MURRAY
CITY COUNCIL

Council Meeting
April 2, 2019

Murray City Municipal Council
Notice of Meeting

April 2, 2019

Murray City Center
5025 South State Street, Murray, Utah 84107

Meeting Agenda

4:45 p.m. **Committee of the Whole** - Conference Room #107
Dave Nicponski conducting

Approval of Minutes

Council Retreat January 17, 2019

Discussion Items

1. Murray Central Station Small Area Plan – Jared Hall, Jim McNulty, and Mark Vlasic (30 minutes)
2. Set-Back for Outdoor Dining – Jared Hall, and Jim McNulty (15 minutes)
3. Proposed Budget Amendment FY 2019 – Mayor Camp and Brenda Moore (30 minutes)
4. Cemetery Fee Increases – Mayor Camp and Kim Sorensen (15 minutes)
5. Fire Code Modifications – Mayor Camp, Mike Dykman, and Joey Mittelman (10 minutes)

Announcements

Adjournment

The Council Meeting may be viewed live on the internet at http://murraycitylive.com/

6:30 p.m. **Council Meeting** – Council Chambers
Dave Nicponski conducting.

Opening Ceremonies

Call to Order
Pledge of Allegiance

Special Recognition

1. Swearing-In new **Murray City Police Sergeant, Alisha Richmond**. – Chief Burnett and Jennifer Kennedy

Special Presentation

1. **Mayor Blair Camp's Fiscal Year 2019-2020 Budget Address**

   Consider a resolution acknowledging receipt of the Fiscal Year 2019 – 2020 Tentative Budget from the Mayor and referring the Mayor's Tentative Budget for review and consideration to the Budget and Finance Committee of the Murray City Municipal Council.

Citizen Comments

Comments will be limited to three minutes, step to the microphone, state your name and city of residence, and fill out the required form.

Public Hearings

Staff and sponsor presentations, and public comment prior to Council action on the following matter.

1. Consider an ordinance amending Sections 17.70.040, 17.170.090, 17.173.010, and 17.174.010 of the *Murray City Municipal Code* relating to sustainable development practices. – Doug Hill

Business Items

1. Consider an ordinance renaming Chapter 9.18 and enacting Section 9.18.020 of the *Murray City Municipal Code* relating to the prohibited discharge of fireworks. – Mike Dykman

Mayor's Report and Questions

Adjournment

NOTICE

Supporting materials are available for inspection in the City Council Office, Suite 112, at the City Center, 5025 South State Street, Murray, Utah, and on the Murray City internet website.

SPECIAL ACCOMMODATIONS FOR THE HEARING OR VISUALLY IMPAIRED WILL BE MADE UPON A REQUEST TO THE OFFICE OF THE MURRAY CITY RECORDER (801-264-2663). WE WOULD APPRECIATE NOTIFICATION TWO WORKING DAYS PRIOR TO THE MEETING. TDD NUMBER IS 801-270-2425 or call Relay Utah at #711.

Council Members may participate in the meeting via telephonic communication. If a Council Member does participate via telephonic communication, the Council Member will be on speaker phone. The speaker phone will be amplified so that the other Council Members and all other persons present in the Council Chambers will be able to hear all discussions.

On Friday, March 29, 2019, at 9:00 a.m., a copy of the foregoing notice was posted in conspicuous view in the front foyer of the Murray City Center, Murray, Utah. Copies of this notice were provided for the news media in the Office of the City Recorder. A copy of this notice was posted on Murray City's internet website www.murray.utah.gov. and the state noticing website at http://pmn.utah.gov .

Janet M. Lopez

Janet M. Lopez
Council Executive Director
Murray City Municipal Council

MURRAY
CITY COUNCIL

Committee of the Whole

MURRAY
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Committee of the Whole Minutes

MURRAY
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DRAFT

MURRAY CITY MUNICIPAL COUNCIL
RETREAT

The Murray City Municipal Council met for a retreat on January 17, 2019 at Twiggs Bistro at Fashion Place Mall, 6223 South State Street #4, in Murray City.

Council Members in Attendance:

Dave Nicponski - Chair	District #1
Dale Cox – Vice Chair	District #2
Jim Brass	District #3
Diane Turner,	District #4
Brett Hales	District #5

Others in Attendance:

Others in Attendance:

Jan Lopez	Council Director	Pattie Johnson	Council Office
Kerri Nakamura	KNA (Kerri Nakamura & Associates)	Michael Nakamura	KNA
G.L. Critchfield	City Attorney		

Call to Order - Council Chair Nicponski called the retreat to order at 10:30 a.m. and welcomed those in attendance. The following discussions occurred:

Separation of Powers Training - G.L. Critchfield

Mr. Critchfield shared valuable information and led the following discussions:

Stay in Your Own Lane

Mr. Critchfield asked what keeps two cars from colliding when driving the same direction, in separate lanes on the freeway, other than white lines, common rules and regulations. He said the overall answer was self-restraint, because while abiding by rules, and fear of collision, drivers must have a common respect for each other.

A recording was shared from an AT&T Wireless advertisement involving a conversation between a customer and a tattoo artist. After the customer questions the artist's abilities about how the procedure should begin, the artist calmly says "stay in your lane bro." Therefore, as related to separation of powers, Mr. Critchfield said it was important to remember this phrase, and explained when the customer questioned the artist, he technically crossed into the artist's lane. The customer was really saying: 'let me do your job for you.' Mr. Critchfield encouraged the council to consider the phrase throughout the training and ask them what the term *separation of powers* meant to them.

Ms. Turner said the council and administration are separate entities, however, equally important, because they have separate power authority.

Mr. Hales said separation of powers was important, but it did not mean two entities could not communicate effectively – because they should be.

Mr. Cox thought separation of powers provided good checks and balances between the two branches of government.

Mr. Critchfield shared personal observations, and described a pure, traditional, orthodox view that an impenetrable barrier exists between the two branches of government. Conceptually, and theoretically this was true, however, in practice this was not how things literally worked out. He said separation was more of an intermixture than a complete and total separation, since overlap occurs as both branches interact together by coordinating and communicating. Yes, each branch should 'stay in their own lane' but they always come together to serve citizens.

He said there should be no checks and balances – if entities were truly separate - because a check, essentially means an invasion of the other side.

Ms. Turner asked Mr. Critchfield to define the term 'co-equal.' He welcomed the question and proposed that thought to the group.

Mr. Hales said co-equal was being on the same level. He shared a personal example about his spouse, where all personal decisions are made together.

Mr. Critchfield agreed it was difficult to form one precise definition. He said with five council members, and one mayor, how could that be equal, and proposed co-equal meant equal respect for the other. The law says the council and mayor are equal branches of government, but their roles and powers are not. As a result, if each branch has respect for the other, by 'staying in their own lanes, as they work together, this was how the term separation of powers should be viewed.

Roles of each branch of government - Mr. Critchfield led a lengthy discussion.

When overlap occurs it is important to understand different and similar roles of each entity, for example, when devising a General Plan to achieve a vision for the city. First, staff on the administrative side begins the process with a vision; as the plan moves forward, meetings occur with both city council, and mayor's office. Next, the planning commission provides their own final vision, so ultimately, by the time the plan gets to the council, it is in extensive written form, and the council is expected to amend, adopt, approve or disapprove recommendations.

Mr. Critchfield explained in essence, the administrative side proposes policy to the council, as to what they think should be in place, therefore, he asked the council how and why that worked successfully. The reason was because the mayor and staff work together daily, with citizens regarding day to day operations. In addition, a good mayor looks down the road and questions what the long-term goals and policies of the city should be. Mr. Critchfield said policy was not made in a vacuum - but only by collaboration. In the end, the city council approves, adopts and passes policies that become their own. However, that only occurs after policy has come through a long process from the administrative side. As a result, when both entities 'stay in their own lanes,' they ultimately overlap, and work together on the same issues.

Roles of the Mayor

Mr. Critchfield said an effective mayor stakes out policy direction that is well communicated and discussed with a city council to determine good policies. The following duties and attributes were noted:

- Facilitates teamwork, attends ceremonial duties, like ribbon cuttings, and public engagements.
- The mayor is the face of the city responsible for answering complaints of citizens.
- Overall, the administrative branch resolves issues.
- Works with governmental entities, often out-front talking to other governmental officials.
- Handles public relations, media relations, and acts as chief executive.

Mr. Critchfield asked in terms of a mayor, what the words 'chief executive' meant.

Mr. Hales said as mayor, head of the city and the mayor's job was to protect and police the city.

Mr. Nicponski said the chief executive runs the city.

Mr. Critchfield explained the word 'executive' means an executive executes policies that are passed. For example, the mayor brings forth policy to the council by ordinance, to be discussed, reviewed and approved, which is carried back to be implemented and executed by the mayor these are the day to day operations of the administration. Therefore, it is perfectly appropriate for a mayor to make policy recommendations, and a check and balance from the council - is a vote - when they actually approve the policy.

He said this made sense because a city council with a small staff cannot be asked to prepare a General Plan, review a Master Transportation plan, or formulate a budget. He said it does not work that way, which is why there is an intermixture of functions, and without that intermixture, nothing could be accomplished, therefore, it was important for the council to accept that part of the mayor's role is to help formulate policies.

Mr. Critchfield clarified the roles of budget officer and finance director because language within City Code was different from that of the Council Rules.

Mr. Hales confirmed Ms. Steck is the *budget officer.*

Mr. Critchfield confirmed, however, fundamentally, the *budget officer* is actually Mayor Camp. He said this was confusing because roles are based on each branch of government's relationship to those titles, and titles are interchanging. For example, City Code states a *finance director* will act as *budget officer* - when reporting to the mayor and the city council. And, Council Rules state a *finance director* reports to both the mayor, and city council members - equally. As a result, Ms. Steck prepares a budget as the *budget officer* for the mayor; and at the same time, she is the *finance director* to the city council, which is how confusion occurs. He noted the Council Rules also state the *city attorney,* reports to both mayor and council.

Terminology is not wrong in either source, or exactly right - because interpretation depends on which branch of government is being referred to. Ideally, everyone works well by collaborating, even though separate work is conducted. For example, the lengthy process of preparing a tentative budget – it must meet legal requirements, involves lots of staff, and has several required deadlines. As a result, the short amount of time the council has to review and consider a budget, does not equal preparation time.

Mr. Critchfield provided copies of Utah Code to note references about the budget officer, and the extensive process of budget preparation. He noted the reason Utah Code was applied to both the Council Rules, and City Code, was to overcome the prohibition that the council is not supposed to order or direct city staff. However, the city council has every right to speak to their city attorney without the mayor's permission, because the attorney represents the city with an overarching duty that includes communicating with both branches.

There is a similar overarching thought about the role of the *budget officer,* because once the budget is complete, and meetings occurred with the council, the council provides input, asks related questions, and addresses budget issues. As a result, the budget officer makes amendments and adjustments as necessary, however, Mr. Critchfield pointed out the council does not oversee the budget officer, or finance director.

Mr. Hales wondered if council members had to ask permission from the mayor before speaking with staff. For example, if they had specific questions for Mr. Haacke. Mr. Critchfield affirmed the difference between law and practice. The law says the council cannot direct or order city

employees to do things, but, that did not mean they could not make recommendations or communicate for good practice.

Mr. Critchfield said typically with Murray's form of government, council members ask the mayor what is preferred in that regard. Some mayors would say go directly to staff, others prefer not. But even when a mayor instructs council members to speak directly to staff, too often difficulty and confusion occurs because a department director fails to tell the mayor about a conversation. As a result, when a mayor becomes aware of something, it brings about unknown reasoning and confusion. Therefore, there is a decorum for the council to establish with Mayor Camp what is preferred by him, and respect that request.

Mr. Hales thought if a mayor trusted a city council, a mayor would not mind council members contacting city employees about issues and concerns - if they needed specific answers quickly. However, he understood protocol should come from the mayor.

Ms. Turner said what if a mayor did not trust an employee, therefore, a lack of trust might not always be in relationship to the city council.

Mr. Critchfield described a scene from the movie *Designated Survivor*, when an off-sight survivor becomes president of the United States and is sitting among advisors; the man throws his arms up and says: "Are you telling me my hands are tied?!" Mr. Critchfield noted this as a prime example of how the system really works - the city council should not get involved with city employee issues - because their hands are tied. However, from a department perspective, their hands are not tied. As a matter of respect for Mayor Camp the council should ask his preference first, which in effect is helpful so the mayor might understand issues he might not be aware of.

Mr. Brass frequently forwards emails regarding city issues and citizen complaints to Mr. Hill. He wondered about communication aspects related to the Power Department or sharing interesting issues because he often meets certain staff members for breakfast and does not tell the mayor. He said some issues are not city related, therefore, he thought it was easier for him to handle minor matters that way.

Mr. Critchfield said when council members speak to city employees first hand, they put staff in a difficult position, especially when there is a conflicting matter. He said employees do not want to offend council members, or the mayor, and most want to work effectively with both branches.

Mr. Hales confirmed he contacts Mr. Hill about issues and thought there was an understanding that Mr. Hill would inform the mayor about their communication and related concerns. Mr. Critchfield said that arrangement was perfect- but when a department director or employee is reluctant, it is generally because they want to communicate with the mayor first.

Ms. Turner goes directly to Ms. Steck with issues and thought it was important to have that direct contact, because the budget is one of the council's biggest responsibilities.

Mr. Hales agreed Ms. Steck is the council's finance director.

Mr. Nicponski confirmed by City Code, the finance director, and legal counsel report and belong to the them, and the administration.

Ms. Turner thought there was question about that recently, related to the council.

Mr. Critchfield reiterated functions absolutely overlap. He said for example, as city attorney he did not represent any single council member, or just the mayor. Conceptionally, he represents the city organization itself, as a corporation. In addition, Finance Director, Ms. Steck, when acting as *budget officer,* or when Mayor Camp is acting as *budget officer*, their functions overlap. He said the mayor and finance director do not work for the city council - in the sense that the council could fire or direct them – because the relationship was completely different.

Council members confirmed.

Mr. Critchfield said if it was working well for Ms. Turner to speak directly to Ms. Steck, that method was satisfactory. However, as a general rule, related to all department heads, it is important to establish good communication standards so employees, the mayor and the council all feel comfortable.

Mr. Nicponski agreed legal counsel represented the council, as well as, fulfilling duties for the administrate branch. Mr. Critchfield reviewed the best way as a lawyer to describe ethical duties to the public, and to elected officials, is to say the city attorney represents the city council, the mayor, department heads, and all employees. But, only in terms of the interest of the corporation. For example, he cannot represent a council member individually, or the mayor on personal matters because he represents the city as a whole regarding city issues.

Ms. Turner noted should the council ever decide it was necessary, could they hire their own representation. Mr. Critchfield hoped the city would never get to that point. Ms. Turner agreed.

Mr. Cox addressed communication with Ms. Steck, and all city employees and thought the council should exercise caution when employees want to provide favors or do something for them. He hoped employees would clear all matters with the mayor prior, because the council would have no idea if that occurred. As a result, they could be putting employees in jeopardy of losing their employment, or put them in a bad light, so he thought the council should be very careful about those types of situations. Mr. Critchfield agreed.

Council Relations – Anti-sexual harassment policy.

Ms. Turner requested the review in order for council to decide whether it should be adopted into the Council Rules.

Mr. Critchfield said the city has policy on sexual harassment and harassment in general, however, it applies to city employees on the administrative side. He explained if an employee sexually harasses somebody, and it rises to the level of termination the mayor handles it. However, if a council member harasses someone, the remedy would be different, because the mayor cannot terminate a council member. Council members are only dismissed by losing during re-elections, which could potentially be years later, and only some censorship by the council could be administered.

Therefore, written policy was reviewed to address those concerns. The policy proposed, that if perceived that a council member committed sexual harassment, council members could seek advice from Mr. Critchfield, or Council Director, Ms. Lopez. At that time, a decision would be made as to whether a further investigation was necessary, or if outside assistance would be needed. The council would discuss and approve the outcome amongst themselves. He noted this was also an example of how the separation of powers worked effectively.

Mr. Nicponski confirmed the council encompasses four general areas: Ordinances, policy, budget and advice and consent. Mr. Critchfield agreed.

Oversight and Authority of the City Council

Mr. Critchfield said oversight and authority details of the city council were very well written in the Council Rules.

He explained policy covers whether a committee should be formed to review questionable issues for things like; improper tax spending, department concerns, or whether a mayor received a questionable payoff; these types of things were noted as only examples of when something has been done wrong and need investigating.

The committee could be made up of just council members or include the administration as well. He said this approach should not taken lightly, and unless there was valid compelling information, it was typically not even invoked.

Closing comments

Mr. Critchfield appreciated the opportunity to spend time with the council and serving with them. He said he learned a lot from each council member and continues to learn with them

Mr. Nicponski and all council members appreciated Mr. Critchfield as a valuable asset to the council.

Mr. Brass noted there was no time to review the RDA (Redevelopment Agency) related to the executive director in state law and city code and requested a further training and discussion.

Council Initiative Discussion – Jan Lopez

- Plastic Bag Ordinance

Ms. Turner researched thoroughly to propose a plastic bag fee ordinance. Mr. Critchfield stated a draft was available for review and he would send it to her. She said she did not want to pursue the issue, unless she had support from other council members and confirmed she had more information for their review.

Mr. Brass was curious about the ordinance and would like to review it. He noted Smiths grocery stores credit grocery bills when reusable bags are brought in, which is a great incentive for getting away from using plastic bags. He agreed somehow plastic bags must be removed from the stream of waste because he witnessed people using them to bag up recycled material that ends up their recycling can, which was an immediate rejection for a truck load.

Ms. Turner agreed and thought citizens should understand the significant cost to the city, the environment, and overall recycling – she stressed the need for continued education.

Mr. Nicponski suggested discussing the issue further during a Committee of the Whole meeting.

Ms. Turner appreciated that and said cost and fee allocations could be determined at that time.

- Construction Requirements.

Mr. Cox discussed the construction industry related to the new city hall project. He wanted to be sure the city's pre-qualification language related to contractors was adhered to. In order to protect labors who would be working on the project he wanted to ensure they would be working for reputable contractors who paid employees well and provided health care. He was satisfied with the new ordinance except he was unable to locate health care provisions.

Mr. Brass thought Layton Construction, hired as the construction manager by the city, was a reputable organization. He agreed finding qualified subcontractors was critical and noted the Park Center where repairs occurred, due to poor construction at the beginning.

Mr. Cox agreed and discussed the St. George airport with ongoing costly repairs and mentioned other bad projects he witnessed over his career - he did not want to see this happen to city hall. He said if a project costs more to begin with and is constructed right the first time, it does not need repairs and can benefit in the long run.

Mr. Nicponski agreed and asked Mr. Critchfield to see that the ordinance included health care. Mr. Critchfield would include the provision and send it to Mr. Cox for his review.

- Council Contract Authority.

Ms. Lopez attended a council director's meeting recently, where council contract authority was discussed. Other cities implemented the related code, and Sandy just passed the ordinance. At this point in time, Mayor Camp is the only person who can sign a contract, therefore, should the council ever want to hire a consultant on their own behalf, in the future, the council would not be able to. She discussed the matter with Mr. Critchfield and inquired if the council wanted that authority written in code.

Mr. Brass said yes it would be beneficial, because Utah State law gives that right. He said state code also says the council has the right to audit departments as they see fit, and the council may one day want to hire someone to assist them in doing so.

Ms. Turner agreed. There was a consensus among all council members.

- Legislative Report

Ms. Lopez requested Mr. Cox share a brief legislative report prior to the mayor's report during council meetings relating to pertinent issues – once a month. Citizens would be informed via video streaming, about important issues to contact legislators about. Mr. Nicponski confirmed.

Mr. Cox explained residents would understand the impact of property tax, sales tax, and utility fund transfer issues that could greatly affect them. All council members agreed the report would be beneficial.

Break

Budget and Finance Training - Kerri Nakamura

Ms. Nakamura shared personal background information related to her past career, and shared governmental experiences similar to those of the Murray City Council, where she helped the Salt Lake County Council members exercise the legislative role by utilizing specific tools available. She agreed with the concept of 'staying in your lane' but also noted additional tools available for appropriately influencing the speed, flow of traffic, and priorities of the other lane.

Ms. Nakamura encouraged a frank discussion and reviewed the city's information policies prior to the meeting. She gave approval of the current system the city had in place, and took some credit for that, due to years of her training local officials and noted many of the city's ideas were there because of her suggestions over time. She said Murray was a text book case, that had the framework of what she always taught legislative bodies, and of what she encouraged other legislative officials to do. She encouraged the council and Mr. Critchfield to push back effectively, ask questions, and thought by the end of the day the council would realize whether they were fully maximizing their legislative role.

Mr. Nakamura shared his credentials and experience working on financing large infrastructure projects for government entities and others. A governmental program tool he designed through Excel was shared. The tool was presented to the Sandy City Council and other municipalities, which helps elected officials make and track projections. During the meeting he assisted by charting thoughts and inquiries for determining goals of the council.

