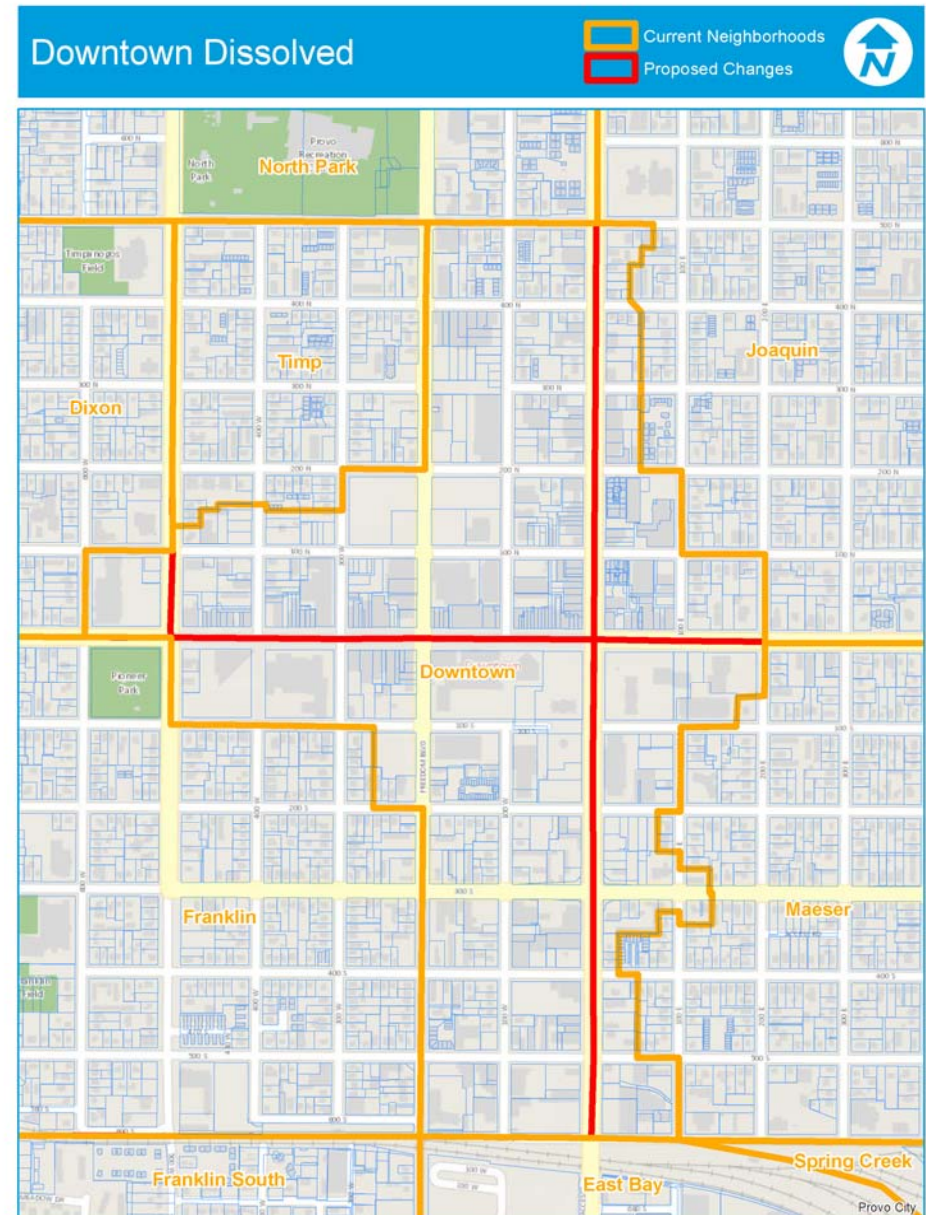
Sherwood Hills / Edgemont

Current Neighborhoods
Proposed Changes



PROPOSED CHANGES

- Downtown/CBD
 - Downtown Neighborhood dissolved into Dixon, Timp, Joaquin, Maeser, and Franklin Neighborhoods
 - Downtown preserved as an overlay for businesses



40 Provo City Code Sections 14.37.060 (Parking Spaces Required) is hereby
41 amended as shown below:

42

43 **14.37.060. Parking Spaces Required.**

44

45 . . .

46

47 BACHING SINGLES

48

49 *1 to 6 bedrooms*

50

51 Minimum of two (2) spaces per bedroom plus .25 spaces per unit visitor
52 parking, with a maximum of three (3) bedrooms per unit, if the bedrooms
53 are over one hundred (100) square feet. If the bedrooms are less than one
54 hundred (100) square feet, one (1) space per bedroom plus one quarter
55 (.25) space per unit visitor parking, with a maximum of six (6) bedrooms
56 per unit, if the bedrooms are under one hundred (100) square feet.