The KBTS (Keirsey-Bales Temperament Sorter)

The council participated in an exercise about discovering personality types, in relationship to leadership and decision-making style. The group analyzed how their personality types interact, react, communicate and address various situations. A lengthy discussion occurred to gain insight about strengths and weaknesses and understand that everyone resolves issues and conflict differently. She said being aware of other's attributes was beneficial when working with groups of people, especially when perceptions are not the same.

Ms. Nakamura explained as a city council, exercising power was important to understand, because any single council member cannot make policy, or set direction, unlike the mayor, who can make broad policy recommendations on his own, and then convey to staff what is desired. So, since the council operates as one body, their power must function that way. The focus on harnessing authoritative power as one body involves understanding each other's decision-making style, because not all voting results end up 5-0, and often a council member ends up in the minority vote. Therefore, she stressed their power comes from one body - acting as a group – not as individuals.

The following quote was shared: *"It is well to remember that the entire population of the universe, with one trifling exception, is composed of others." - John Andrews Holme*

Today's Goal - Examine the Council's Policy Setting Role

A power point was utilized for budget training in the following areas:

- Develop deeper understanding of the municipal budget process and the Council's role in the council/mayor form of government.
- Gain additional proficiency in using financial reports, audit reports, and other tools to monitor implementation of the Council's policy objectives.
- Identify areas where Murray Council's broad budget policy direction could be clarified/better defined.
- Deep-dive capital project financing: Pay-as-you-go vs. Bonding.
- Deep-dive revenue policy issues and explore how a 5-year plan can guide:
    - Property tax increases: Small regular or large infrequent.
    - Use of reserve funds.
    - Other tax/fee issues.

What Is A Budget – Ms. Nakamura ask what a budget means.

Ms. Lopez said a budget was a spending plan. Mr. Hales agreed. Ms. Turner said a budget is how you define spending.

Ms. Nakamura said looking at the city's budget, she could easily determine Murray's priorities. She conducted a lengthy conversation about the council's priorities, as listed in the budget book, and encouraged thought about whether their priorities were well represented in the spending plan. Overall, it was agreed the budget is:

- The way the city demonstrates how goals are being met.
- The most important item the council is responsible for.
- The way the council sets policy direction.
- Is not a once a year process but should be ongoing all year long – when used as a policy setting tool.
- Clear mechanics and framework of how the city manages money.
- Significant to the council, is the budget and finance committee within the council, especially with Murray's form of government.
- Something the council could infuse further, because the council is a separate AND equal branch, and while many functions intertwine, they do not always have to.

Budget Message - Ms. Nakamura noted the Budget in Brief document and noted the clear message from the council. She said the council did a very good job with their message, and suggested once the next budget was approved, both the mayor and the council should provide additional messages related to how the budget message should:

- Reveal major assumptions used in the budget –both revenue and expenditure.
- Identify financial, economic, and inflation factors.
- Identify opportunities.
- Focus attention on the changes from the prior year budget.
- Establish an overall message.

Budget Policy – The legislative branch has different values, ideas and goals that all come together to establish clear direction. Ms. Nakamura led discussions regarding details about establishing policies and noted:

- There is no right or wrong answer, but there might be best practice guidance. For example, the council gets to set the value, by saying this is what we do, this is how we want it financed.
- Legislative staff could help the body unite around a general direction, which is easier said than done.
- If your personal policy goals are not aligned with the direction established by a majority of the Council, what do you do?

Mr. Hales explained he could be flexible about non-pressing issues, however, if something was very important to him, he would pursue it. Ms. Nakamura stressed the importance of picking up votes from other council members to support those convictions– by gaining power with three votes. She noted often times council members do not agree, which was a time to voice those important views to gain needed support to make deliberate decisions.

Taking the Temperature - Ms. Nakamura said it was important not to take the middle ground on issues, therefore, the council took an anonymous survey to determine how they all agree and disagree.

Council members agreed 5-0 on the following:

- The Murray City Council should implement a budget process that includes more extensive review during the year, even if such a process results in more frequent/longer Council meetings.
- The Murray City Council should exercise greater legislative oversight of programs with a focus on improving efficiency and identifying cost savings.
- Interfund transfers should be used to hold down property tax increases.
- Murray City enjoys a business-friendly fee and regulatory environment.
- Murray City's tax structure is fairly balanced between citizens and businesses.

Council members agreed 4-1 on the following:

- Murray City is headed in the right direction.
- Property tax increases should be small and frequent.
- The landscape of sales tax probably will change in Murray in the next 5 years.
- The services presently provided by Murray are what the citizens want.
- Public investment in private development is appropriate as an economic development strategy.

All council members disagreed with the following statement:

- Murray City should more aggressively pursue contracting out services.

Ms. Lopez would follow up with the results to help provide further direction to the council.

Mayor/ Council Form of Government - Transparency - Checks & Balances - Mirrors State and Federal Models.

Ms. Nakamura read the following quote and reviewed again the complete separate, independent and equal branches.

> "The optional form of government known as the council-mayor form vests the government of a municipality which adopts this form in two separate, independent, and equal branches of

municipal government—the executive branch consisting of a mayor and the administrative departments and officers; and the legislative branch consisting of a municipal council. There is a complete separation of powers with the executive powers vested in the mayor and the legislative powers vested in the city council. This is contrasted to the non-optional form of government where there is no separation of powers and the executive and legislative is all contained in a governing body consisting of the mayor and council." - *David Church, ULCT Legal Counsel*

Utah Municipal Budget Process – Putting the Pieces Together.

- Prepare Tentative Budget – Ms. Nakamura asked if the council thought they had any influence over any of the following during the budget preparation – as prepared by the mayor's delegated staff, who is finance director to the council:

    - Review services and align with organization goals
    - Review service delivery options
    - Cost next year's services
    - Review fees
    - Prepare revenue and expenditure estimates
    - Prioritize budget
    - Submit revenue and expenditure request to Budget Officer
    - Budget officer prioritizes organization budget

Mr. Brass understood the council had influence with the agreement of the mayor in the past, however, technically he realized the mayor did not have to allow for that. He thought it was possible, for the administration to withhold the budget if desired, and not allow any council input - until it was finished, which was not the best way to go about it.

Mr. Hales thought the council should and could influence the budget according to what laws allowed. Ms. Nakamura confirmed the legislative bodies she worked with heavily influence the budget – through policy statements.

She explained with clear policies in place before January, prior to budget preparations, city staff would clearly understand the council's philosophy about certain issues, for things like service delivery options. Therefore, staff would be responsible to those council policies. She said at the end of the day, council members are the policy setters – no right or wrong. What the council decides is the direction the organization goes. For example, setting policy for how often fees are reviewed systematically, and if fees fully recover the cost of service. By forming policies, it forces the administration to look at city services in keeping costs down. By setting this type of guidance, the council's policy code would be implemented.

Mr. Brass said fees were reviewed regularly and adjusted as necessary.

Mr. Hales said it occurred only when fee reviews were brought to the council.

Ms. Nakamura stressed the council could have broad policy guidance for preparing revenue and expenditure estimates. For example, she noted the CAFR policy for preparing sales tax estimates, which was an increase of 1% of what was received the prior year. She said she did not test the information to see if the current report followed that policy, but would encourage the council, as a legislative body, to keep an eye on revenue as a way of confirmation.

She said monitoring expenses was important, however, the council should not divorce themselves from tracking revenue. For example, if there was an extra amount of money in the budget to do all kinds of mayoral priorities, the council should question where cuts might have been made, because often times, revenue estimates are pushed higher, allowing the ability to put expenditures into the budget. Another example for setting broader policy guidance was to ensure the budget includes clear measures for employee compensation, which was noted as the most important expenditure that could be directed by the council in policy form. Other policies might affect things like raises, funding healthcare, employer standards for meeting benefits, and other organizational directives.

Group Discussion - Should the council provide legislative/policy direction to the administration regarding assumptions?

Ms. Lopez explained provisions were provided by the budget officer.

Mr. Brass noted the Intent Document and was advised many times to make it stronger. Ms. Nakamura agreed. Mr. Brass confirmed. As follow up for Ms. Lopez, Ms. Nakamura charted goals for the council to strengthen their direction regarding assumptions.

Ms. Nakamura asked the council if they thought they used tools effectively to operate separately.

She noted Mr. Brass contacting department heads directly, and stated if Mayor Camp did not sanction it, Mr. Brass should honor that standard - because it was a negotiated relationship. She thought the relationship between Mr. Brass and Mayor Camp would work best if he respected the Mayor's wishes.

Ms. Nakamura shared personal related examples and stressed the importance of copying the mayor, and related administration on emails to keep employees from odds with the mayor.

Mr. Hales worked for three mayors over time, and agreed honoring a mayor's request builds trust, which might not happen if council members did otherwise. Ms. Nakamura confirmed keeping the mayor informed of things was essential, as well as, maintaining open conversations with the administrative staff, because breakdown occurs when there is a lack of communication.

Ms. Turner perceived the council's power as being with budget and policy, and not with micro-managing employees – because that was not the council's job. Ms. Nakamura agreed.

Mr. Nicponski thought, for example, if he contacted Chief Burnett to request a patrol increase along the Jordan River Parkway, but the only way it could be achieved was to hire two more police officers; he wondered if a directive policy was needed to fulfill his request.

Ms. Nakamura explained if the mayor was aware of the request and the issue was never addressed in the mayor's budget, the council should discuss the matter as a body, be clear, transparent and open in communicating to the mayor and his staff that the council is not satisfied with a service level, as currently constituted. This can be allocated in the council's budget.

Mr. Brass noted issues in the past that were put on contingency for further discussion.

Group Discussion - Does the council have the tools and resources it needs to fully operate as a separate and equal branch of government?

Ms. Nakamura noted resources and confirmed Ms. Lopez worked hard to assist the council but wondered if she and her assistant had all the resources, they effectively needed to help exercise the role of the council.

Mr. Hales did not think so.

Mr. Lopez said having time and resources to analyze the budget prior to adoption was a struggle.

Mr. Hales agreed, Ms. Lopez and her assistant were responsible for many things, and often Ms. Lopez realized concerns before the council understood specifics. He thought if Ms. Lopez had more time and resources, she could make more information available to the council, benefiting them all.

Ms. Nakamura agreed and suggested the possibility of the council contracting their own budget person – on the council side of government. Because when a finance director is playing a dual role, and is not always communicative, the benefit of independent council staff could be of great value to the council. She noted not everyone understands Murray's form of government, so the value of providing another resource to council staff would be justified by the separation of powers.

Mr. Hales wondered if the new council budget person would work alongside the council's finance director. Ms. Nakamura confirmed as a colleague who reports to Ms. Lopez.

Ms. Nakamura stressed contracting a budget person for the council was a mere suggestion, as another resource the council, which was an important tool missing from their staff. It would make a significant difference by having someone there all year, as opposed to the council looking over documents for six weeks in total comprehension.

Mr. Brass agreed budget issues exist all year long, and there were times in the past when budget meetings were held monthly.

Municipal Budget Process

Ms. Nakamura referred to her slides on the municipal budget process and explained:

- Administrative Responsibility:
  - Prepare the Tentative Budget.
  - Present to legislative body by the first meeting in May.

- Legislative Responsibility:
  - Public deliberations and make adjustments to the tentative budget.
  - Working meetings with departments.
  - Prepare intent language.
  - Adopt Tentative Council Budget.
    - Notice public hearing.
    - Tentative budget available to the public.
    - Hold public hearing.
  - Adopt final budget before June 30.

Ms. Nakamura noted budget deliberations and said when the legislative body is willing to put in more meetings and more time, the conversations and issues become more meaningful – than just talking at the high level.

Shift the Focus

Presently, 95% of all spending decisions are based on what was done the previous year, and focus tends to only be on new money and programs. Ms. Nakamura said once new items are realized, attention is often not drawn back to revenue or expenses for discussion, therefore, when conversations occur about needing resources for different policy directives, funding can actually be found in base budget.

She said this answers the earlier hard question about what services, or programs could be cut that people would not notice as a strategy for funding because once a service fee is instated, it typically continues on and on without further regard. As a result, new projects and programs seem challenging when in actuality cutting outdated services could meet new needs of the citizens. She noted employee jobs should never be cut if a service was eliminated, however, if a position went vacant, it should be analyzed as to need. She said this strategy provides great success when a council practices broad direction to request the analysis of Murray programs, or requires a customer survey to find out what services citizens prefer. She said this was a completely appropriate legislative role to lead conversations in this direction, and reviewed points to consider when reviewing the tentative budget.

Group Discussion – Ms. Nakamura confirmed council members wanted to be more satisfied with their impact on the budget and priorities of Murray. All council members agreed. Mr. Nicponski said in addition, he wanted a better understanding of the priorities. Ms. Nakamura agreed. She asked council members as a body, if they are willing and able to spend additional time in May to have a larger impact on the final budget. All council agreed. Ms. Nakamura reviewed the following timeline:

- File Budget with State Auditor
    - Within 30 days of adoption
    - Financial Reporting
        - Greater than $500K = Audit - Legislative Responsibility
        - In Mayor/Council form of government, the Council hires the external auditor and the Council is the client.

- Monitor and Amend
    - Administrative Program Managers monitor monthly
        - Adjust as necessary within appropriation levels
    - Legislative body monitors
        - Monthly and/or Quarterly (set by ordinance)
        - Amend as necessary between appropriation levels.
          *Administration monitors to ensure they are implementing properly. Legislative body, however, has large monitoring role for policy compliance.

Ms. Nakamura reviewed the council's budget process, and noted their procedure ended in August, after a Truth and Taxation hearing if needed, and then did not discuss or monitor the budget again until January or February the next year. She stressed to the council this was losing fertile ground as a legislative body – by operating this way budgetarily. Therefore, follow-up and continued monitoring is essential throughout the year to ensure the council's policy directive was adhered to with continued conversation.

Group Discussion – Should the Murray Council deep dive budget/programs from August – March to better prepare for the budget process in May? Ms. Nakamura noted budget meetings occurred when department heads report for 30 minutes to the council in one setting, which she thought would be difficult when there were so many things to consider.

Mr. Nicponski agreed and requested a change in the council's future procedure. He thought it would be more effective for council to ask the same questions of each director, rather than department heads reporting only on things they choose to share.

Ms. Nakamura said this was spot on for the council setting the agenda for what a budget meeting looks like. She said a dog and pony show often results when expectations are not set, because the council might already know in fact about amazing successes within each department, however, this was not the

type of conversation they should be having in budget meetings. Therefore, the council should request specific issues they want to know about and discuss. She said not every entity would provide the same information and implemented direction would be achieved.

Ms. Turner agreed and said the council had been more specific recently with expectations.

Ms. Lopez confirmed instructions were sent to the administration for the mid-year budget meeting, requesting from each department head:

- CIP Budget details about project impact, whether excess in funds, or if the project went over budget.
- A staffing report.
- Concerns in their budget that needed to be discussed.
- Next year's goals or needs.

Ms. Nakamura agreed it was imperative to focus on CIP and explained how because of good strategies Salt Lake County easily found $2.5 million in the CIP.

Monitoring Implementation of Policy – Legislative review of financial reports and audit reports. The following tools were discussed to monitor implementation of policy:

- Periodic Financial Reports
- Audit Reports
  - How often do you re-bid professional services? Policy?
- Legislative Intent Reports
  - Does the Council issue LI and expect follow up?
- Performance Audits
  - Does the Council fund performance audits of programs/systems?
- Historic Revenue and Expenditure Analyses – 5-year model

Ms. Nakamura reviewed the city's periodic financial report and thought it was sufficient. She noted state law only requires actuals from previous years on governmental funds – not for proprietary (non-governmental) funds and thought it should still be provided to the council. She suggested creating an agreement for negotiating with the administration for that provision. In addition, she suggested the council set funding goals, and require from the administration that ongoing maintenance funding be set in place at the time of request for funding projects. She said if a city cannot afford to operate and maintain a facility, the city most likely cannot afford to build the facility. She noted when both branches agree to such agreements conflict is avoided.

A copy of Salt Lake County's legislative intent report was reviewed. Ms. Nakamura noted because that legislative body wanted to be honest with the administration, clarification was made that if the administration moved in a different direction, they should expect the council to cut the budget.

For example, compensation issues that are not fully vetted with the council, could be reduced. She explained if the council does not agree with what the administration is spending, funds could

be taken away, however, if the administration disagrees, they could still move forward, which causes continued conflict. Therefore, to avoid ongoing conflict the legislative intent process is a powerful tool that clarifies specific desires of the council and requires a report of transparency by the administration whether policy was implemented. As a result, the council could expect these reports on proprietary funds.

Ms. Nakamura told the council to be certain when looking back over five-year budget numbers, they should look at actuals – not what was budgeted – because when comparing the differences, budget is not as meaningful as actuals.

Know your CAFR - A lengthy discussion occurred as the group took a true or false questionnaire that included 10 questions regarding the city's CAFR report.

1. The CAFR covers the period January 1 –December 31. **FALSE (**July 1 – June 30)
2. Murray's 2018 CAFR states, "At June 30, 2018, the City's combined governmental fund balance is $34,649,850." **TRUE**
3. In 2018, Murray City had to increase its transfer to the Capital Projects fund by $2.1 million, exceeding the amount budgeted, as a strategy to stay below the 25% general fund balance maximum allowed. **TRUE**
4. The general fund transferred $75,000 to the Murray Parkway Fund to subsidize operations in 2018. **FALSE** ($34,000 plus another $212,000 from the Capital Projects Fund)
5. Taxes represent 55% of all revenue in the general fund. **FALSE** (78%)
6. At the end of 2018, the power fund's $19,694,913 restricted and unassigned net position is 53% of current annual revenue. **TRUE**
7. For government-type activities, Murray City owes $771,000 in long term debt payments in 2019. **TRUE**
8. For business-type activities, Murray City owes $866,000 in long term debt payments in 2019. **TRUE**
9. The CAFR includes a detailed description of Murray's obligations to the Employee Retirement System and pension plans. **TRUE**
10. General fund budgeted expenditures were amended upward by 3% in 2018. **TRUE**

Group Discussion - Is the council interested in making better use of legislative intents as a directional monitoring strategy? Are performance audits necessary?

Ms. Turner noted Ms. Nakamura's suggestion to hire a budget person for the council to help interpret the CAFR. She thought the position of Finance Director, Danyce Steck was supposed to be fulfilling that need, and asked if this was inaccurate.

Mr. Nicponski agreed he thought Ms. Steck was dedicated to the council for that reason, as well as, to Mayor Camp – like the city attorney.

Ms. Nakamura stated at a high level yes, but in terms of spending quality time in understanding, it was up to council staff to help the council.

Ms. Turner said Mr. Zollinger, the previous finance director, used to help the council regularly, so hiring additional help was never considered.

Ms. Nakamura suggested a legislative agreement could be written requesting the administration provide the help – because if it is not stated in City Code – they should not expect it on a deeper level.

Mr. Nicponski confirmed legislative agreements pay for themselves repeatedly. Ms. Nakamura agreed they are valuable for council to creatively realize how to finance priorities. She gave examples of how agreements helped Salt Lake City with specific projects. She said if the council was relying only on administrative staff, solutions do not always happen.
Ms. Turner shared confusion because she thought Ms. Steck was staff shared with the council.

Mr. Brass agreed there was confusion with her role and position, due to their perception from the past finance director. All of council agreed it was different working relationship.

Mr. Critchfield confirmed Council Rules state the city council wants the finance director to work with them. He said the question is and issues are, how much detail should be provided, how much information should be explained, and how much time can the finance director spend with the council.

Ms. Turner expressed her desire for the finance director to represent the council in the same way as the administration, which was how she thought it had always been.

Mr. Nicponski wondered if this position was one Mayor Camp could require council members talk with him first, before contacting. Mr. Critchfield said no, however, it was not explicit.

Mr. Hales agreed there was confusion because he thought the finance director represented each branch equally, but recently found out otherwise.

Ms. Lopez noted language in the Council Rules stating the finance director *reports* to the council, which is a different representation from the administration.

Mr. Brass agreed, however, by ordinance, and by statue, the position is budget officer, and the administration does not follow the Council Rules – he thought this was where the disconnect occurred. He noted Mr. Zollinger, the previous finance director, did everything to represent both branches equally, however, the current finance director interprets that role and representation differently. He thought good communication could resolve the current challenges, but if not, hiring a council budget staff member, as Ms. Nakamura suggested might be necessary, because their perception was not reality.

Ms. Nakamura suggested the council consider creating a finance director agreement to provide key position. In addition, since overseeing the budget was their most important function, a legislative body should have full-time fiscal staff, which was common among other city council offices.

Mr. Hales agreed hiring budget staff would not be an insult but thought it would be beneficial to the council, because Ms. Lopez often brought to their attention later, things they had not realized during meetings and after adoption. Therefore, by having budget staff matters of concern would be recognized quicker.

Ms. Lopez agreed information received in budget meetings was at a high level. All council members agreed and thought Ms. Lopez was doing an amazing job in keeping them informed with the little time she had to review the budget, not being an expert in government financial standards and rules.

Ms. Nakamura thought it was baffling the city council did not have their own budget representation.

Mr. Nicponski agreed council staff could set standards to be utilized in interfacing with finance on a regular basis to keep council informed. Ms. Nakamura agreed the CAFR contained very good information for monitoring the finance side of things, however, she thought there was not as much information for monitoring the policy side.

Ms. Nakamura stressed, if broad budget policy direction was not given to the finance director, whose day to day representation was with the administration, it would be valuable for council to have their own dedicated fiscal staff whose sole focus was to ensure the council's own policy direction was implemented. She said Murray's form of government works very well, when both branches have an advocate on policy.

Mr. Cox agreed and noted two things to consider, which were funding, and proper implementation, as not to create further negative division. He stated the reason was because the council needed someone to help them better understand what the administration was trying to achieve. Because trying to review the CAFR within the period of time they had was overwhelming. All council members agreed.

Mr. Nicponski agreed having advice at the ground level would he helpful.

Murray Council's commitment to Policy Making Authority.

Ms. Nakamura read the council's current policy as:

> "The Murray City Municipal Council (the 'Council') adopts the City's final budget (the 'Budget') for fiscal year 2018 -2019. Under Utah law, the Council has policy-making authority and responsibility. The Budget is a means by which the Council directs City policy. The City Administration

('Administration') must, therefore, implement the Budget consistent with the intent and general policy direction of the Council. The following are the Council's intent and general policy direction underlying the adoption of the Budget..." - Murray City 2018-19 budget

Ms. Nakamura addressed the *Murray Council's 2018-19 Policy Guidance* list – within the booklet called *A Citizen's Guide to the 2019 Budget*. She noted disconnect because there was no written statement for each of the items listed below and suggested including strategies explaining goals and how they would be accomplished. (These goals are listed with details in the FY 2019 Intent Document.)

- Property Tax
- Employees
- Utopia
- New City Hall
- Downtown Development
- Public Safety
- Capital Improvement Program
- General Fund Reserve – 21% target
- Environmental Education
- Clean Energy Vehicles
- Fee Waivers for Non-Profit Entities

Deep Dive: Capital Project Funding - Pay-as-you-go versus Bonding

Ms. Nakamura said there was no right or wrong way of funding, but as a group the council could decide what they believe would be best. The following was discussed at length:

- Pay-as-you-go

Pros	Cons
-Future funds are not tied up in servicing debt payments. -Interest savings can be put toward other projects. -Greater budget transparency. -Avoid risk of default.	-Long wait time for new infrastructure. -Large projects may exhaust an agency's entire budget for capital projects -Inflation risk.

- Bonding

Pros	Cons
-Infrastructure is delivered when it is needed. -Spreads cost over the useful life of the asset. -Increases capacity to Invest. -Capital Investment's beneficiaries pay for projects.	-Potentially high borrowing rate. -Debt payments limit future budget flexibility. -Diminishes the choices of future. -Generations forced to service debt requirements.

Mr. Brass said balance was important, and either way a bill must be paid. He said comparatively Murray's debt service was significantly less than a city like West Valley City. He noted once a bond was in place, that payment must be paid prior to paying city employees. Ms. Nakamura agreed and stressed the council gets to set the policy for what they believe to be a good balance, which is an important role in what is tolerated.

Mr. Nicponski agreed and noted the bond for the new city hall facility, which was significant and estimated at $31 million.

Ms. Nakamura led a lengthy conversation about each item below and described the list as a guiding resource for decision making:

Considerations

- Is there an immediate need for the asset?
- What is the asset's expected useful life?
- Does the length of obligation exceed the asset's useful life?
- What is the current availability of funds relative to the project's size?
- Are there multiple projects that need to be completed simultaneously?
- Is inflation expected to increase?
- Is the borrowing rate expected to increase?
- Do you have a debt management policy?

Deep Dive: Revenue Policy Issues and the 5-Year Plan

Various bar graphs and pie charts were presented and discussed using actual figures from the CAFR, reviewed revenue sources, the upcoming property tax increase, and the 2018 year-end revenue balance. The following was noted:

- Murray's General Fund Revenue History – Reflecting sales, property, franchise taxes and licenses - Actuals from CAFR.
- Murray Fund Balance History – 21%
- Murray 2018 General Fund revenue percentages.
- Annual Growth Rate Sources and percentages – 2015-2018
- Decrease in license and permits revenue
- Sales tax growth sustainability analysis
- If sales tax growth declines, what expenses can be reduced?

Ms. Nakamura calculated ending fund balances as a percentage for General Fund revenues for each year 2014 to 2018 using the CAFR data. She wondered if the city received notice from the Utah State auditor's office in 2014 and 2015, because funds exceeded the requirement. Council members agreed the city was written up.

Ms. Nakamura noted the city's policy of maintaining 21% of the ending fund balance. She said in 2018 the books were closed at 25%, when Ms. Steck moved $2 million to a capital project fund. Ms. Nakamura described this as opportunity costs, because if projects did not get accomplished in the budget that year, it was because each 1% of that transaction cost $414,000. Meaning there was $1.6 million dollars' worth of opportunity cost that was kept along with $2 million dollars, which was transferred off this year to the Capital Project Fund.

Therefore, when asking where money would come from to pay for things such as staffing, there was plenty of money and decreasing elsewhere was not necessary. She would argue that when consistently exceeding your target money is growing and money is available.

Mr. Hales wondered if Ms. Nakamura was concerned about sales tax revenue being half of Murray's revenue source. Ms. Nakamura confirmed it was worrisome when comparing expenditures because the resource could be volatile.

A lengthy discussion occurred about the past distribution change in 2006, and how the city maintained its finances during the downturn from 2008 – 2014. In addition, they discussed at length the current upcoming House Bill to lower rates and broaden the base on sales taxes, which would be detrimental to the city, because the revenue is in large part based on car sales.

Mr. Brass noted the disproportioned amount of property that was tax exempt, due to the hospital, other medical facilities and other public facilities. Ms. Nakamura confirmed, however, the city does have one of the most successful malls in the nation and she thought the council should focus on the future of auto industry, which would have a huge impact on the city.

Mr. Cox noted how new construction of high-rise apartments and townhomes, where agriculture once existed would offset property tax revenue.

Mr. Nicponski agreed there were three new developments in his district, which were relatively large.

Ms. Nakamura discussed her calculations and determined from 2014 to 2018 the average growth rate was 1% in property taxes, and 11% on sales tax, which was not favorable. She noted sales tax, property tax, franchise taxes and charges for services that make up 85% of the city's revenue. The following was reviewed at length:

Should Property Tax Play a Larger Role

- 16.5% of 2018 revenue
- Average Growth Rate is < 1% annually
- Proportion of business properties to residential properties?
- Public Safety is 50% of GF expenditures

Mr. Brass noted the denser a residential area was, the more services were provided, which was costly.

Ms. Nakamura explained that public safety comprises 50 % of General Fund expenses, and property tax revenue, the most stable source of revenue, is only 16%. Sales tax revenue, over 50% of proceeds, can rise and fall with the economy, however, public safety expenditures cannot. She suggested trying to close that gap, which would mean more property tax increases. Knowing the future of the auto industry, possible changes in tax rate distributions, it meant the council was becoming more financially responsible.

Mr. Nakamura reviewed a chart suggesting expenses could possibly be reduced, as well as, transfers in, and transfers out, in relationship to bonding and bond payments, and revenue and expenditure comparisons.

A discussion occurred about understanding the way property taxes work in Utah. It was noted that if a city wants more new revenue that would require new growth, tax rate increases and annex in of new tax areas.

Ms. Nakamura provided a demonstrative chart to explain the house market values, related to tax values as they are calculated on a property tax bill. She reviewed how property tax increases are affectively different for everyone based on market values and explained calculation on those values over a five-year period.

Adjourned 4:00 pm

Pattie Johnson
Council Office Administrator II

MURRAY
CITY COUNCIL

Discussion Item #1

Community & Economic Development

Murray Central Station - Small Area Plan Discussion

Council Action Request

Committee of the Whole

Meeting Date: April 2, 2019

Department Director

Melinda Greenwood

Phone #

801-270-2428

Presenters

Jared Hall
Jim McNulty
Mark Vlasic,
Landmark Design

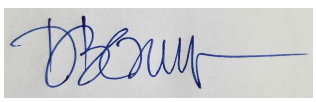
Required Time for Presentation

30 Minutes

Is This Time Sensitive

Yes

Mayor's Approval



Date

March 19, 2019

Purpose of Proposal

An update related to the draft Small Area Plan for Murray Central Station.

Action Requested

Informational item.

Attachments

Draft version of the Murray Central Station Small Area Plan

Budget Impact

No budget impact.

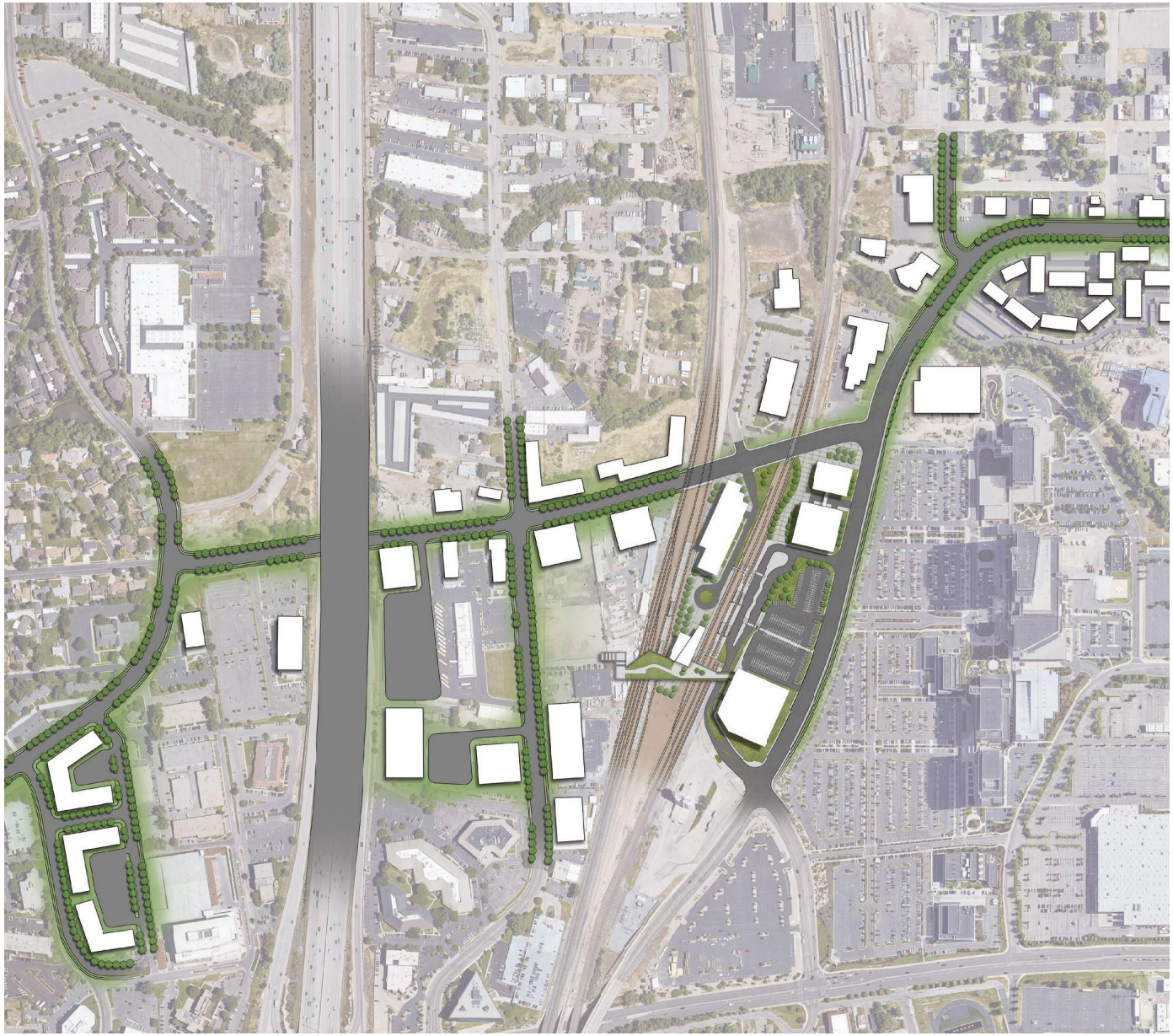
Description of this Item

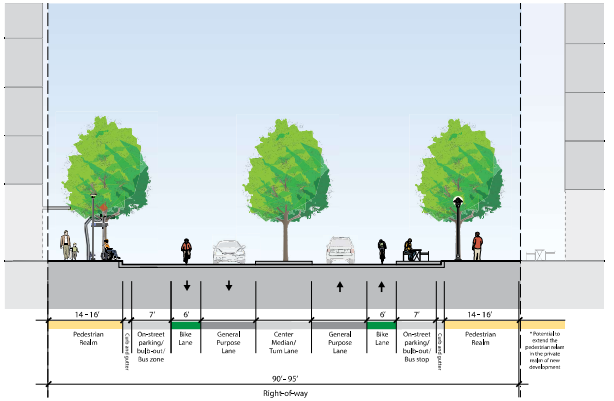
In March 2018, Murray City was awarded a Transportation & Land Use Connection (TLC) grant by the Wasatch Front Regional Council. This allowed for the development of a Small Area Plan for Murray Central Station. City staff applied for the TLC grant because the recently adopted Murray City General Plan identifies multiple areas in the city where small area plans would be of great benefit.

This draft plan is on the COW agenda for review and discussion. The lead consultant, Mark Vlasic with Landmark Design, will be in attendance on April 2 to present the plan along with city staff.

MURRAY CENTRAL STATION

MASTER PLAN





11.20.18 **DRAFT 11.18**

TOWNSHIP + RANGE

GSBS ARCHITECTS

LANDMARK DESIGN

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INTRODUCTION

Background, Setting and Purpose

The Murray Central Station is a place of connections and linkages, where people arrive and depart on their way to destinations near and far. Located in the heart of the Salt Lake Valley, the station and surrounding area is undergoing major transformation and development pressure.

Situated adjacent to the flagship hospital of Intermountain Healthcare and next to downtown Murray, the station is a place where patients, caregivers, business operators, shoppers and residents come together, all in the context of superlative transit opportunities. In fact, the Murray Central Station Area is the only rail location outside of downtown Salt Lake City where TRAX and Frontrunner trains meet, providing unparalleled opportunity to create a superlative transit and mixed-use place. Development interest is spreading from downtown and the fringes of the station area to the center of the district, hinting at the rich role the area will play in the ongoing transformation of the city center.

A general vision for the area was established through recent planning efforts, most notably the recently-adopted *Murray City General Plan (2017)*. This plan embraces the work and vision underlying those efforts while digging deeper to ensure that future development is matched to the opportunities, needs and constraints of the site and its surroundings. This was achieved through detailed research and analysis, as follows:

- Assessment of the study area's built environment, current development patterns and growth potential;
- Understanding of the underlying physical and environmental implication of the area's location within the Smelter Site Overlay District (SSOD), including clarification of the opportunities, constraints and impacts that these conditions have on the potential locations and types of development;
- Clarification of the market potential of the station area, including the synergies of commercial, mixed-use and residential uses as part of creating a viable mixed-use transit district within a redeveloping urban center; and
- Understanding the connections and access to and from the station area for vehicles, transit, pedestrians and cyclists.

Overview of Planning Process

This plan is focused on answering three primary questions:

How do contaminated lands affect the Central Station Area?
What are the market potentials of the area?
How do you create a great station area with the best possible transportation and land use conditions?

Answers emerged through a process that began by documenting existing conditions, focusing on establishing environmental, economic, transportation and land use conditions and needs. Since a specific area describing the planning area had not been determined, initial research addressed a relatively large area that extended well beyond Murray Central Station (see Figure 1). This area was later reduced, focusing on the Vine Street Corridor from State Street to Murray Boulevard.

Once existing conditions and opportunities were understood, a series of planning alternatives were developed and vetted. Initial outreach efforts focused on working with key stakeholders as part of Technical Committee and Steering Committees composed of city staff, local representatives, property owners, UTA and other project stakeholders. Interviews were also held with Intermountain Medical Center property managers, other key property owners, UTA staff, and local developers. Two alternatives with distinctly different station concepts emerged, each reflecting Planning and Development Principles identified earlier in the process. These were eventually detailed and refined as options to guide future development of the station area, and are both contained in the *Murray Central Station Master Plan* presented here.

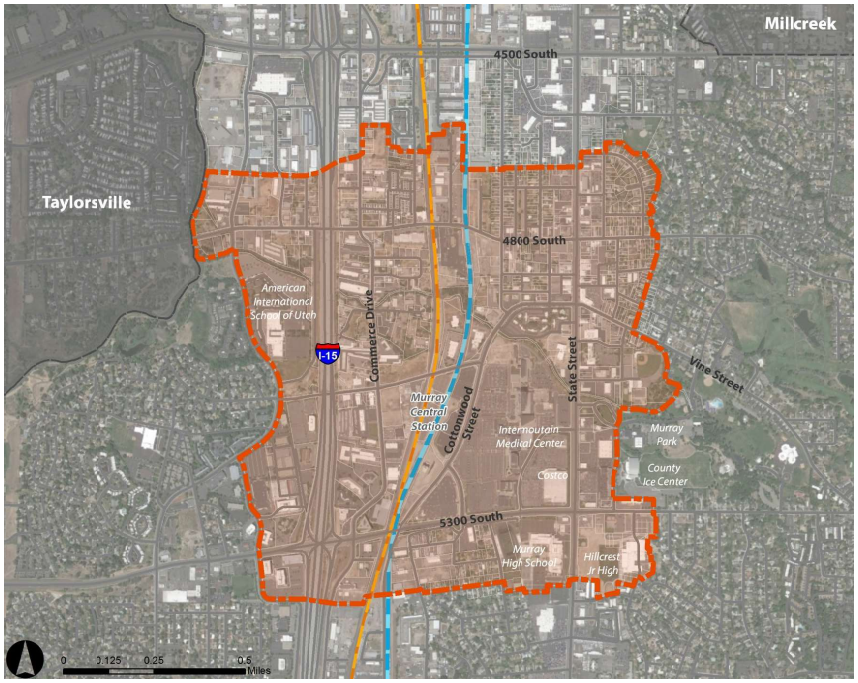


Figure 1 - Study Area Map

Planning and Development Principles

General

- Align planning and design of the station and station area with the vision contained in the Murray General Plan.
- Balance the creation of a quality station with environmental constraints and other limitations.
- Transform the station from vehicle-oriented to human-oriented places.
- Leverage the power, reach, and investment of the station's transit service to create a vibrant and iconic hub.
- Encourage flexible interpretation of the plan to address emerging and unanticipated opportunities as they arise.

Environmental

- Protect human health and environment
- Accommodate human-scaled uses that are compatible with the environmental status of the site.
- Integrate decisions that were made 20+ years ago related to environmental mitigation and cleanup in the area

Economics

- Create value in the surrounding area by leveraging the enhanced station amenities with new development
- Leverage the existing public and private investment in the area.
- Take the long view when making decisions – not just from an economic perspective, but for all other aspects of the site,
- Create a flexible framework that is responsive to market changes and unforeseen futures.
- Work with development partners to create a funding methodology that works for all parties involved.

Transportation

- Connect the station to existing and proposed destinations in Murray and the surroundings.
- Create a new public realm that is inherently walkable and easy to navigate.
- Capitalize on the opportunity to transform Vine Street into an activated, multi-modal urban corridor.
- Reconfigure the station's circulation and operations to emphasize walkability and public space.

Land Use / Urban Design

- Acknowledge that the IMC properties are not necessarily aligned with the creation of a better station area.
- Facilitate market-driven changes from light industrial uses to more urban mixed-uses, with residential uses to limited areas outside the SSOD boundary.
- Acknowledge the zone of influence of the station and the need for transitions to adjacent neighborhoods and districts.
- Locate viable uses in the station areas that contribute to the creation of a new station district.
- Do it right – invest in high-quality buildings, pedestrian enhancements and urban spaces.
- Create an iconic/landmark station and associated great spaces to attract attention and help define the area.

Example of an iconic station entrance

EXISTING CONDITIONS, ANALYSIS & IMPLICATIONS

This section of the master plan documents and analyzes key conditions at the Murray Central Station and surrounding areas. **Environmental and Economic** conditions were assessed in the earliest stages of the planning process, providing a baseline of key opportunities and constraints to be considered when transforming the site. **Transportation and Land Use** assessments followed, clarifying current conditions and future opportunities to be considered as part of creating a different type of place.

Environmental

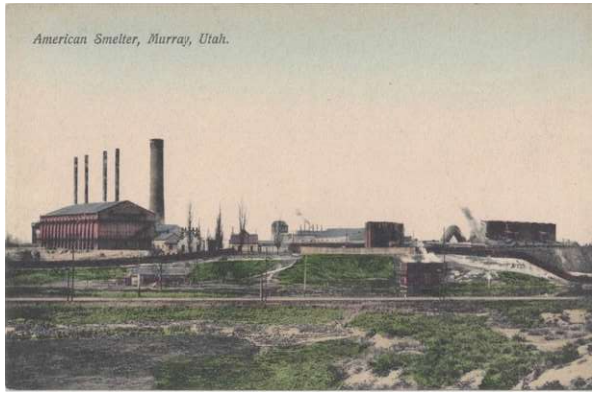
Environmental conditions at the former Murray Smelter Site were analyzed to help clarify the types of land uses and potential markets that can be supported in the area.