57 Recreational vehicles shall not be allowed in the required parking.

58

59 *Joaquin South Campus Planning Area (between University Ave. and 900 East; 500 N to
60 the southern boundary of BYU campus)*

61

62 Minimum ~~.70~~ **.80** parking space per tenant ~~which includes parking for~~
63 ~~visitors and for the disabled as outlined in 14.37.110~~ **plus .20 parking**
64 **spaces per unit for visitors and for the disabled as outlined in 14.37.110**
65 (Disabled Parking Space). Recreational vehicles shall not be allowed in
66 the required parking area.

67

68 . . .

69

70 **PART II:**

71

72 Provo City Code Section 14.23.120 (Parking, Loading and Access) is hereby
73 amended as shown below:

74

75 **14.23.120. Parking, Loading and Access**

76

77 (1) Minimum parking requirements shall be as follows: ~~(a) Fifty (50)~~ **seventy-five**
78 **(75)** percent of the parking required for each use as provided in Provo City
79 Code Chapter Section 14.37.060, Provo City Code. No other provision of

80 Provo City Code that purports to reduce or modify parking requirements may
81 operate to reduce minimum parking requirements below the requirement
82 provided in this Section.;

83
84 (b) ~~Parking for residential uses on a fifth and sixth story may be reduced~~
85 ~~to twenty five (25) percent of the parking otherwise required in~~
86 ~~Chapter 14.37, Provo City Code; and~~

87
88 (c) ~~Parking shall not be required for the first two thousand five hundred~~
89 ~~(2,500) square feet of retail or restaurant uses located in a building that~~
90 ~~consists of at least fifty (50) residential units.~~

91
92 ~~(2) Each project shall not provide more parking than that required by Chapter~~
93 ~~14.37, Provo City Code.~~

94
95 (2) **Bicycle Parking.** A minimum of one bicycle stall shall be required for
96 every 2,000 square feet of gross floor area. Bicycle stalls must be provided
97 in an enclosed area in the primary structure or within a parking structure
98 on the property.

99
100 (3) All other requirements of Chapter 14.37, Provo City Code shall apply.

101
102 **PART III:**

103
104 Provo City Code Section 14.21A.150 (Parking, Loading and Access) is hereby
105 amended as shown below:

106
107 **14.21A.150. Parking, Loading, and Access**

108
109 (1) Each lot or parcel in the DT1 zone shall provide a minimum of fifty per cent (50%) of
110 ~~the required~~ off-street parking as set forth in Chapter 14.37, Provo City Code. ~~except:~~

111
112 (a) ~~Buildings or portions of buildings located in the required 60-foot transitional~~
113 ~~setback shall comply with the following parking requirements:~~

114
115 (i) ~~Residential units shall have a minimum of one (1) and a half spaces for~~
116 ~~one (1) bedroom units and two (2) and a quarter spaces for units with two~~

117 ~~(2) or more bedrooms. This requirement does not include any~~
118 ~~disabled parking spaces required by Section 14.37.110; and~~
119
120 ~~(ii) Commercial uses shall provide the minimum parking required by Ch.~~
121 ~~14.37.~~

122 ~~(2) Parking for up to two levels of residential uses above the fourth story of~~
123 ~~any building in the DT1 zone may be reduced to 25% of the amount required by~~
124 ~~Chapter 14.37.~~

125
126 ~~(3) Maximum Parking. In no case shall parking exceed that required by Ch. 14.37–~~
127 ~~Parking.~~

128
129 ~~(4)~~ (2) Bicycle Parking. A minimum of one bicycle stall shall be required for every 2000
130 square feet of gross floor area. Bicycle stalls must be provided in an enclosed area in the
131 primary structure or within a parking structure on the property.

132
133 ~~(5)~~ (3) Parking Design. Parking shall be designed to the requirements of
134 Section 14.37.100.

135
136 (a) Surface parking shall not be provided within thirty (30) feet of a front
137 or street side yard property line of any property adjacent to a primary street.
138 Surface parking is not permitted within the first six (6) feet of properties
139 fronting secondary streets and must be separated from the street by a 6 foot wide
140 berm that is a minimum of twenty-four (24) inches in height.

141
142
143 **PART IV:**

144
145 Provo City Code Section 14.21B.140 (Parking, Loading, and Access) is hereby
146 amended as shown below:

147
148 **14.21B.140. Parking, Loading, and Access.**

149
150 (1) Each lot or parcel in the DT2 zone shall provide a minimum of fifty per cent (50%) of
151 ~~the required~~ off-street parking as set forth in Chapter 14.37, Provo City Code.

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~~(2) Parking for up to two (2) levels of residential uses above the fourth story of any building in the DT2 zone may be reduced to twenty five per cent (25%) of the amount required by Chapter 14.37.~~

~~(3) Maximum Parking. In no case shall parking exceed that required by Ch. 14.37—
Parking.~~

(4) (2) Bicycle Parking. A minimum of one bicycle stall shall be required for every two thousand (2000) square feet of gross floor area. Bicycle stalls must be provided in an enclosed area in the primary structure or within a parking structure on the property.

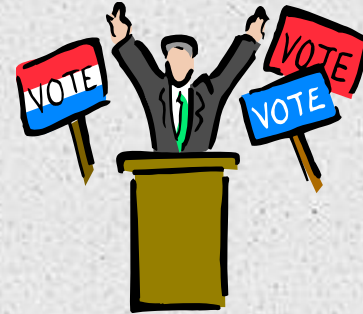
(5) (3) Parking Design. Parking shall be designed to the requirements of Section 14.37.100.

(a) Surface parking shall not be provided within thirty (30) feet of a front or street side yard property line of any property adjacent to a primary street. Surface parking is not permitted within the first six (6) feet of properties fronting secondary streets and must be separated from the street by a six (6) foot wide berm that is a minimum of twenty- four (24) inches in height.

PART V:

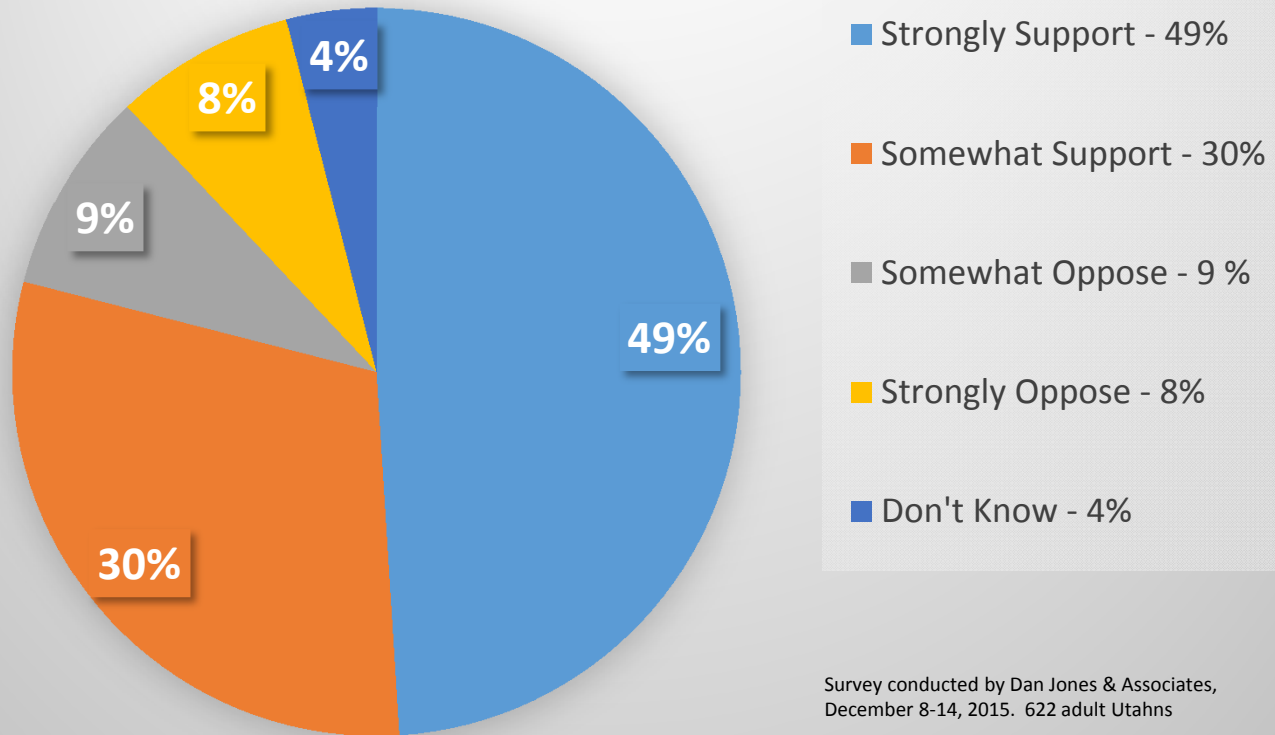
- A. If a provision of this ordinance conflicts with a provision of a previously adopted ordinance, this ordinance shall prevail.
- B. This ordinance and its various sections, clauses and paragraphs are hereby declared to be severable. If any part, sentence, clause or phrase is adjudged to be unconstitutional or invalid, the remainder of the ordinance shall not be affected thereby.
- C. The Municipal Council hereby directs that the official copy of the Provo City Code be updated to reflect the provisions enacted by this ordinance.
- D. This ordinance shall take effect immediately after it has been posted or published in accordance with Utah Code 10-3-711, presented to the Mayor in accordance with Utah Code 10-3b-204, and recorded in accordance with Utah Code 10-3-713.