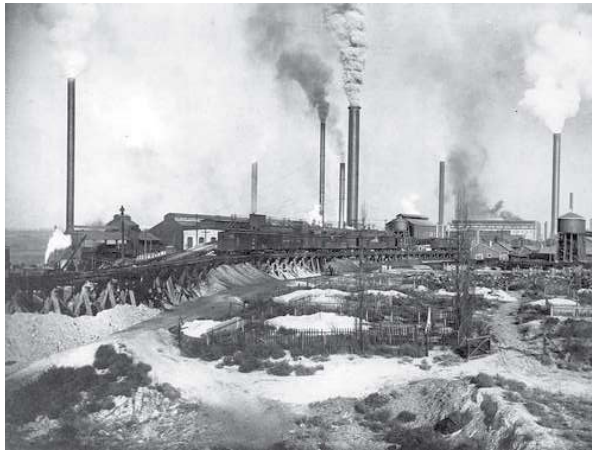
History

The Germania Smelter operated on the site from 1872-1902, processing 180 tons of material a day. The smelter was purchased by American Smelting and Refining Company (Asarco) in 1899 and operated until the Murray smelter began operations in 1902. The Murray Smelter processed 1,500 tons of lead and silver ores per day through 1949, eventually closing operations in the early 1950's. Much of slag was used as ballast for railroads and highways in the area. Operations facilities on site included an extensive network of railroad tracks, two smoke stacks, several blast furnaces, ore storage bins and other support facilities.

By the mid 1990's, on-site remnants of the smelter operation included two large smoke stacks, a foundation wall of one building, the old office building and the slag piles. In 1994 the U.S. Environmental Protection Agency (EPA) that the Murray Smelter site be placed on the National Priorities List (NPL). This is the list of hazardous waste sites in the United States that are eligible for long-term remedial action (cleanup) financed under the federal Superfund program. The NPL listing was never finalized and the site was never designated as a Superfund site.

Several studies and site investigations were conducted between 1994 and 197, describing site contamination. Site investigations noted that lead and arsenic were identified as primary contaminant of concern in soil. Shallow groundwater was also found to be contaminated with arsenic and elevated arsenic concentrations were also measured in Cottonwood Creek. In 1996





Historic photos of the Germania / ASARCO Smelter

the EPA and Murray City signed a Memorandum of Understanding (MOU), creating a formal role for Murray in the assessment of potential land uses, development of cleanup options, and implementation/enforcement of institutional controls. A working group was formed with Murray, EPA, UDEQ, Asarco, and land/business owners in the area.

In 1998 the EPA issued a Record of Decision (ROD) for the selected site remedial action, and Murray City passed an ordinance establishing the Smelter Site Overlay District, or "SSOD." The establishment of these institutional controls were part of the selected remedial action. The actions were performed from 1998 to 2001, and in 2003 the first EPA 5-year review was performed and findings documented. The results indicate that the remedy is expected to protect human health and the environment, and immediate threats were addressed.

In 2008 Asarco settled with the US government after filing for Chapter 11 bankruptcy in 2005, agreeing to pay $1.79 billion for contamination at the various sites. The funds were allotted to the EPA for cleanup and monitoring at 26 sites around the country, including the Murray Smelter Site.

In 2009 the second EPA 5-year review was performed, which indicated that the remedy at the Murray Smelter Site is protective of human health and the environment, that source control measures continue to function, institutional controls are effective, and contaminant levels are consistent with expectations at the time of the ROD. The third and most recent EPA 5-year review was performed in 2014, with similar results to those conducted in 2003 and 2008. Annual monitoring is performed and funded by a trust set up by Asarco.

1998 Record of Decision (ROD)

The EPA issued a Record of Decision (ROD) for the selected site remedial action in 1998. The ROD is a document that describes site characteristics and contamination risks, alternatives for remediation, and the selected the remediation strategy for cleanup. The goals of the selected remedy for the Murray Smelter Site are to protect the aquifer, restore the shallow groundwater, protect Little Cottonwood Creek, and remediate surface soils to levels that are protective of the reasonably anticipated future land use.

A critical piece of the ROD includes a summary of site risks and corresponding Remedial Action Objectives (RAOs). A baseline risk assessment was performed and used to characterize the current and potential threats to human health and the environment as a result of contamination. The baseline risk assessment was used to determine the RAOs which establish the acceptable levels of contamination that protect public health and the environment. The RAOs were determined based on the assumption that future land uses will be commercial and/or light industrial.

Figure 2 - Smelter Site Boundary

The selected remedy for cleanup was described in the 1998 ROD and was subsequently performed between 1998 and 2001. As indicated in the most recent EPA 5-year review, the selected remediation strategy has been effective in meeting the RAOs.

Smelter Site Overlay District (SSOD) Site Overview

The SSOD was established as part of the remedial action described in the 1998 ROD. The SSOD is bounded by 5300 South Street to the south, State Street to the East, Little Cottonwood Creek to the north, and railroad tracks to the west (see Figure 2). The total site is 142 acres.

The purpose of SSOD is to ensure appropriate uses and redevelopment on site as well as protection of cap and barrier system. The SSOD includes zoning to prevent residential and contact-intensive industrial uses within the former smelter operational areas and to require maintenance of the barriers, caps, and controls on excavated subsurface material within this area. Zoning allows for commercial and light industrial land uses. The SSOD also prohibits construction of new wells or use of existing wells. All current and future redevelopment activities in the SSOD must conform to requirements described in Chapter 17.25 of the Murray Municipal code in addition to the overlying zoning which is C-D, a commercial development mixed use district described in Chapter 17.160 of the code.

The four categories of materials defined by the 1998 ROD and referenced in the SSOD development regulations are described below and illustrated in Figure 3. For each category, a description of contamination, remediation, site location of materials, and relevant SSOD regulations on development are provided. In addition, contamination of shallow groundwater and surface water are discussed.

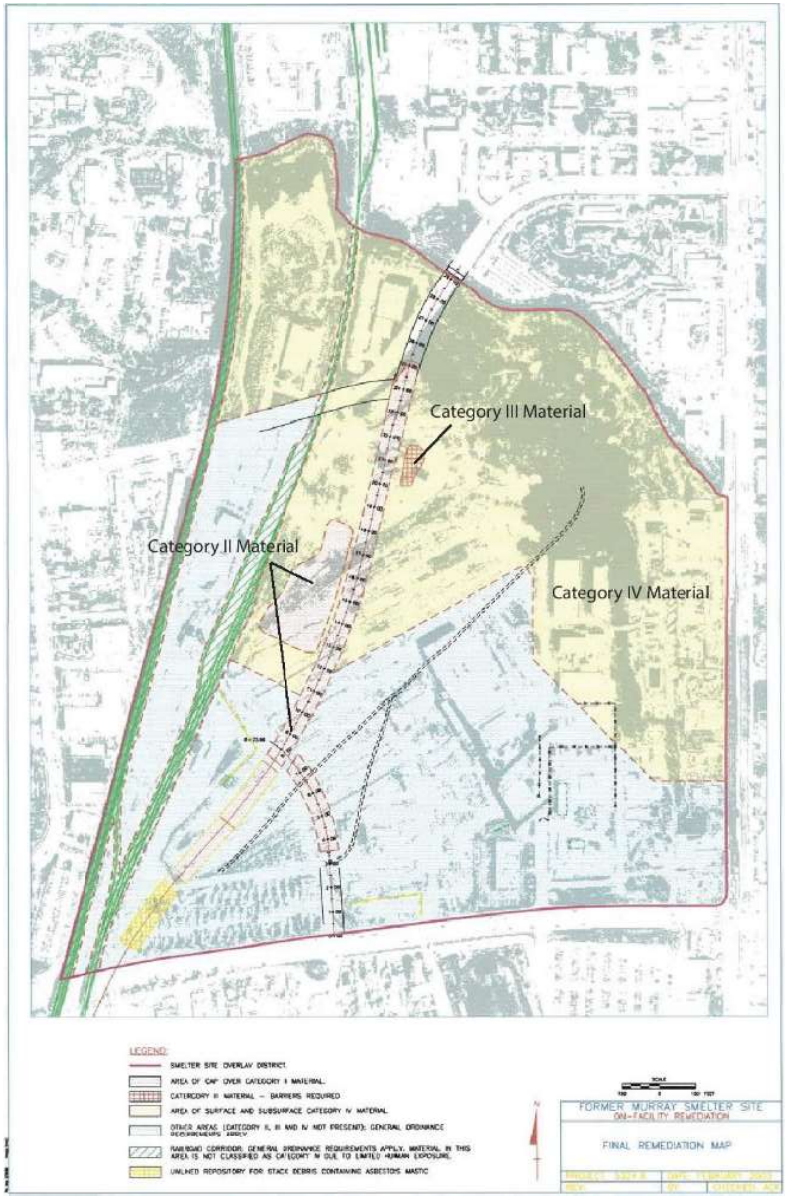
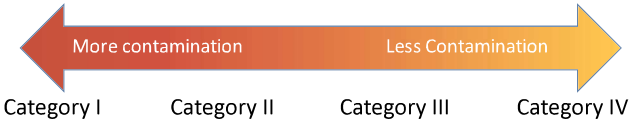


Figure 3 - SSOD Remediation Map



Category I Materials

Description of Contaminated Materials: Residual smelter materials associated with the arsenic trioxide process and considered undiluted flue dust. This material contained the highest arsenic concentrations (average approximately 140,000 mg/Kg). Identified as a potential health risk and as being a major source of arsenic to shallow groundwater.

Remediation Performed: Excavation and removal of material (580 tons) to an off site permitted hazardous waste treatment, storage, and disposal facility.

Current Location of Category I Materials: There are no Category I materials on site.

SSOD Regulations on Development: N/A.

Category II Materials

Description of Contaminated Materials: Residual material associated with smelter flue dust operations (blast furnace flues, bag-house, roasting plant flues and Cottrell electrostatic precipitator) and consisted diluted flue dust. Contains lower arsenic concentrations (average approximately 9,000 mg/Kg) and a total volume of 90,000 cubic yards (from 5-year review; ROD says 68,000 cubic yards). Identified as a potential health risk and as being a source of arsenic to shallow groundwater.

Remediation Performed: Excavation and on-site consolidation of material with screening, crushing, and blending prior to placements in an on-site facility repository system. Cap over Category II materials at fully-encapsulated and lined with geo-membrane. Designed as the base for a new access road. Subsequent, site development (UTA parking lot; road) has occurred over the repository.

Current Location of Category II Materials: Under the length of Cottonwood Street between Little Cottonwood Creek and 5300 South and Woodrow Lane from Cottonwood Street to 5300 South. Also underlies the southern end of the UTA parking facility on the west side of Cottonwood Street.

SSOD Regulations on Development: Excavation or breaks in the cap over Category II materials is prohibited.

Category III Materials

Description of Contaminated Materials: Residual smelter material and contaminated soils that contained arsenic or lead above levels that posed a potential health risk to site workers (arsenic > 1,200 mg/Kg or lead > 5,600 mg/Kg), but were not sources of arsenic to groundwater. Once Category II materials were removed, it was found that relatively small amounts of Category III were present; approximately 600 cubic yards of Category III materials were removed from the rail line area to the west and relocated to the central portion of the on-facility area.

Remediation Performed: Removed materials from the western portion of the site and place in a then undeveloped area with access controls in place. Barrier was placed over Category III materials to prevent direct contact. Material was covered with subsequent redevelopment in 2008 (IMC hospital parking).

Current Location of Category III Materials: East side of Cottonwood Street in an area that currently serves as parking for IMC hospital.

SSOD Regulations on Development: No subsurface soils identified as Category III materials shall be disposed of off site unless a party complies with the appropriate off site rule as set forth in the code of federal regulations.

Category IV Materials

Description of Contaminated Materials: Smelter slag has relatively high levels of lead (8,000 to 16,000 mg/Kg), but is present in a physical form (vitrified iron silicate) that limits the release of metals. Slag was therefore not identified as a source of metals to groundwater or surface water and was not a current human health risk. The slag may have the potential to release metals over the long term if the vitrified materials breaks down due to weathering. Human health risks associated with exposure to slag under a commercial/light industrial scenario were predicted to be within EPA acceptable risk range.

Remediation Performed: Material to be eventually covered as site is redeveloped in the future. Site development resulted in the construction of barriers over the slag ensuring no exposure to slag in the future.

Current Location of Category IV Materials: Largely on the northern and eastern end of the SSOD. See Figure 2. SSOD Regulations on Development: No category IV materials shall be deposited on the surface of the ground.
Groundwater

Description of Contamination: Groundwater is comprised of three distinct aquifers: shallow aquifer, intermediate aquifer, and deep aquifer. Shallow groundwater was found to be contaminated with arsenic and selenium.

Remediation Performed: Monitored natural attenuation to address the residual groundwater contamination within and down-gradient of source areas. Natural attenuation to continue until shallow groundwater achieves Average Contaminant Level (ACL) for dissolved arsenic of 5.0 mg/L. The intermediate aquifer to be monitored to demonstrate continued compliance with the Maximum Contaminant Level (MCL) for dissolved arsenic of .05 mg/L (MCL changed to .01 mg/L in January of 2001).

SSOD Regulations on Development: Construction of new wells prohibited.

Off-Facility Areas

Off-facility areas were established in the 1998 ROD as those residential and commercial areas that surrounded the smelter site where airborne emissions from the smelters impacted the environment or where contamination in shallow ground water may be transported in the future. The off-facility area is comprised of approximately 30 acres to the west of the SSOD, 106 acres to the south and southeast, and a small area to the east of the SSOD.

The RAO for off-facility soils were established as <1,200 mg/kg (range 630-1260) for lead and there was no RAO established for arsenic. For offsite areas where soil RAOs are not met, remediation was performed. Remediation consisted of excavation of the top 18 inches of soil and replacement with clean fill. There are currently no restrictive development regulations in the off-facility areas.

ENVIRONMENTAL PLANNING AND DEVELOPMENT PRINCIPLES

- Protect human health and environment
- Accommodate human-scaled uses that are compatible with the environmental status of the site.
- Integrate decisions that were made 20+ years ago related to environmental mitigation and cleanup in the area

What Does this Mean for Future Development?

Based on the 1998 ROD, development is limited to commercial and light industrial within the SSOD. Outside of the SSOD, general zoning applies.

The EPA and UDEQ has indicated that in order to redevelop the site for any land use other than commercial and light industrial, the 1998 ROD must be amended. The 1998 ROD established remediation based on future commercial and light industrial uses. In order to allow other uses (i.e. residential) an updated risk assessment must be performed and new RAOs must be established through the ROD amendment process. Murray does not support residential or other uses that require additional assessments.

Economics

The following summarizes existing and projected economic and demographic conditions in the Murray Central Station Small Area Planning area.

Current Demographics & Employment

The planning area is the area surrounding the Murray Central Station of the TRAX Blue Line and Frontrunner commuter rail. Figure 4 provides current population for the planning area, Murray and Salt Lake County. The study area represents less than ½ half of 1 percent of County-wide population and 8 percent of Murray population. Households in the study area are smaller than those in the County as a whole and the rest of Murray.

Figure 4: Current Demographics - 2018 Estimated

	Population	Households	Employment
Study Area	4,096	1,715	17,332
Murray City	49,295	19,742	54,763
Salt Lake County	1,114,711	390,334	764.669

Source: *WFRC/MAG Demand Model V 8.1 - March, 2017*

The most important current demographic indicator is employment. The study area is a job rich area of Murray and Salt Lake County. The ratio of jobs to population in the study area is 4.23. By contrast the jobs to population ratio in Murray is 1.11 and 0.69 County-wide. The study area represents 32 percent of Murray City jobs and 2 percent of County jobs.

According to 2015 data, 99 percent of the jobs in the study area are filled by people who live elsewhere either in Murray or other parts of the Wasatch Front. For Murray City as a whole, 93 percent of the jobs are filled by people who live elsewhere. Five percent of the jobs in Murray are filled by people who live in Murray. For the study area, less than 1 percent of the jobs are filled by people who live in the study area.

Figure 5: Worker Profiles Study Area & Murray 2015

	Jobs in the Area	Employed in Area / Live in Area	Employed in Area / Live Elsewhere	Live in Area / Employed Elsewhere
Study Area	12,298	66	12,232	1,386
Murray City	40,803	2,954	37,849	20,416

Source: *U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2015*

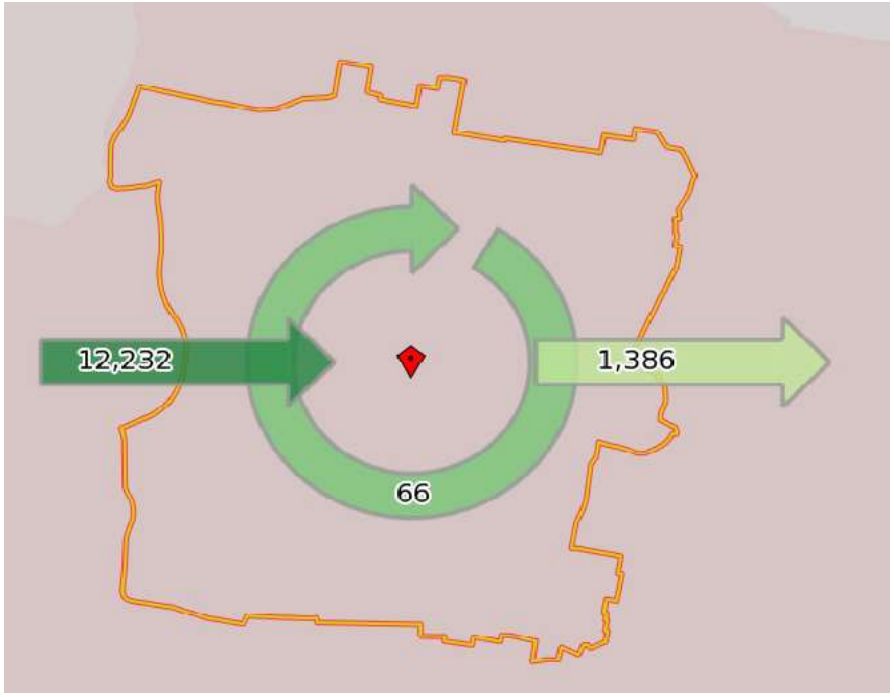


Figure 6 - Live / Work Patterns - Study Area

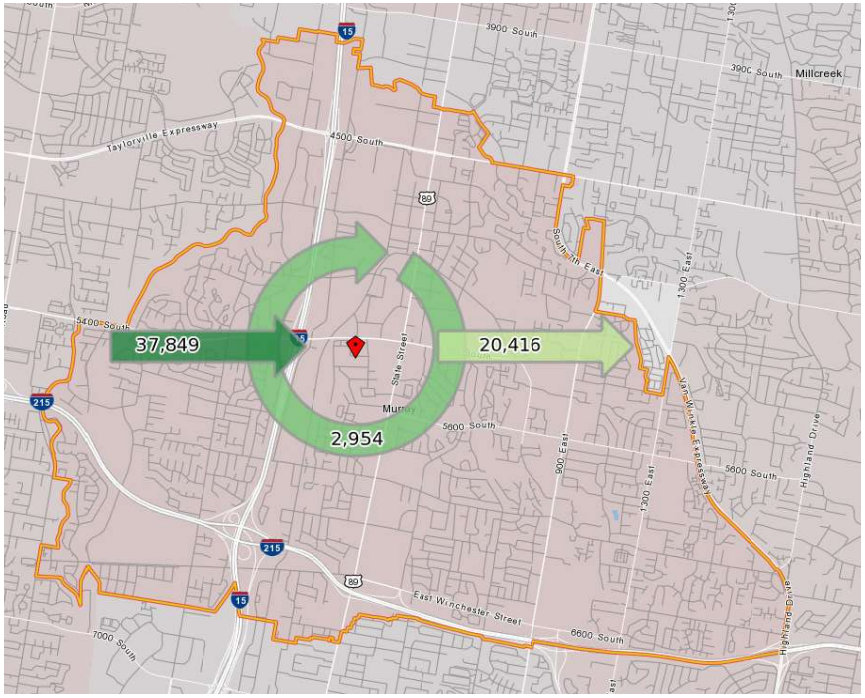


Figure 7 - Live / Work Patterns - Murray

Figure 8: Jobs by NAICS Industry Sector Study Area & Murray 2015

	Study Area	% Of Study Area	Murray	% of Murray	Study Area as % of Murray
Agriculture, Forestry, Fishing and Hunting	0	0%	2	0.005%	0%
Mining, Quarrying, and Oil and Gas Extraction	46	0%	49	0.12%	94%
Utilities	50	0%	103	0.25%	49%
Construction	469	4%	2,861	7%	16%
Manufacturing	300	2%	1,807	4%	17%
Wholesale Trade	282	2%	1,807	4%	18%
Retail Trade	985	7%	6,087	15%	16%
Transportation & Warehousing	38	0%	393	1%	10%
Information	192	1%	783	2%	25%
Finance & Insurance	1,777	13%	3,667	9%	48%
Real Estate, Rental & Leasing	280	2%	933	2%	30%
Professional, Scientific, & Technical Services	1,093	8%	3,580	9%	31%
Management of Companies & Enterprises	2	0%	293	1%	1%
Administration & Support, Waste Management & Remediation	690	5%	2,512	6%	27%
Educational Services	1,022	8%	2,002	5%	51%
Health Care & Social Assistance	4,482	34%	9,068	22%	49%

Arts, Entertainment & Recreation	78	1%	261	1%	30%
Accommodation & Food Services	446	3%	2,349	6%	19%
Other Services (excluding Public Administration)	321	2%	1,287	3%	25%
Public Administration	728	5%	1,209	3%	60%
TOTAL	**13,281**	**100%**	**40,803**	**100%**	**33%**

Source: *U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2015*

Jobs in the health care and social assistance category represent a significant proportion of the jobs in the study area and in Murray. Figure 8 compares jobs by North American Classification Systems (NAICS) category in the study area and Murray as a whole. Although retail jobs represent the second highest category of job in Murray, only 7 percent of study area jobs are in retail. The second highest job category in the study area is finance and insurance, with 48 percent of Murray's finance and insurance jobs in the study area.