END OF ORDINANCE.



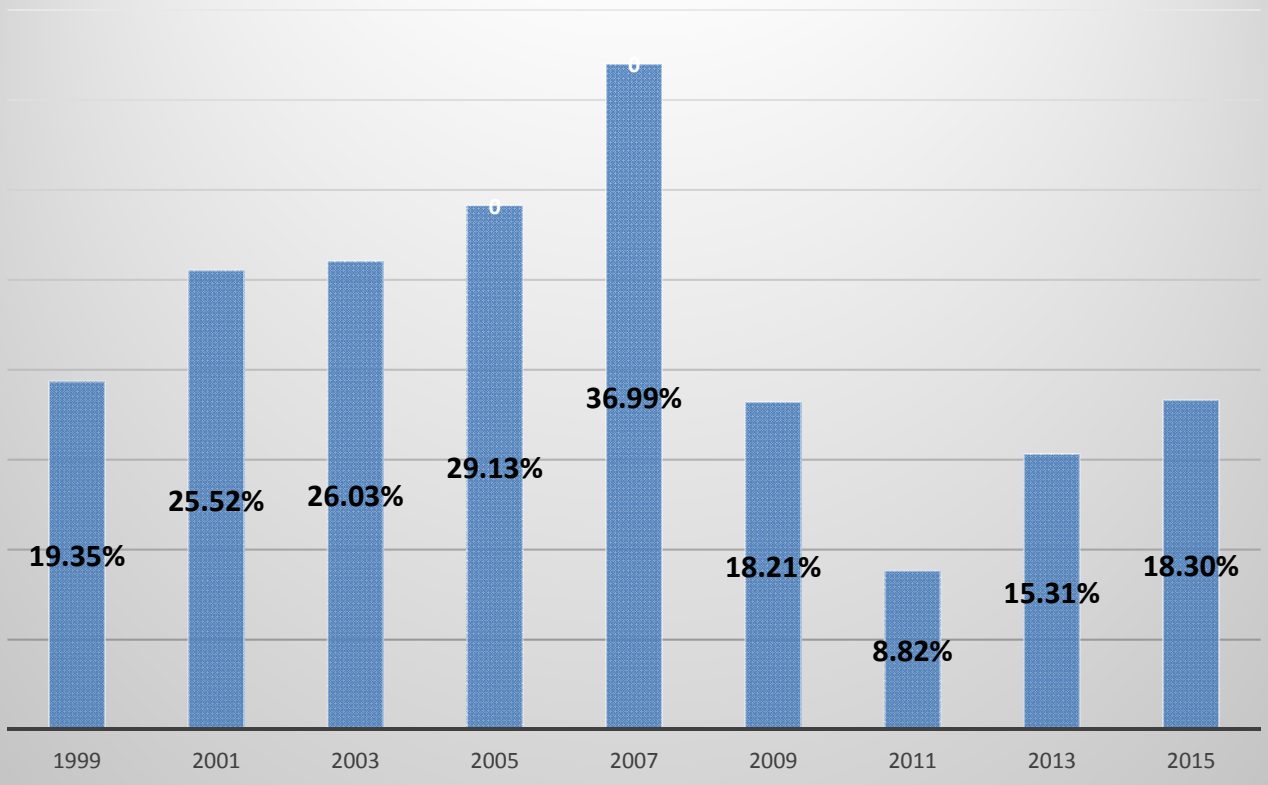
Vote-by-Mail Appropriation

Do you support vote-by-mail (VBM) for General Election?



Survey conducted by Dan Jones & Associates, December 8-14, 2015. 622 adult Utahns

Provo City Voter Turnout



2005 – Road Bond Election


2007 – School Voucher Election

Estimated 2017 Election Costs

VBM with Utah County	\$ 170,000*
VBM on Own	\$182,960
Optical Scan at Polls**	\$180,346

*Total amount determined by number of cities contracting with Utah County for VBM. Utah County needs our decision by April 3, 2017.

**Voting machines at polls not an option - Utah County will only administer one type of election. They have chosen VBM.



I recommend that we budget one-half of the cost each year and carry forward the balance from the non-election year.

Recommended Appropriation for VBM

I recommend that we budget one-half of the cost each year and carry forward the balance from the non-election year.

Estimated Costs	\$170,000
Budget 1/2 FY 2018	\$85,000
Carryover from FY 2017	<u>(\$20,500)</u>
Appropriation for FY 2017	\$64,500