The study area is clearly an important jobs center for Murray.

Projected Growth

Salt Lake County's population is projected to grow to almost 1.5 million people by 2040, a 33 percent increase over today's population. The study area population is projected to grow by 75 percent in the same time period. Projected population in the study area represents 13 percent of Murray's projected future population. This is a 4 percent increase over the percent of current Murray population living in the study area. This means that 41 percent of Murray's population growth and 36 percent of new households are anticipated to occur in the study area. The projected growth will require an additional 1,500 households within the study area.

Figure 9: Projected Demographics - 2040 Projected

	Population	Households	Employment
Study Area	7,158	3,216	26,890
Murray City	56,786	23,931	70,565
Salt Lake County	1,477,873	572,823	989,728

Source: *WFRC/MAG Demand Model V 8.1 - March, 2017*

Employment is also projected to grow in Salt Lake County, Murray and the study area. Thirty-two percent of Murray's jobs are currently located in the study area. This is expected to increase to 38 percent by 2040. This means 60 percent of Murray's projected 15,800 new jobs will be located in the study area. Figure 10 provides a breakdown of future jobs by NAICS category if the area adds jobs in the same categories as are currently found in the study areas.

The study area plan will need to identify the appropriate balance of housing and employment to either capture the projected number of households and jobs or to determine the appropriate balance for the area.

Figure 10: New Jobs by NAICS Category - 2040

	Study Area	Murray	Study Area as % of Murray
Agriculture, Forestry, Fishing and Hunting	0	1	0%
Mining, Quarrying, and Oil and Gas Extraction	33	19	174%
Utilities	36	40	90%
Construction	338	1,108	30%
Manufacturing	216	700	31%
Wholesale Trade	203	603	34%
Retail Trade	709	2,357	30%
Transportation & Warehousing	27	152	18%
Information	138	303	46%
Finance & Insurance	1,279	1,420	90%
Real Estate, Rental & Leasing	201	361	56%
Professional, Scientific, & Technical Services	787	1,286	57%
Management of Companies & Enterprises	2	293	1%

Administration & Support, Waste Management & Remediation	497	973	51%
Educational Services	735	775	95%
Health Care & Social Assistance	3,225	3,512	92%
Arts, Entertainment & Recreation	56	101	56%
Accommodation & Food Services	321	910	35%
Other Services (excluding Public Administration)	231	498	46%
Public Administration	524	468	112%
TOTAL	**9,558**	**15,802**	**60%**

Source: *U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, 2nd Quarter of 2002-2015*

Area Ownership & Parcels

Figure 11 identifies parcels or groups of parcels in the study area of five acres or greater in single ownership. Much of the area is dominated by small lots with fragmented ownership but there are several areas with the larger developer parcels. The locations outlined in red are currently under development or are in the planning and development pipeline.
The large purple parcel east of the station is owned by Intermountain Health Care and is the location of the Intermountain Medical Center and related medical office and support buildings. IHC's long-term plans for the area will impact the overall station area.

In addition to parcel size and consolidated ownership another factor in redevelopment opportunities is the current status of the parcel, i.e. vacant or underutilized. Figure 12 is a graphic representation of the building to land ratio on parcels in the study area. Lighter colors indicate land values that are equal to or greater than the value of buildings on the property. The darker colors indicate building values higher than the underlying land values. If a parcel is light green, yellow or white it is ripe for reinvestment or redevelopment.
Of the approximately 920 acres in the study area, 53 are identified as vacant by the Salt Lake County assessor. Figure 14 is a breakdown of vacant acreage by property type. Figure 14 illustrates the properties in the study area with building to land value ratios of 1.0 or lower (light green or yellow properties in Figure 12.)

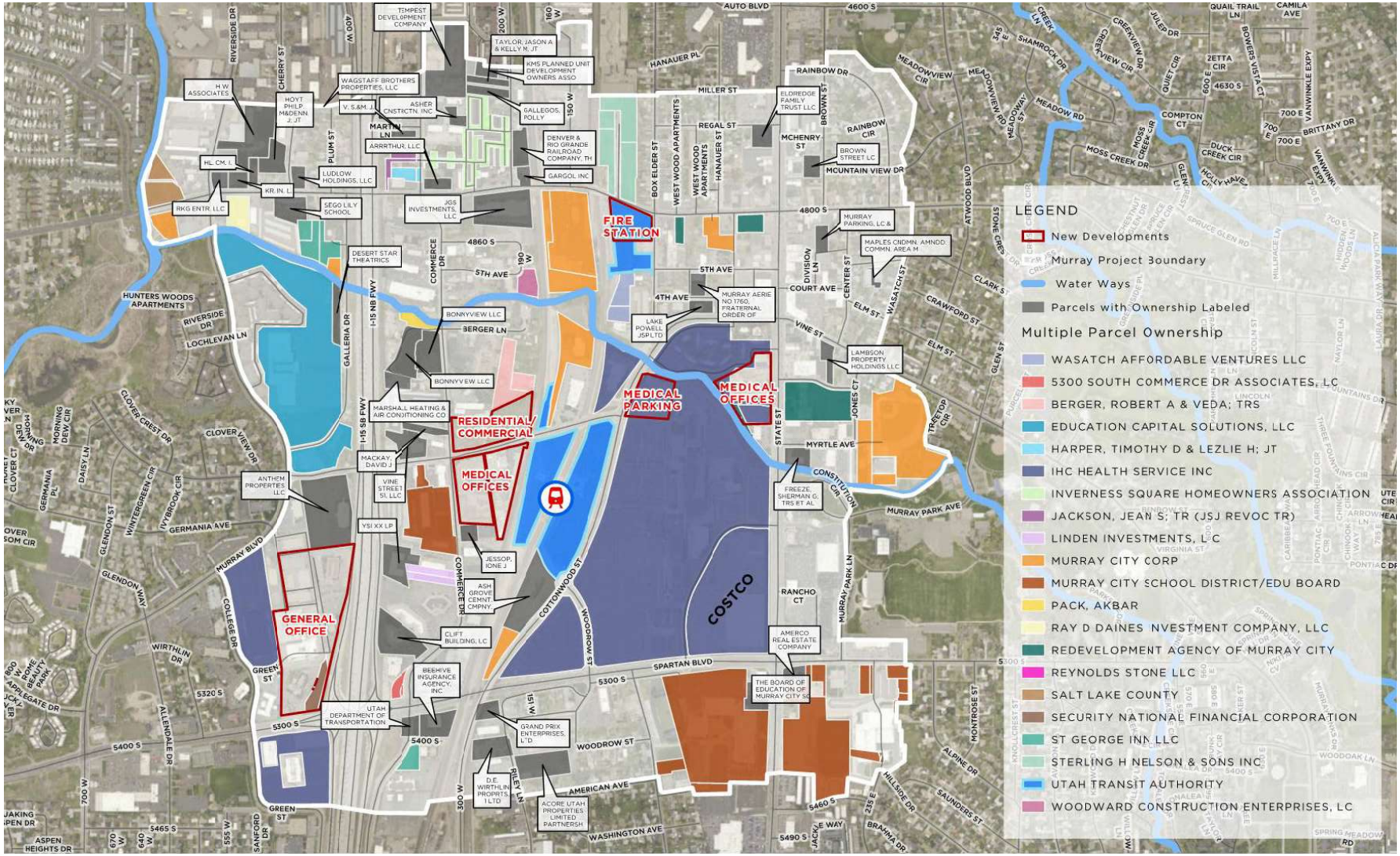


Figure 11 - Murray Central Station Area Property Ownership Map

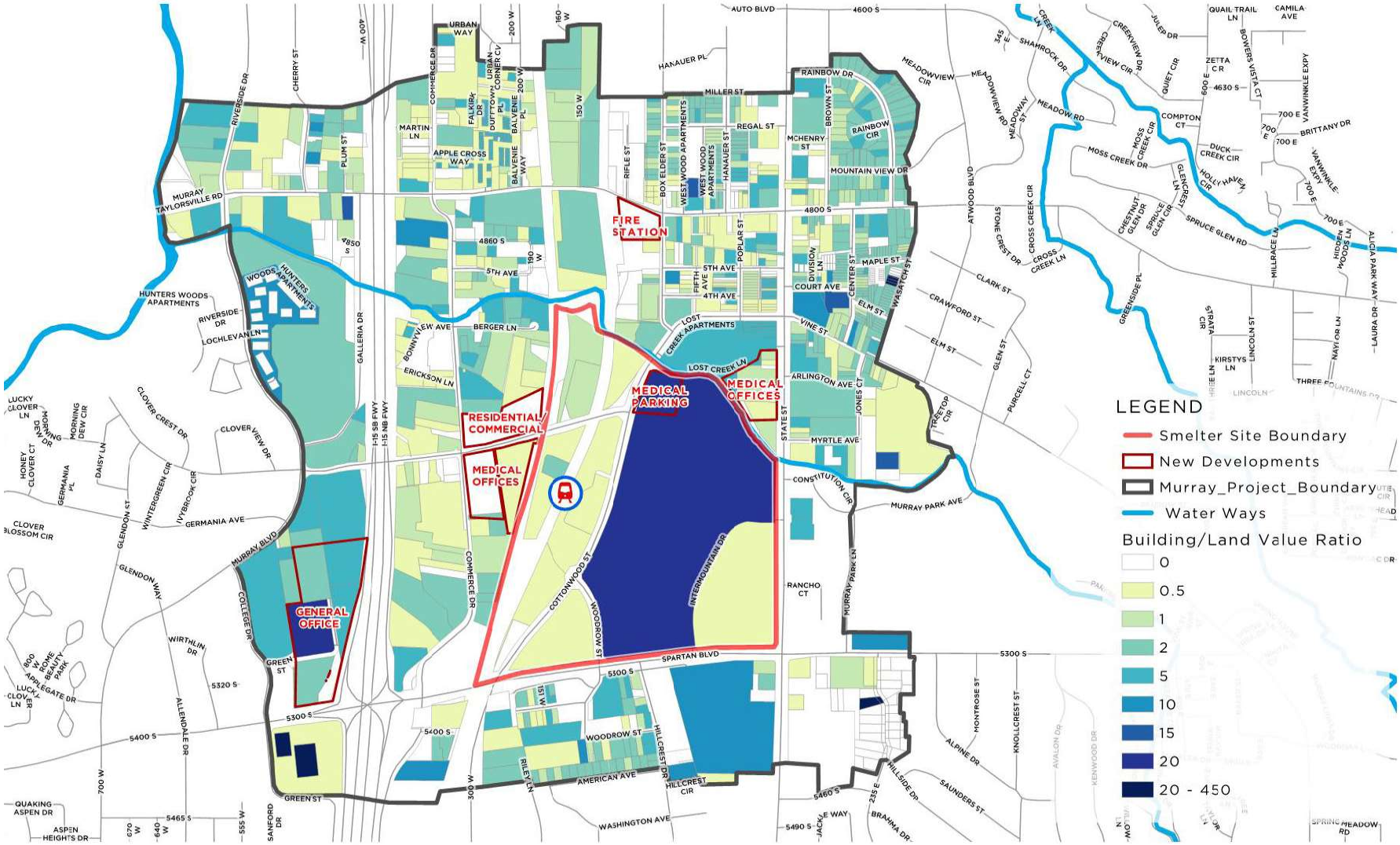


Figure 12 - Murray Central Station Area Underutilized Properties Map

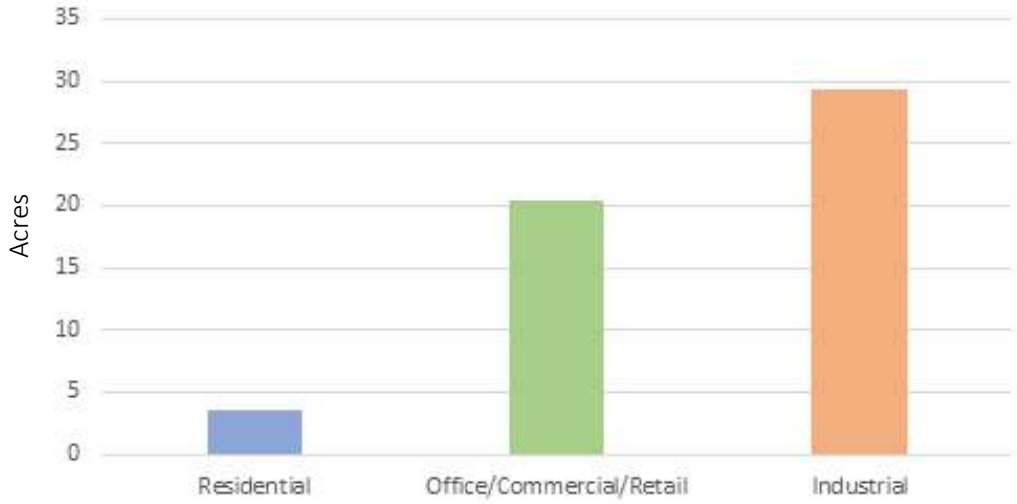


Figure 13 - Murray Central Station Area Vacant Property by Type

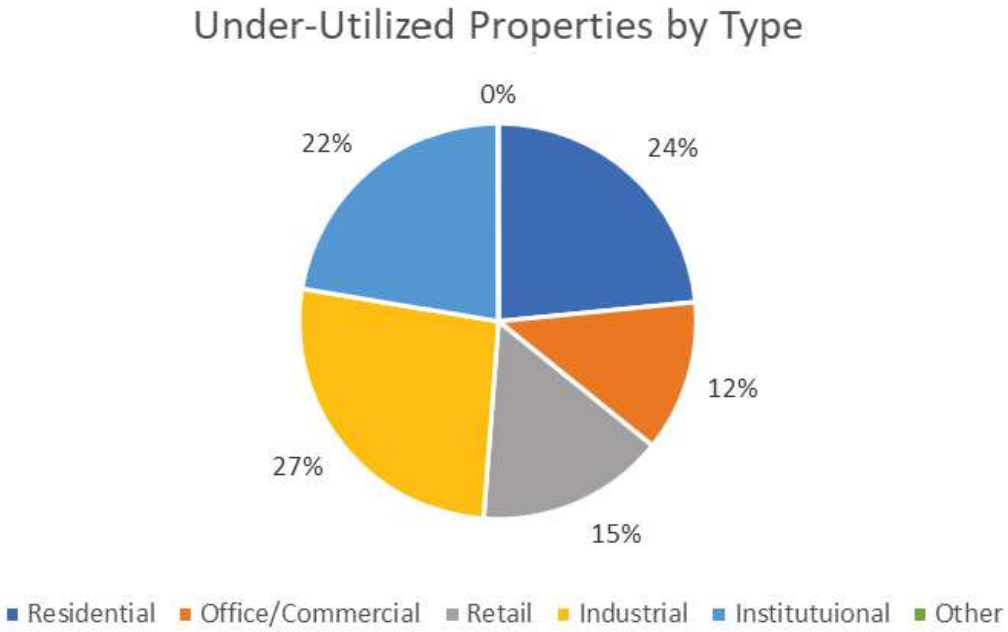


Figure 14 - Murray Central Station Area Under-Utilized Property Type

The vacant and underutilized properties in the area include almost 20 acres that are owned by UTA. Most of UTA's properties are adjacent to the TRAX and Frontrunner stations. Vacant and underutilized properties represent 42 percent of the 920-acre study area. The current count of vacant and underutilized properties does not include parcels with large parking fields that can be redeveloped into higher performing office, retail and residential buildings.

Real Estate Market

The Murray Central Station area current land uses include residential, institutional, office, medical, retail and industrial.

Residential

The residential market in Salt Lake County has been strong for several consecutive years. All indicators predict that it will continue strong for the foreseeable future. Statewide growth and the related strong household formation has resulted in a housing shortage across most product types and price classes.

Murray is projected to grow by almost 4,200 households by 2040. The study area is projected to capture 1,500 of those units, or 36 percent of the projected new households. County-wide household growth in the same time period is projected to be more than 180,000, meaning Murray City can expect to capture 2 percent of new housing development in the period 2018 through 2040.

Residential property represents 29 percent of the acreage in the study area as of 2017. Of the approximately 268 residential acres, three acres are currently vacant and 80 are undervalued. This provides limited opportunity to develop the needed 1,500 new housing units on existing residential property.

Office

There are a total of 92 acres of commercial office property in the study area. An additional 323 acres are dedicated to institutional uses, including a hospital, schools, and governmental offices. Office-based employment in the study area is estimated at 8,554 in 2015, or 64 percent of the total.

The Intermountain Medical Center (IMC) is the flagship hospital of intermountain Health Care (IHC). The IMC is the primary employer and anchor use in the study area. Its campus is immediately east of the TRAX and Frontrunner stations, creating a natural market for medical office development. The majority of new medical office development is anticipated on the IMC-site although related medical office development will occur in surrounding areas. Currently, there are approximately six acres of medical office development in the study area, almost half of which is owned by IHC Medical Services for a dialysis center.

Office-based employment in the study area is projected to grow by 6,156 jobs by 2040, a 72 percent increase. This will require additional office square footage to accommodate the additional activity. At an average of 200 gross square feet per employee an estimated 1.2 million square feet will be needed, 52 percent of which is anticipated to be medically related.

The Salt Lake County office market averages just under 1 million square feet net absorption annually. The geographic submarket in which the study

area is located captures approximately 35 percent of the Salt Lake County total. This means an average of 330,000 square feet is absorbed in the central submarket annually. The study area would need to capture approximately 17 percent of the submarket net absorption to meet projections. Future office demand will require between 22 and 46 acres of property, depending on whether structured or surface parking is used.

There are currently 20 acres of vacant property identified for commercial office or retail development and an addition 42 acres of undervalued commercial office property.

Retail

The retail real estate market is in flux as a result of online shopping and changes in shopper behavior. More emphasis is put on restaurants, entertainment and experiential retail as the key attractors for retail formats. The study area currently represents 16 percent of Murray's retail jobs and is projected to grow by 72 percent by 2040. At current ratios this represents an additional 56 acres of retail space by 2040. Some of this retail space will come from ground floor retail in mixed use buildings and some will come from stand alone retail development. As indicated above, there are 20 acres of vacant property in the study area identified for commercial office and retail development. In addition, there are approximately 52 acres of undervalued retail property in the area.

Opportunities

Although the study area is currently a high-performing area of the City, there are additional opportunities within walking and biking distance of the TRAX and Frontrunner stations. There is also an opportunity to increase the value of existing development through the development of "human-oriented" space such as trails, plazas and gathering places in the vicinity of the two transit stations. Figure 15 illustrates future development opportunities that have emerged as part of the preliminary analysis.

To capitalize on the total opportunity, repurposing approximately 324 acres of current uses is needed. Much of this can occur on UTA-owned "institutional" property immediately adjacent to the TRAX and Frontrunner stations, with the medical office opportunity occuring on IHC Health Services property or other nearby locations.

Figure 15: Study Area Development Opportunity - 2018-2040

Land Use	Current Acres	2040 Acres	New Acres
Residential	268	502	235
Office / Commercial	110	144	34
Retail	78	134	56
Industrial	157	157	0
Institutional	306	306	0
Other	0	0	0
TOTAL	919	1,243	324

Source: *WFRC/MAG Demand Model V 8.1 - March, 2017*

ECONOMIC PLANNING AND DEVELOPMENT PRINCIPLES

- Create value in the surrounding area by leveraging the enhanced station amenities with new development
- Leverage the existing public and private investment in the area.
- Take the long view when making decisions – not just from an economic perspective, but for all other aspects of the site,
- Create a flexible framework that is responsive to market changes and unforeseen futures.
- Work with development partners to create a funding methodology that works for all parties involved.

Transportation

The following summarizes the existing conditions for transportation and streets in the Murray Central Station Plan area, analyzing the following conditions:

- Transportation context
- Modal networks – transit, pedestrian, bicycle, and vehicle
- Street network
- Public space
- Transportation demand management

The analysis concludes with a discussion of major assets, challenges, and opportunities for transportation and streets in the station area.

Context

The transportation context of the Murray Central Station is defined by four main aspects:

- **Existing destinations:** The station is surrounded by many existing (and planned) regional and city-level destinations. It is important to understand how well the station is connected to them, and how well they are connected to one another.
- **The potential for the future fabric of the area:** Much of the station area is likely underutilized in terms of land use when one considers the power of the station – Murray Central provides one- seat, high frequency trips to the major centers of the region, including the three largest downtowns, the state's two largest universities, other colleges, and many other employment centers. An important transportation consideration is how these underutilized/re-developable areas of the station area can change into urban fabric that complements its destinations and leverages the station investment and power.
- **Two networks:** The interplay between two transportation networks that create two "worlds" – the auto network and the "rideable" network of transit, walking, bicycling and other non-single occupant vehicle modes.
- **The station itself:** There are many elements in play at the station and the configuration of the station itself strongly influences the station area.

These elements set the stage for understanding the best opportunities for a sustainable transportation network in the Murray Central Station area.

Destinations and connections

In many ways this plan is about making quality connections from the station to the many community and regional destinations within a half-mile of it. There are multiple destinations important to the region and the city of Murray within this relatively small area, such as Intermountain Medical Center, Downtown Murray, Murray Park, a major big box/retail area, and Murray High School. Figure 16 identifies these destinations.

These destinations represent thousands of jobs and high visitation rates. This plan aims to strengthen connections to these destinations, especially for active transportation.

Observations:

- Space between the destinations is largely filled with parking lots.
- There are multiple destinations within ½ mile, but only the medical center within ¼ mile.
- Several new projects are creating new destinations in the area west of the station.
- There are major barriers in the area, although there are relatively good connections across them (see pedestrian network section for details).

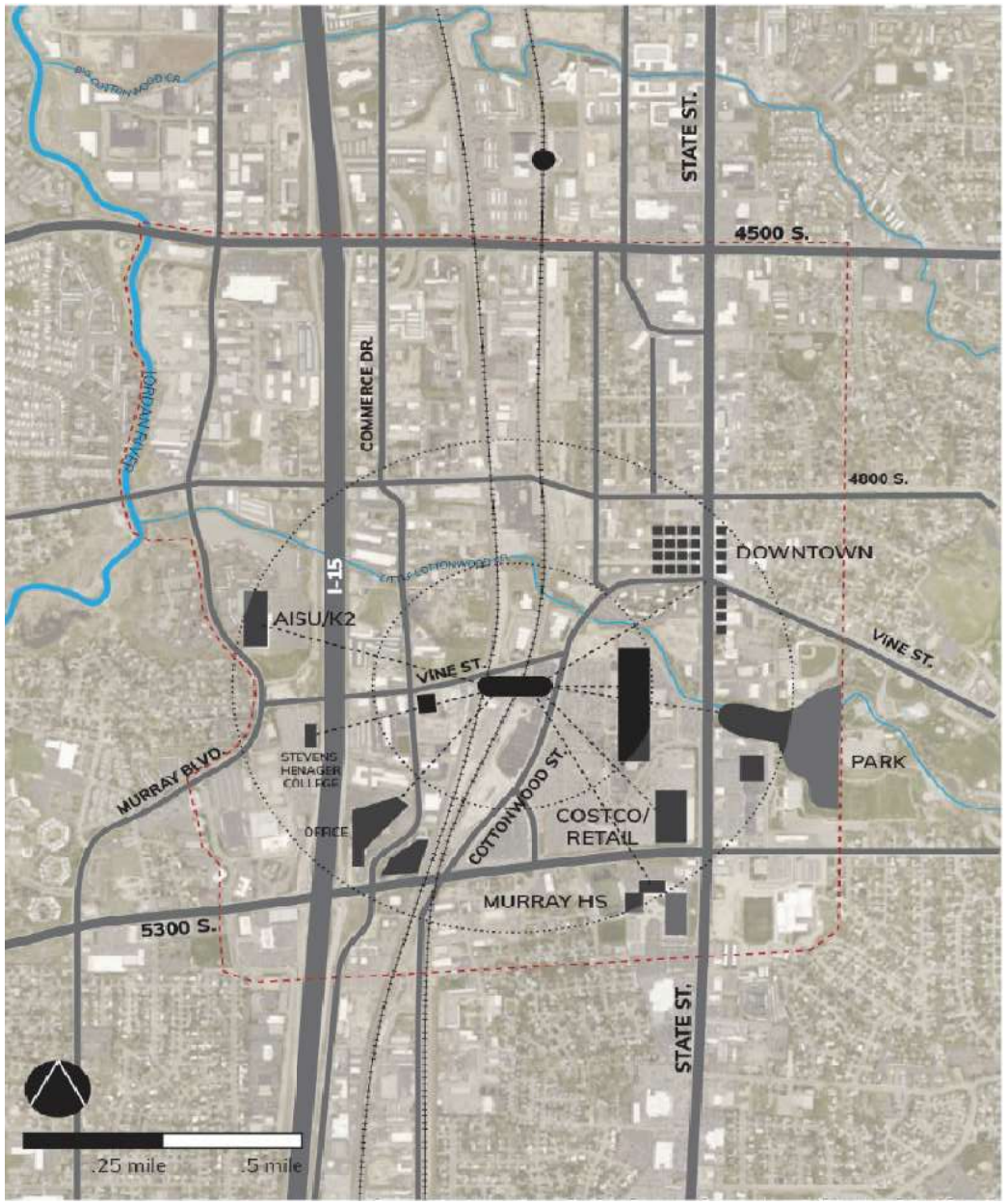


Figure 16 - Murray Central Station Area destinations within 1/4 and 1/2 mile radii.

Future Fabric

As previously established, the Murray Central Station area contains a wide array of uses that are of regional and citywide importance. The station is also important for how it connects people around it with destinations throughout the region.

Figure 17 demonstrates the area that is accessible in a one-seat (direct, no transfer) ride from Murray Central within the Salt Lake Valley. Several destinations in Davis, Weber, and Utah counties are also accessible via a direct FrontRunner ride.

It is vital to reconsider the use of much of the land in the station area that appears to be underutilized. While the study area contains many existing and planned destinations, it also encompasses a lot of area with vacant land and lower-intensity land uses that could likely be redeveloped.

Key questions encountered are what will this underutilized area be and how will it be connected. Answers to these questions rests on the ability of the land to be redeveloped within the area of environmental constraints.

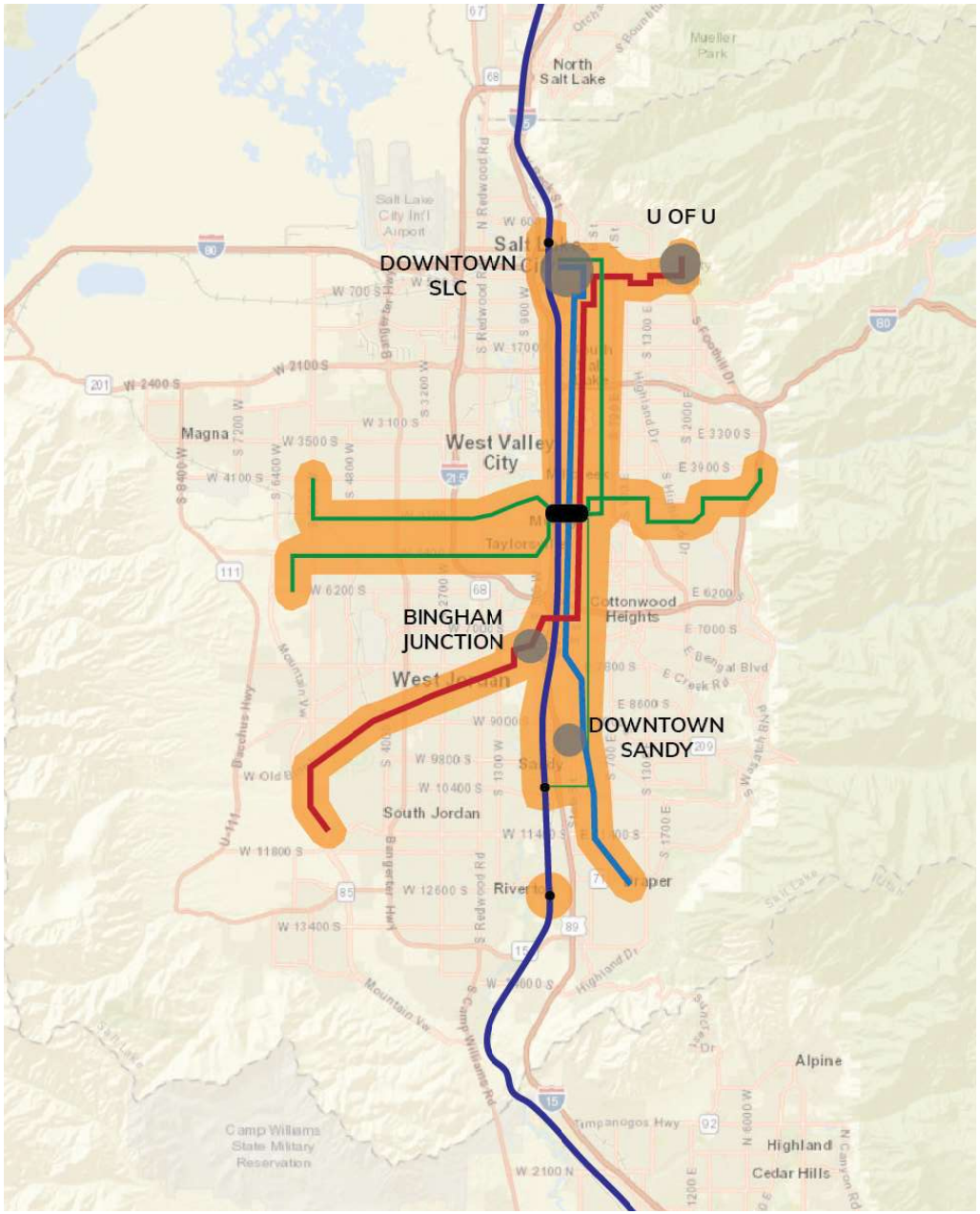
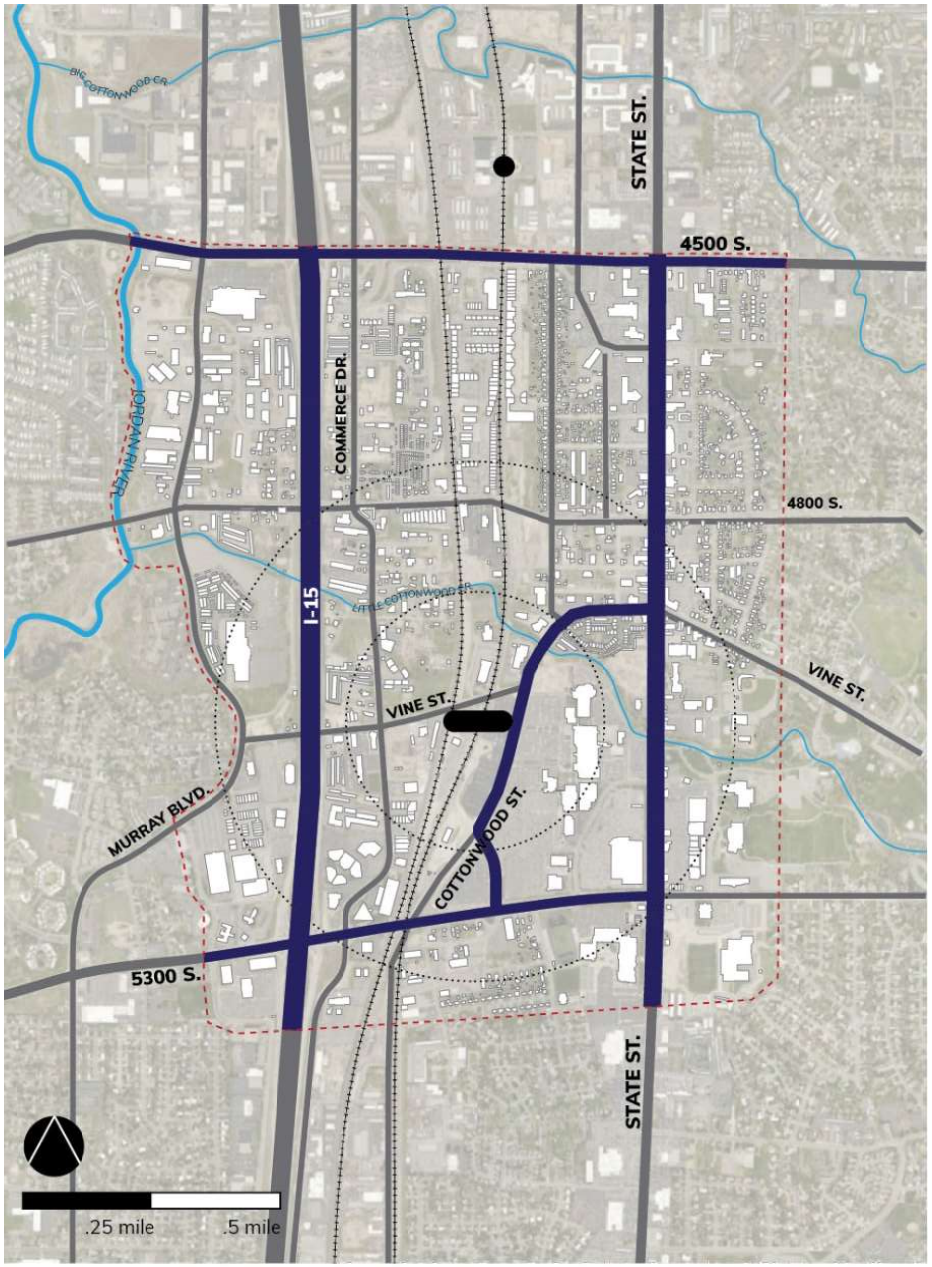


Figure 17 - Area in Salt Lake Valley reached by direct, one-seat ride from Murray Central Station Area and a short (1/2 mile) walk.

Two Networks

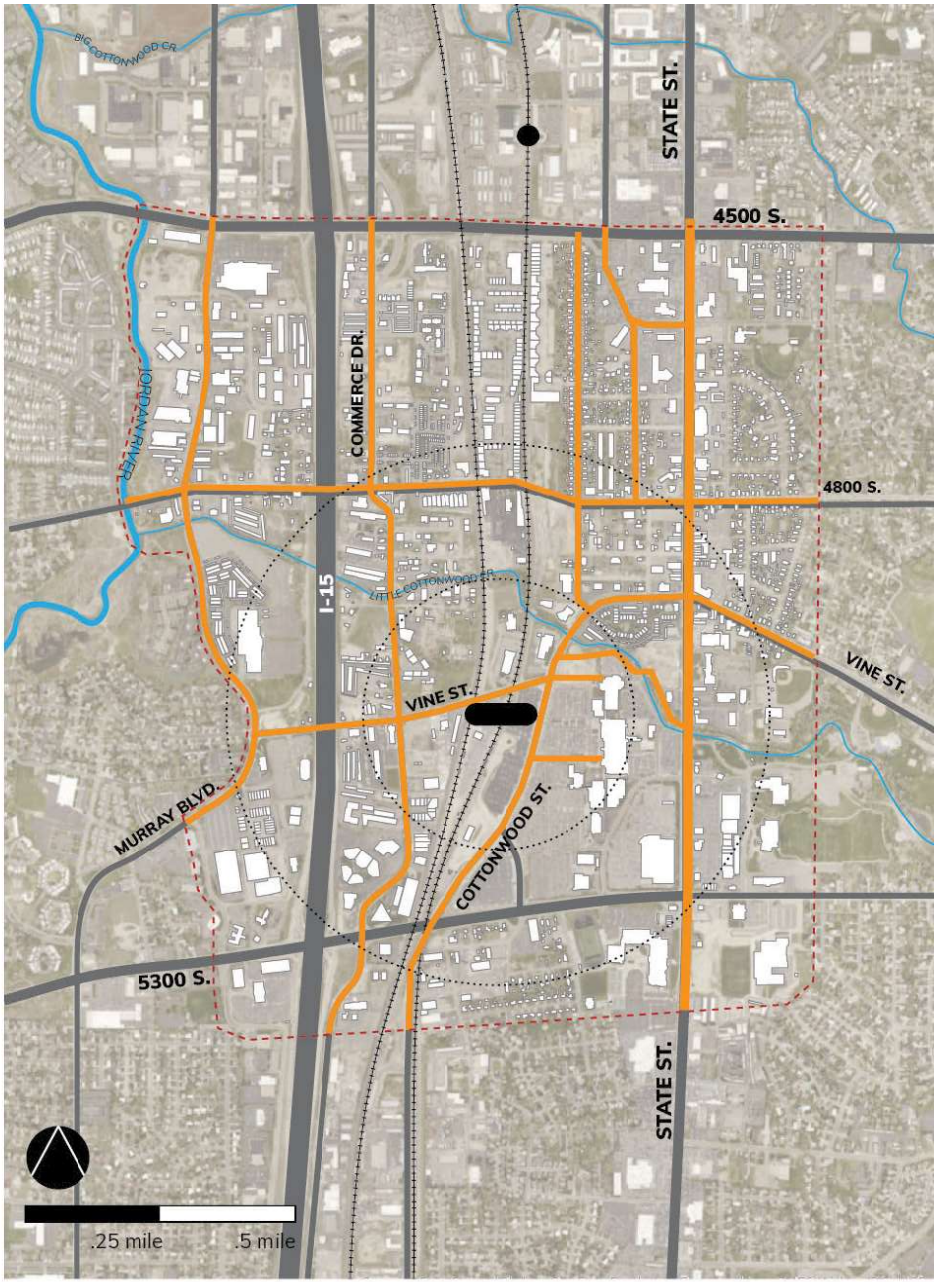
When considering how to access the destinations outlined above, redevelop other areas in the station area into complementary urban fabric, and leverage the value of transit station, it is useful to think about two parallel networks functioning in the study area.

The auto network is dominated by single-occupant vehicles driving to destinations in the study area and parking to access their destinations. Since the station area contains the link between the regional freeway network it will remain vital to the conventional auto network. Streets that make up this network are I-15, 5300 South, 4500 South, State Street, and Cottonwood Street and other accessways to IMC.



REGIONAL TRAFFIC NETWORK

Figure 18 - Regional Traffic Network



POTENTIAL RIDEABLE NETWORK

Figure 19 - Potential rideable network of streets in Murray Central Station Area

The station area also contains the potential for another network to complement the auto network: the rideable network (see figure 19). In the station area, there is a large space where the regional auto-focused network is not prioritized. One of the major assets of the station area is a set of collector-level streets that are secondary to the regional auto network. These include 5100 South/Vine Street; Commerce Drive; Murray Boulevard; and 4800 South. This rideable network also needs to include Cottonwood Street and State Street, which are also major auto network priorities.

This idea of a rideable network is critical to this plan as it leverages the station investment and the power of the Murray Central Station by complementing trips to the station with attractive options for connecting trips to area destinations.

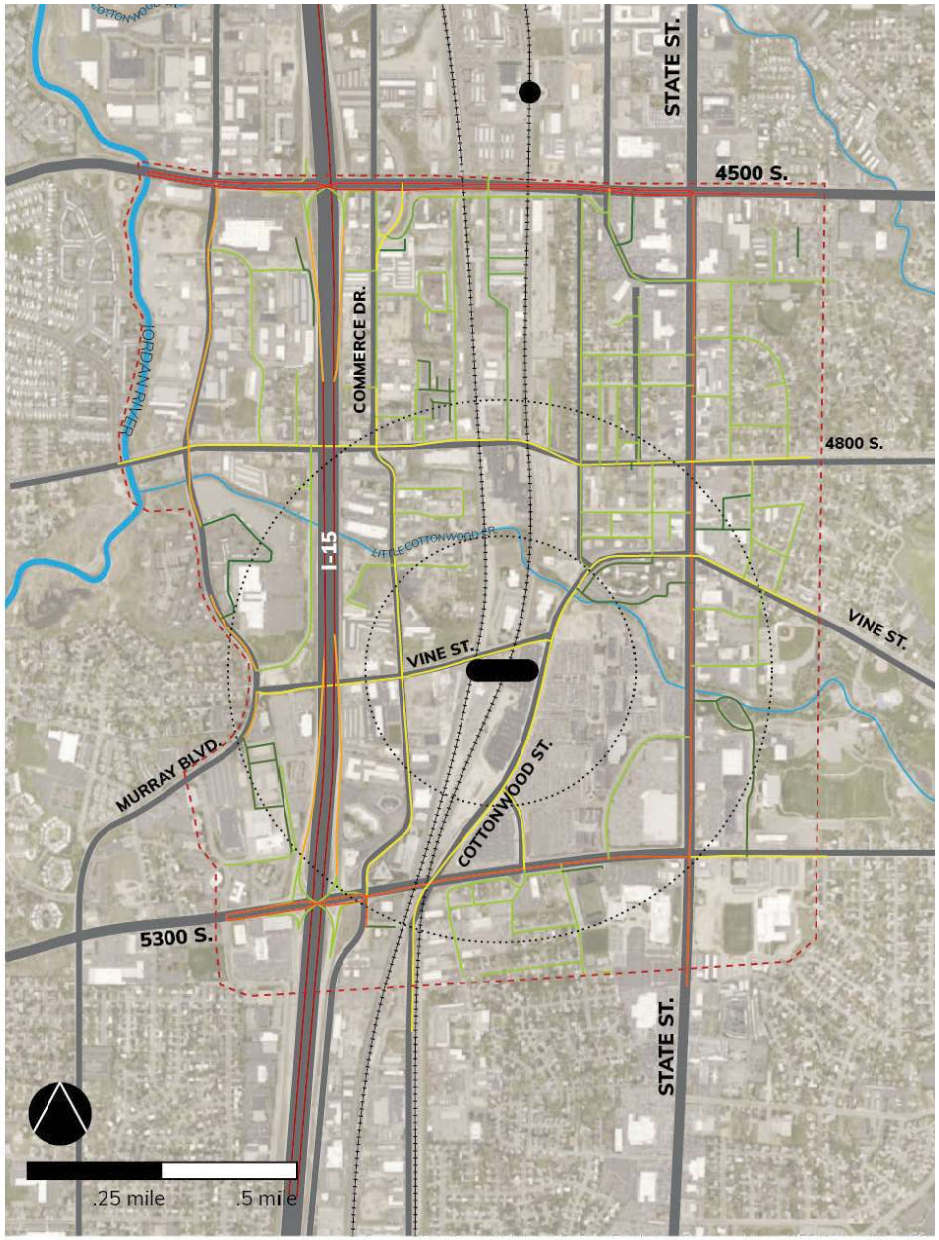


Figure 20 - Speed Limit of Streets in Murray Central Station Area

The speed limits provide an idea of the distinction between these two networks. Figure 20 shows the speed limits of station area streets and how many of the collector-level streets have 30 m.p.h. or below speed limits that could be conducive for a slower environment.

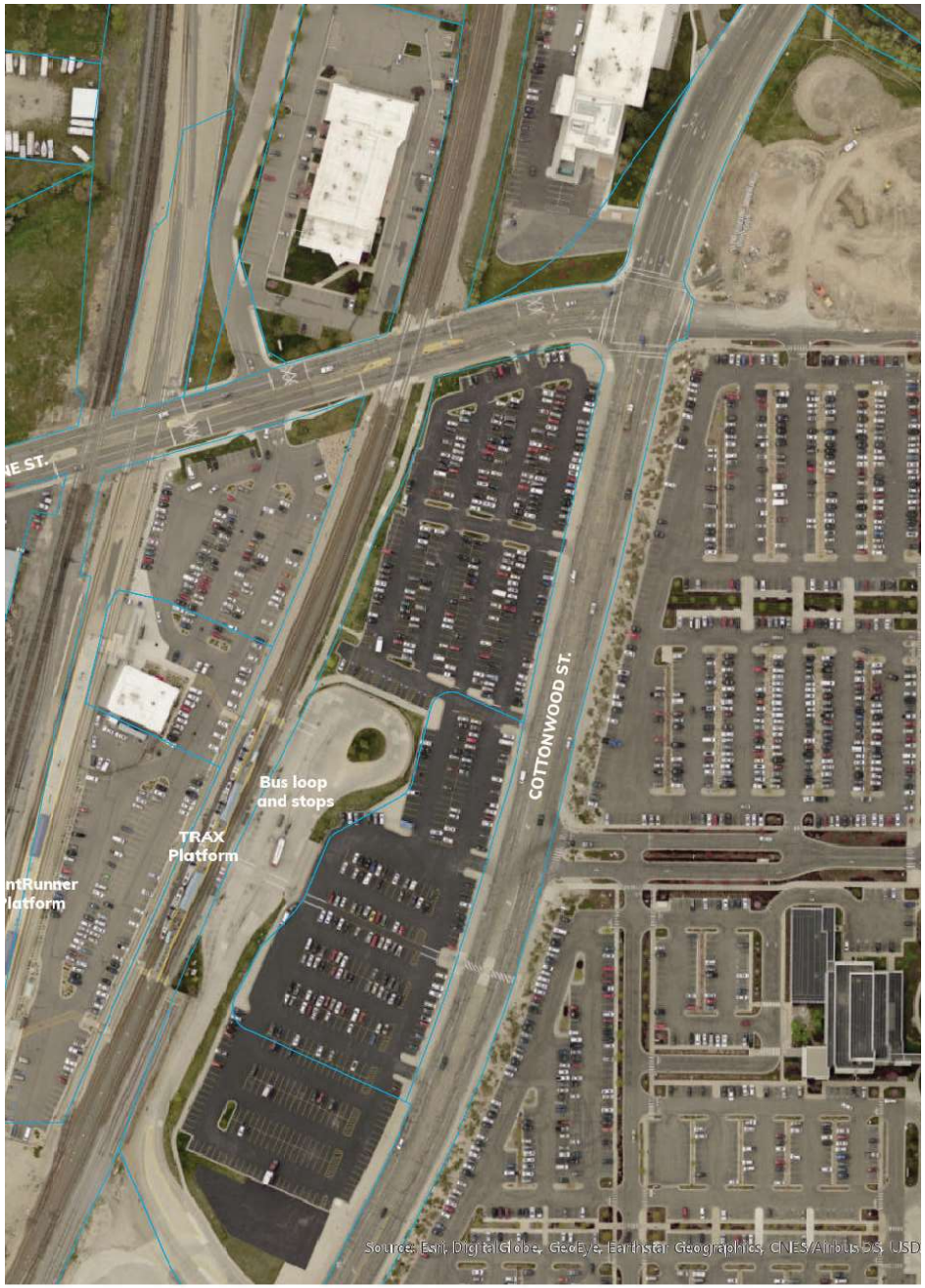


Figure 21 - Murray Central Station

Murray Central Station

Murray Central Station has developed in a patchwork fashion over time, the result of different transportation projects. It is a highly utilitarian place, focused on the narrow mission of people boarding and disembarking the train or bus, parking, and vehicle and pedestrian circulation.

This plan helps clarify the role of the Station in 1) reimagining it as a civic centerpiece and 2) streamlining its overall transportation function and 3) laying the groundwork for a good relationship to transit oriented development around it.

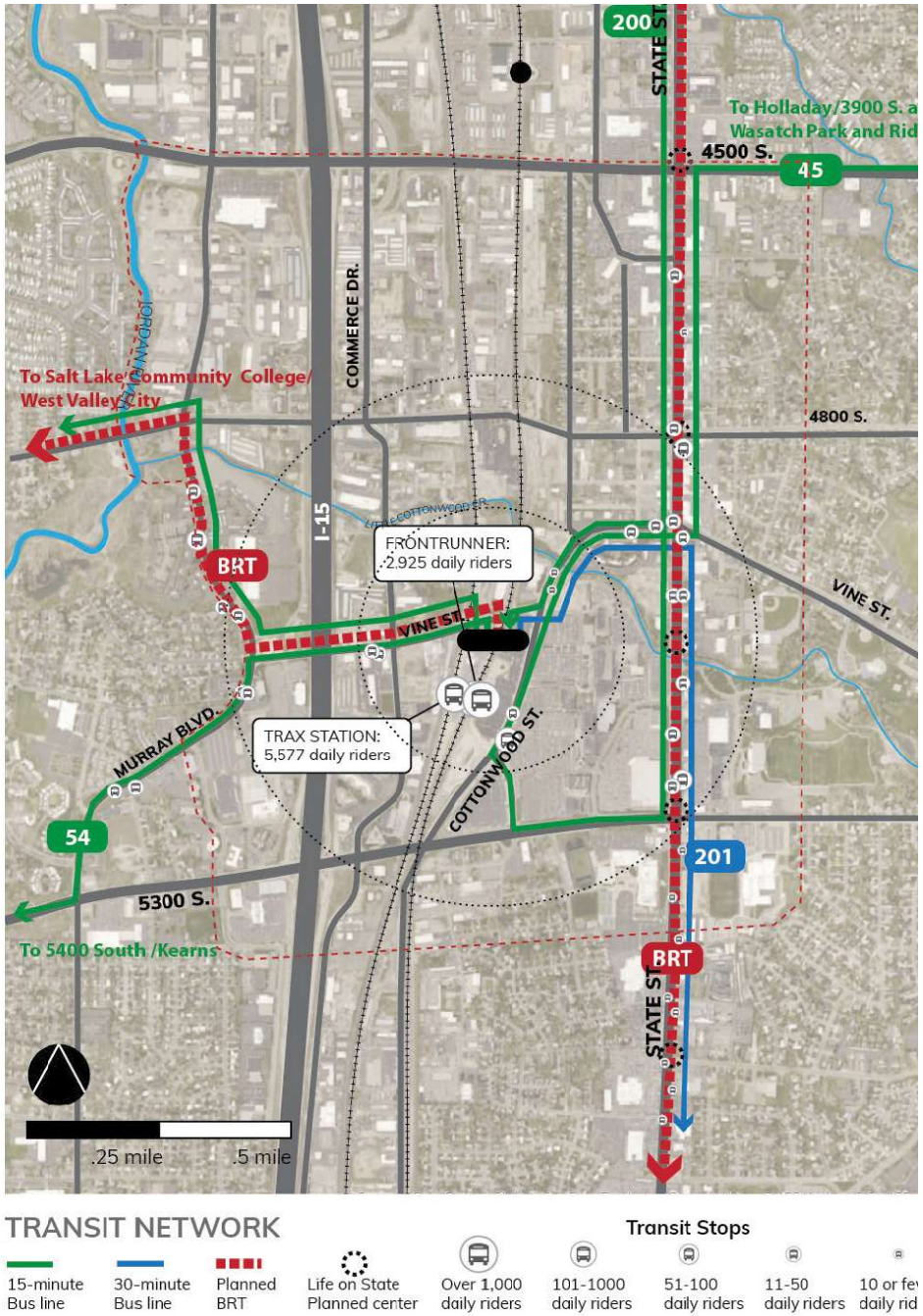


Figure 22 - Transit network of Murray Central Station Area

Mode Networks

In order to understand the opportunities related to the fabric, networks and station, it is important to understand the networks for the individual modes: transit, pedestrian, bicycle, and vehicle.

Transit

Station Overview

The Murray Central Station was developed through a series separate actions by UTA. The first was a TRAX stop on the Blue Line. When the TRAX stop was built, a bus loop was added. When UTA acquired the Union Pacific right-of-way, it built the FrontRunner stop here, due in part to the hospital bus system and because this is one of the rare places where the two mainline tracks are close enough for easy transfers.

When UTA built the FrontRunner station, it built a surface parking lot on the triangular piece of land between the FrontRunner and TRAX stations. As illustrated in Figure 22,, the station is now served by two TRAX lines; FrontRunner (running north to Ogden and south to Provo); and several local bus routes heading west (54 and 47); east (45); north (200); and south (201). A bus rapid transit (BRT) line is being planned and designed to connect Murray Central Station with Salt Lake Community College and the West Valley City center via the Taylorsville corridor and 2700 West.

These connections provide the station with significant transit power. A one-seat ride on a frequent (15 minute) service and standard half-mile walk, for example, provides access to much of the region, specifically the key job centers and educational institutions. This means that people living here can access jobs and schools as part of an easy and frequent ride. Conversely, people living on the Wasatch Front can easily access jobs around the Murray Central Station.

As a result, this is one of the busiest stations in the UTA rail system. Approximately 8,500 TRAX/FrontRunner riders use the station each day.

UTA on-board survey data indicates that the Murray Central is an attractive choice for accessing key regional jobs and destinations. Riders at Murray Central Station are about 25 percent more likely to commute to work than the average systemwide rider (51 percent compared to 40 percent). Riders at Murray Central Station are about 33 percent more likely to be "choice" riders (having access to using a car) than systemwide riders (60 percent compared to 46 percent).

Connecting Bus Lines

The station is served by five bus lines: the 200, 201, 54, 47, and 45. A few observations about these connecting routes follows:

- The bus routes are almost evenly distributed in all cardinal directions. The eastward connection to Taylorsville and Kearns (Route 54) and the westward connection to Holladay (Route 45) provide important connections to places not otherwise served by high frequency transit. The north and south connections (200 and 201) somewhat mimic the service areas of TRAX but are enough removed that they serve a separate corridor along State Street.
- Almost all are high-frequency (15 minute) routes. This means there are high-quality transit connections in all directions.
- No flex/circulator routes serve the station. Considering the number of destinations in the station area, a local circulator could be an opportunity to consider.

Station Program and Design

The station is comprised of two center platforms (one for TRAX, one for FrontRunner), a bus loop with bus waiting and boarding areas, and two parking areas (1,070 stalls) – one to the east of the station (100 stalls are currently being leased to the IMC) and one in between the two platforms. This parking area also includes a UTA police station.

UTA has identified the following issues with the current and future function of the station:

- The triangle parking lot has circulation challenges. There is only one entry / exit point to and from the triangular parking area between the two platforms. This is located on the south side of 5100 South. This lack of multiple ingress/egress causes circulation challenges for people parking, pulling out and dropping off passengers.
- There is a lack of connectivity to the west: The Union Pacific tracks to the west of the FrontRunner tracks form a major barrier to connections westward of the station.
- UTA recently built a pedestrian crossing of the TRAX rails on the south end of the station – the north side crossing was getting congested and the agency wanted to provide another option.
- UTA has identified a need for additional park-and-ride spaces at this station.
- It is unclear how the Taylorsville-Murray Bus Rapid Transit (BRT) line will come into the station and pick up and drop off passengers.
- UTA sees an opportunity to build a TRAX side platform that could be shared with buses on the east side. This could also be a good way to integrate the new BRT line into the station.

Future BRT
The Taylorsville – Murray Bus Rapid Transit (BRT) project is in preliminary design for Phase 1 (from Murray Central Station to Salt Lake Community College). Phase 2 (from the community college to West Valley City Center) is in the planning Stage 1.

Key aspects of the BRT line for this plan is how the line comes into the station area (route, transit priority features, stop locations, and stop design) and 2) how the line terminates at the Murray Central Station (circulation, location and design of stop).

Other Transit Opportunities
In addition to the existing and planned transit, the presence of numerous employers and destinations creates the potential opportunity for a privately run shuttle providing first/last mile connections to these destinations.

Pedestrian

Being able to walk to, from and around the station is generally the most important transportation aspect of a station area. Approximately 55 percent of people accessing Murray Central Station walk to it.

The Murray Central Station area presents some unique and extreme pedestrian conditions, including large uses not built for pedestrians, major parking lots, and industrial areas built without pedestrians in mind.

Pedestrian Environment Quality
This describes the quality of the areas dedicated to pedestrians, such as sidewalks and paths, buffers from moving traffic, and the character of adjacent areas. While the adjacent parking lot is in opposition to a quality pedestrian environment, the best pedestrian environment in the area is actually on the IMC parking lot drive aisles.

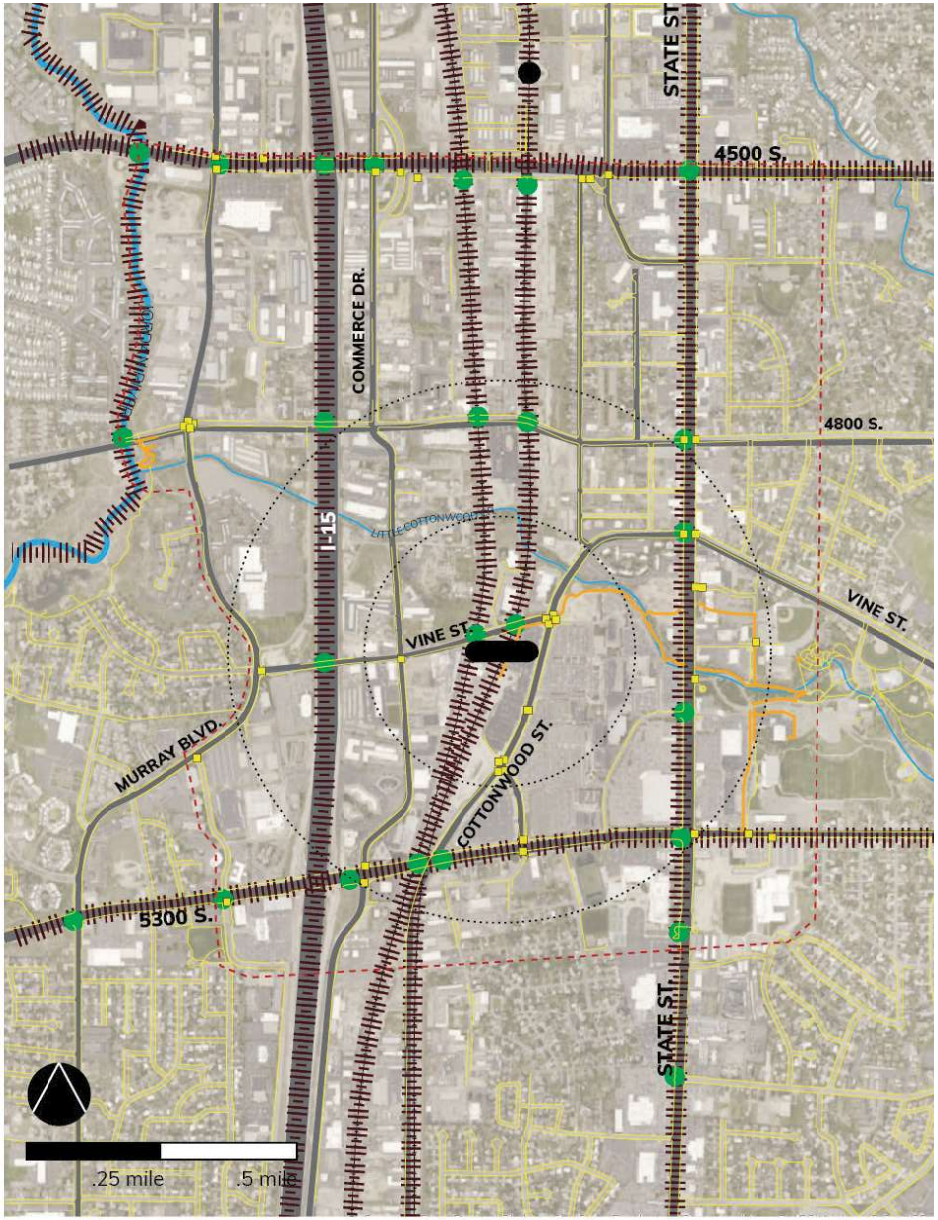


Figure 23 - Existing pedestrian network of the Murray Central Station Area

Figure 23 - Existing and planned Bicycle network of the Murray Central Station Area

In the potentially rideable network, there is potential to improve the pedestrian realm, since large rights-of-ways and multiple redevelopment areas provide opportunities to create a better pedestrian environment.

Street Crossings

The pedestrian crossings of major streets fall into the following key categories:

- Station crossing of Cottonwood Street: This is a high-quality midblock crossing on the direct path from the station to IMC. The crossing includes a high-visibility crosswalk, a median refuge, and flashing beacon.
- Other Cottonwood Street crossings: At traffic signals - 5100 South/Vine Street and 100 West, which have standard crosswalk markings.
- West side crossings: Pedestrian crossings of streets such as 5100 South/Vine Street and Commerce Street. While relatively lightly trafficked streets with short crossings, these have poor markings and corner environments.
- Arterial crossings: Pedestrian crossings of State Street and 5300 West traverse long distances and have relatively minimal pedestrian infrastructure. There is one unsignalized pedestrian crossing of State Street in downtown Murray.

Barriers and Across Barrier Connections

Murray Central Station lies amid major north-south regional transportation facilities, including I-15, State Street, the U.P. rail line, FrontRunner, and TRAX. This creates major barriers for people walking and bicycling in the area.

Bringing this regional network down to the scale of the pedestrian is necessary for connectivity. A key concern is the balance or decision between improving existing streets as connections to long-term major destinations or addressing pedestrian issues as part of a new type of urban place.

Bicycle

Network

The Murray Central Station is important to the bike network at multiple levels – both regionally and locally. About seven percent of people access the station by bike, more than twice the system average.

Figure 23 indicates the important bike network links running through the plan area. First, the station provides a nearly unparalleled opportunity to connect local cyclists with distant regional destinations. Also, a number of existing and potential regional bike corridors run through and around the station area:

- Main Street/Box Elder/Cottonwood Street corridor, which is an important regional north-south corridor and runs directly to the station.
- The Jordan River Parkway, which runs within ¾ to a mile from the station.
- The 4800 South corridor, which connects to Taylorsville in the west and Holladay to the east and runs within about ½ mile of the station.

The corridors above connect with key regional bike nodes, as follows:

- 4800 South/Jordan River Parkway
- 4800 South/Box Elder Street
- Cottonwood Street/Murray Central Station

In addition, both Murray City and the Regional Transportation Plan identify planned bike routes on plan area streets and corridors:

- Cottonwood Street
- Box Elder Street
- 5100 South/Vine Street (West)
- Vine Street (East)
- Murray Boulevard
- Little Cottonwood Creek
- Murray Park

While not identified in plans, Commerce Street presents an opportunity for north-south connectivity between the barriers of I-15 and the rail tracks. Currently, the only routes in the immediate station area with marked and/or dedicated facilities are Cottonwood Street between the intersection with 5100 South and State Street and the pathway along a short segment of Little Cottonwood Creek. However, there are clear ways to connect bicyclists with the station with dedicated facilities and/or marked routes. The local routes can combine with the regional corridors to create a regional bicycle hub that is also useful at the local level.

Bicycle Environment Quality
The streets in the station area include few dedicated bike facilities. As noted above, the only marked and/or dedicated facilities are a bike lane along Vine Street from Cottonwood Street to State Street and shared lane markings on Cottonwood Street. However, many of the station area streets are lightly trafficked and can provide decent bike environments. Additional planning will need to take place to formalize these street environments.

Street crossings
Similar to the area's pedestrian crossings, there are major active transportation barriers in the area.

Amenities
The station contains some bicycle amenities to note. For example, both bike racks and bike lockers are available, as is a bike station with a pump and tools.

Vehicle

Serving auto traffic is a critical function of the area around the Murray Central Station. This is especially true for the area east and south of the station, the major destinations of IMC, the big box retail cluster and Murray High School. A series of routes in the area are critical links for auto traffic such as I-15, State Street, 5300 South and 4500 South, all of which provide access to most of the destinations. The network of collector-level streets is also important to linking IMC traffic from these arterial streets to the medical center's parking areas.

Driving is also an important aspect of station access – about 37 percent of station users access it by car, although nearly half of those are dropped off, which is much higher than system-wide. The station has a higher (yet still low) rate of carpooling than the system-wide rate of five percent. Based on nine parking utilization surveys conducted by UTA, the 1,070 stalls in the park-and-ride lot are 67 percent full on average.

Traffic volumes
Figure 24 illustrates traffic volumes for most major streets.

Street network

Connectivity

Street connectivity in the Murray Central Station area is inconsistent. On one hand, streets are connected to one another and lead to the station, forming the "bones" of a connected network. Even in the hospital parking area surrounding the IMC, the drive aisles/streets form a connected network around the barrier of the hospital complex. However, the area suffers from two related issues. First, the network has a low density; there are not many streets in the area. Second, the area is dominated by large land uses that, in part, create low density.

In the future, lack of network density should be able to be corrected if new streets can fill in the large areas without streets. Some of the problem will remain because of the number of barriers such as I-15 and the Union Pacific tracks.

Figure 24: Traffic Volumes in Murray Central Station Area

Street Segment	2016 AADT	Estimated Daily Capacity Used at LOS D
State Street	39,000	85%
State Street	36,000	78%
State Street	30,000	65%
5300 South	28,000	61%
4800 South	10,000	89%
Murray Blvd.	9,200	82%
Vine Street	7,700	68%
Commerce Street	4,000	36%
Cottonwood Street	2,100	19%

Source: *UDOT*

Rideability

Rideability describes the quality of having an attractive choice to the single-occupant vehicle. Rideability is achieved through a rideable network, which leverages and connects several different modes, such as transit, walking, bicycling, private shuttles, ridesharing and connected and autonomous vehicles.

As established, Murray Central Station and the surrounding area has enormous potential for enhancing its rideable network. The station itself creates the foundation for regional rides to and from the study area. This plan can help extend those non-SOV ride trips to and from existing, planned and new destinations in the station area and beyond .

Several existing streets create the structure of a rideable network: Cottonwood Street, 5100 South/Germania, and Commerce Street. These are the primary major streets within ¼ mile of the station and are also critical to the rideability for different reasons. Cottonwood Street provides access to the station from the east side, to transit and to the IMC. 5100 South/Germania provides access to the station across the major station area barriers, to transit trunk lines from the east, and to future redevelopment opportunity. Commerce Street provides north/south connectivity, and redevelopment opportunity.

Each of these key links were assessed at a broad level to determine their rideability. This assessment considered a number of factors that generally provide a slower, more human-scaled environment with the service and infrastructure of other modes. Other factors assessed include:

- vehicle speed
- space allocation for other modes
- pedestrian environment quality
- pedestrian crossing frequency and quality
- transit service and infrastructure
- travel demand management practices The results are as follows:
- Cottonwood Street: 45/100 points.
- Vine Street/5100 South (west of station): 31/100 points
- Commerce Street: 14/100 points

Results indicate that there is significant opportunity for improvement on each of these streets. While the speeds on these roads are relatively slow and demonstrate a high level of transit service, they are not designed as a pedestrian environment. They have poor transit waiting environments and poor land use frontage.

Public Space

The station area contains very little public space. The FrontRunner drop-off area and at the bus loop are the main public spaces in the area and both are utilitarian in nature. They have very few pedestrian amenities such as benches and street trees.

IMC is surrounded by parking which challenges the idea of human-scale public space. There are some plaza/garden areas but they are largely inside the medical campus. The major public space in the greater station area is Murray Park. However, opportunities to connect the park with newer retail/food development have been missed and it is quite distant from the station. Other, smaller public spaces include the pathway along Little Cottonwood Creek which is blocked by roads at several locations.

Travel Demand Management (TDM)

Intermountain Medical Center (IMC) has some travel demand management (TDM) in place. These include a discounted transit pass program and a shuttle that runs throughout campus and stops at Murray Central Station.

Transportation and Urban Design Assets, Challenges, and Opportunities

Destinations and connections

Assets

- IMC – approximately 20 percent of employees use transit to get work.
- Wide range of diverse, other major destinations
    - Office uses
    - Murray civic uses – park, ice skating, pool, City Hall
    - Murray downtown
    - Big box/major retail – Costco, Best Buy
    - Emerging complementary medical uses
    - Educational uses
    - Murray High
- Little Cottonwood Creek trail – does not exist west of State Street and is hightly fragmented
- Nice infrastructure to connect directly to IMC from the station – crossing, streetscape in parking lot
- Direct line of 5100 South/Vine to west from station
- Network within the area is relatively connected – crossings over barriers, such as I-15 and rail lines, are in the right places
- Signalized intersection at State Street to IMC
- Bus lines provide additional connections to destinations, within the study area

Challenges

- Destinations tend to be farther than ¼ mile (walking distance) from the station
- Parking lots are a major use within ¼ mile of station, especially to the east
- Difficult to incorporate crossings to rail tracks
- Little Cottonwood trail only extends for short segments
- IMC is an east-west barrier to pedestrian movement
- Topography, north of the station physically separates the two areas
- Most street connections have poor pedestrian qualities
- The street network is low density
- Parking is free for IMC employees, patients, and visitors, which does not incentivize transit use
- The most desired IMC parking spaces are concentrated in lots in north and east, creating congestion.

Opportunities

- Extend Little Cottonwood Creek trail west to the Jordan River – though challenging considering the blockages that will need to be overcome
- Improve crossings on State Street for pedestrians/cyclists
- Leverage Cottonwood, Vine, and Commerce Street as a rideable street network and improve accordingly
- Create transit/shuttle options for first/last mile/longer distance destinations from station
- TDM for large entities – consider the establishment of a single Transit Management Association (TMA)
- Grade-separated, active transportation crossing of tracks from the south end of station
- Explore ways to better overcome topographic challenges at the north end of the area
- Encourage IMC to provide a public connection across State Street to the park and surrounding civic district

Future Fabric

Assets

- Underutilized land uses west of the station
- Cottonwood, Vine, and Commerce as the basis for a connected, urban street/block network
- Little Cottonwood Creek as a placemaking asset

Challenges

- Environmental conditions/contaminated land
- The IMC's parking area is a contingency/reconfiguration zone for the future – not an explicit place for new development
- The area to the west of I-15 is disconnected from the station area
- Rail tracks – Vine Street is the only connection

Opportunities

- Create better urban fabric off of Cottonwood, Commerce, and Vine Street that is denser, better connected and has walkable streets.
- Transit (bus) corridor along 5100 South/Vine
- Consider making quality connections to existing neighborhoods if new station area provides attractive dining/shopping/restaurant destinations
- IMC is expanding vertically; they could provide opportunity to modify parking to create complementary uses and a more active streetscape
- Potential for a great public space by connecting the station with IMC.

Two Networks

Assets

- Key auto links (apart from I-15) appear to be under-capacity
- The inherent strength of Murray Central Station to reach regional destinations
- General separation of auto streets and potentially rideable streets
- Connected network of streets not very important to autos – specifically, Vine and Commerce
- High levels of bus transit

Challenges
- Multiple demands on Cottonwood Street from IMC vehicle access and part of rideable network
- State Street is important auto corridor but also has vision for BRT, is key part of Downtown Murray, and needs better pedestrian crossings
- Potential backbones of rideable network are not very rideable

Opportunities
- Improve key links of potential rideable network for riding
- Create a creative complete street design for Cottonwood Street
- Explore ways to have State Street continue to move traffic while also becoming better for downtown Murray, pedestrian crossing, and future BRT access

The Station Itself

Assets
- High frequency service that provides direct access to a very large part of the region, including the largest job centers and entertainment destinations
- TRAX, FrontRunner and buses are close together geographically

Challenges
- Connections between TRAX, frontrunner and bus are somewhat clumsy
- Parking between TRAX and FrontRunner has circulation/speed issues
- Parking lot between TRAX and FrontRunner precludes opportunity for great people space in this part of the station
- Buses must take a circuitous route to get to the bus drop off loop, especially from the west and north
- UTA believes it needs more parking in the future
- People getting off the train first see a mass of parking
- Institutional materials contribute to lack of sense of place – chain link, etc.
- The Union Pacific rail line to the west of the station is a formidable barrier barrier

Opportunities
- Better use of the area between the stations
- A great public space – possibly between the stations
- Better drop off area for TRAX and FrontRunner
- Grade-separated link across the tracks on south end of station?
- More direct/elegant/connected bus circulation, especially for planned BRT
- Potential to have a shared platform with bus and TRAX to make for more elegant transfers
- Create better view/character than so much parking when one gets off the train.

TRANSPORTATION PLANNING AND DEVELOPMENT PRINCIPLES
- Connect the station to existing and proposed destinations in Murray and the surroundings.
- Create a new public realm that is inherently walkable and easy to navigate.
- Capitalize on the opportunity to transform Vine Street into an activated, multi-modal urban corridor.
- Reconfigure the station's circulation and operations to emphasize walkability and public space.

Land Use

A thorough Site Analysis was conducted to ensure the planning and design concepts that emerged are aligned with the opportunities and constraints that currently exist. As illustrated in Figure 25 – Station Area of Influence and Site Analysis Diagram, several conditions were considered as part of understanding the structure and relationships of land uses in the study area.

Existing Land Use

Land uses in the area are predominantly light industrial north, south and west of the station, with a mix of commercial and public service uses to the east. The station area is dominated by large parking lots, which serve the station and IMC to the east near State Street. Discussions with representatives of IMC indicate that the large, sprawling campus is controlled by a separate master plan, and that any changes for improving the relationship between the station and medical campus will be determined outside of this planning effort.

Natural Features

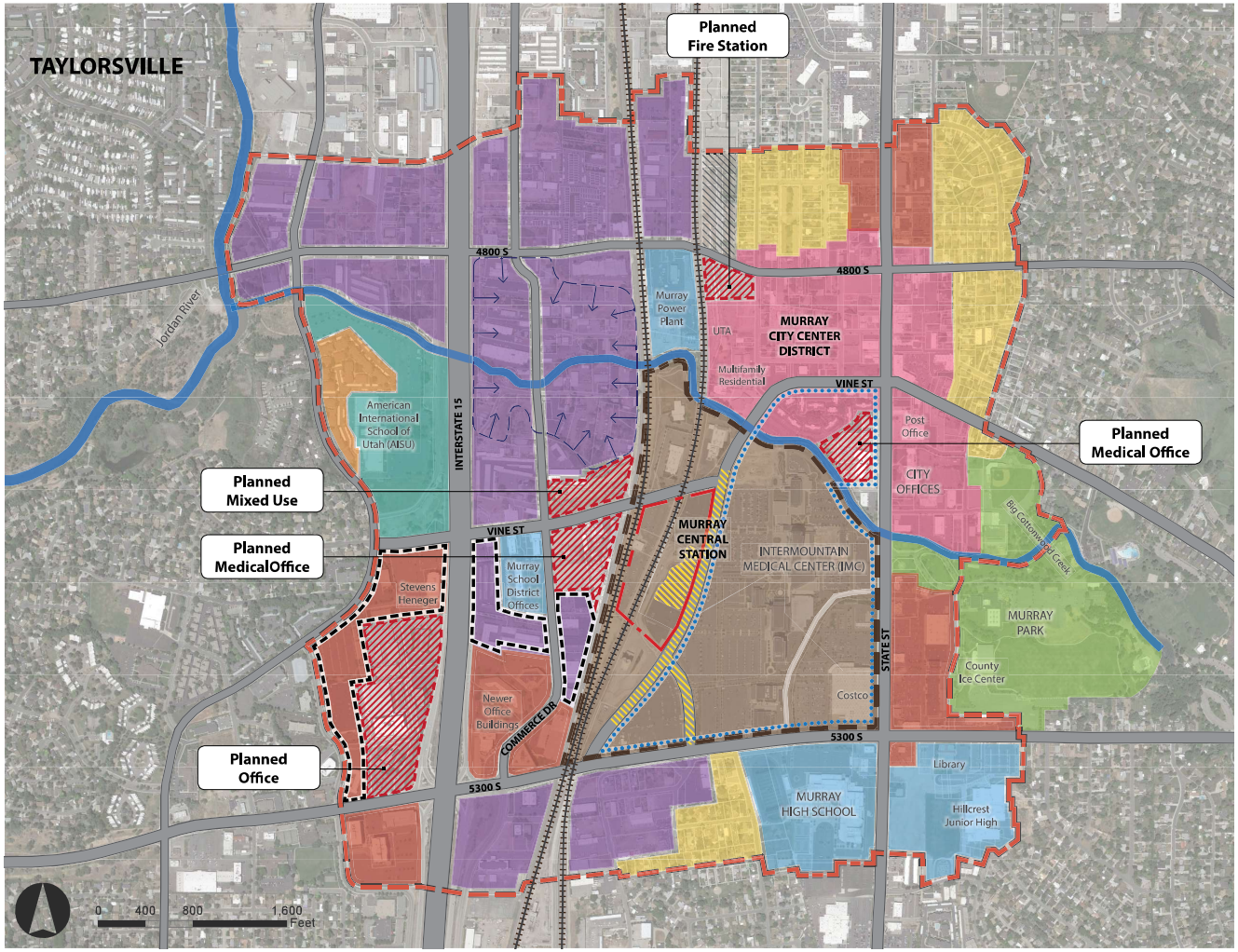
The primary natural features found in the area are Cottonwood Creek, an east-west waterway that joins the Jordan River near the western extents of the study Area. In contrast to several of the other seven waterways associated with the Salt Lake Valley section of the Wasatch Mountain canyons, the creek has not been piped and has open flow conditions at the surface. Unfortunately, the waterway is highly segmented by roadways, rail embankments, the freeway and other blockages, resulting in limited opportunity as a continuous greenway or trail corridor.

Man-made Features

This includes the station itself, a range of buildings and structures of various forms and heights, roadways of different sizes and diverse functions, large and small parking lots, two rail lines and associated embankments, in addition to frequent subsurface infrastructure and utility lines.

MURRAY CENTRAL STATION MASTER PLAN

Central Station Area of Influence and Site Analysis



EXISTING LAND USE & ZONING

- *Commercial/Office*
- *Light Industrial*
- *Murray City Center Mixed Use District*
- *Multifamily Residential*
- *Single-Family Residential*
- *Institutional*
- *AISU Campus*
- *Parks and Open Space*

OTHER KEY CONDITIONS AND CONSIDERATIONS

- *Remediation Zone - Contaminated land impacts opportunity to change or modify uses*
- *Remediation Zone - No change or disturbance*
- *Vacant Land*
- *Central Station Study Boundary*
- *"Gully" / Topographic Depression*
- *Planned Development*
- *IMC Boundary*

Figure 25 - Central Station Area of Influence and Site Analysis

OVERVIEW

A thorough Site Analysis was conducted to ensure planning and design concepts are aligned with existing opportunities and constraints.

The Site Analysis investigated the physical structure of the study area, as follow:

- **Land Use and Zoning**
- **Natural Features** *such as creeks and open space corridors*
- **Man-made Features** *such as buildings and structures, infrastructure and utility lines, roadways and railways*
- **Environmental Conditions** *with particular emphasis on acknowledging the limitations of contaminated lands and remediation strategies, plans and requirements that are in place*
- **Planning and Design Concepts for Adjacent and Outlying Areas** *were documented to understand the influence of the Murray Central Station Area and how it relates to adjacent districts*
- **Site Impediments and Blockages** *such as rail embankments, freeway, fences and steep slopes*

Key Findings/Considerations

- *Murray Central Station is the heart of the project. Redevelopment of the station area is essential for creating a superlative Central Station District*
- *Contaminated lands have been remediated according to specific agreements. Change and modification is controlled by those decisions.*
- *No residential development is allowed in the remediated areas.*
- *Redevelopment with non-residential uses is possible in much of the remediated area, although it will come at higher costs than at clean sites.*
- *Specific segments of the remediated land cannot be modified or disturbed and must be incorporated into the planning and design concepts for the area.*
- *The IMC properties are controlled by a separate planning process. The master plan should maintain positive and mutually-beneficial relationships with the IMC properties as feasible.*
- *Significant projects have been developed or are planned in proximity to the station. Coordinating these projects and others yet to come is essential for creating a unified station district.*
- *Vine Street plays a critical role for linking Murray Central Station and the surrounding areas together as part of a discernible district.*
- *Adjacent neighborhoods and districts have significant residential and mixed use redevelopment potential*

Environmental Conditions

Environmental conditions associated with the contaminated lands and existing remediation statutes, plans and requirements define the station area and immediate environs. The affected area extends eastward from the TRAX line and station area to encompass the IMC campus, and from Big Cottonwood Creek in the north to 5300 South.

The light industrial neighborhood north of the station is located in a low-lying area associated with the Big Cottonwood Creek. The neighborhood is surrounded by high embankments of I-15 to the west, a tall rail embankment to the east, and new buildings and development areas to the south, which effectively creates the sense of disconnection and isolation from the station and other nearby uses. The area is indicated as a future mixed-use neighborhood in the Murray General Plan.

Planning, Zoning and Design Districts

Planning, Zoning and Neighborhood Districts have been established in the existing Murray City General Plan, each with a particular purpose, vision and function. These include the Murray City Center District northeast of the station, the Murray Park/Civic Center District east of IMC, an educational campus west of I-15 between Vine Street and Big Cottonwood Creek, a mixed-use district northwest of the station, and a small office district west of I-15 and north of 5300 South. Determining where these stop and the station area begins is not clear in many cases.

Site Impediments and Blockages

I-15, the two rail lines and State Street are key physical impediments, effectively limiting connections on either side with access limited to the primary east-west road system. The light industrial neighborhood northwest of the station is located in a low-lying area associated with Big Cottonwood Creek. This area is surrounded by high embankments of I-15 to the west, a tall rail embankment to the east, and new buildings and development areas to the south, resulting in an isolated and disconnected feeling.

Summary of Findings

- Murray Central Station is the heart of the project. Redevelopment of the station area as part of creating a superlative station district is essential for if change is to take place.
- Contaminated lands have been remediated according to specific agreements. Change and modification is controlled by those decisions. As a result, opportunities for modifications and enhancement are limited and highly controlled.
- No residential development will be allowed in the remediated areas. Redevelopment with non-residential uses is possible in much of the remediated area, although it will come at higher costs and is likely to take more time than non-contaminated sites.
- Smaller portions of the remediated land cannot be modified and must be incorporated into the planning and design of the site.
- The IMC properties are controlled by a separate planning process. This master planning effort should maintain positive and mutually-beneficial relationships with the IMC properties as feasible.
- Significant projects have been developed or are planned in proximity to the station. Ensuring that these projects are aligned with this effort is essential for creating a unified station district.
- Vine Street plays a critical role in linking Murray Central Station and the surrounding areas together as part of a discernible district.
- Adjacent neighborhoods and districts have significant residential and mixed use redevelopment potential

LAND USE PLANNING AND DEVELOPMENT PRINCIPLES

- Acknowledge that the IMC properties are not necessarily aligned with the creation of a better station area.
- Facilitate market-driven changes from light industrial uses to more urban mixed-uses, with residential uses to limited areas outside the SSOD boundary.
- Acknowledge the zone of influence of the station and the need for transitions to adjacent neighborhoods and districts.
- Locate viable uses in the station areas that contribute to the creation of a new station district.
- Do it right – invest in high-quality buildings, pedestrian enhancements and urban spaces.
- Create an iconic/landmark station and associated great spaces to attract attention and help define the area.

Introduction

The opportunities for significant modification and redevelopment are relatively limited due in large part to the decisions that were made more than twenty years ago related to environmental mitigation and cleanup in the station area. Based on the 1998 ROD, future development within the SSOD is limited to commercial and light industrial. The challenges posed by those decisions are further reinforced by other conditions that are beyond the reach of this plan, including the fact that planning of the extensive IMC campus is controlled by independent planning policies that are not necessarily aligned with the creation of a better station area.

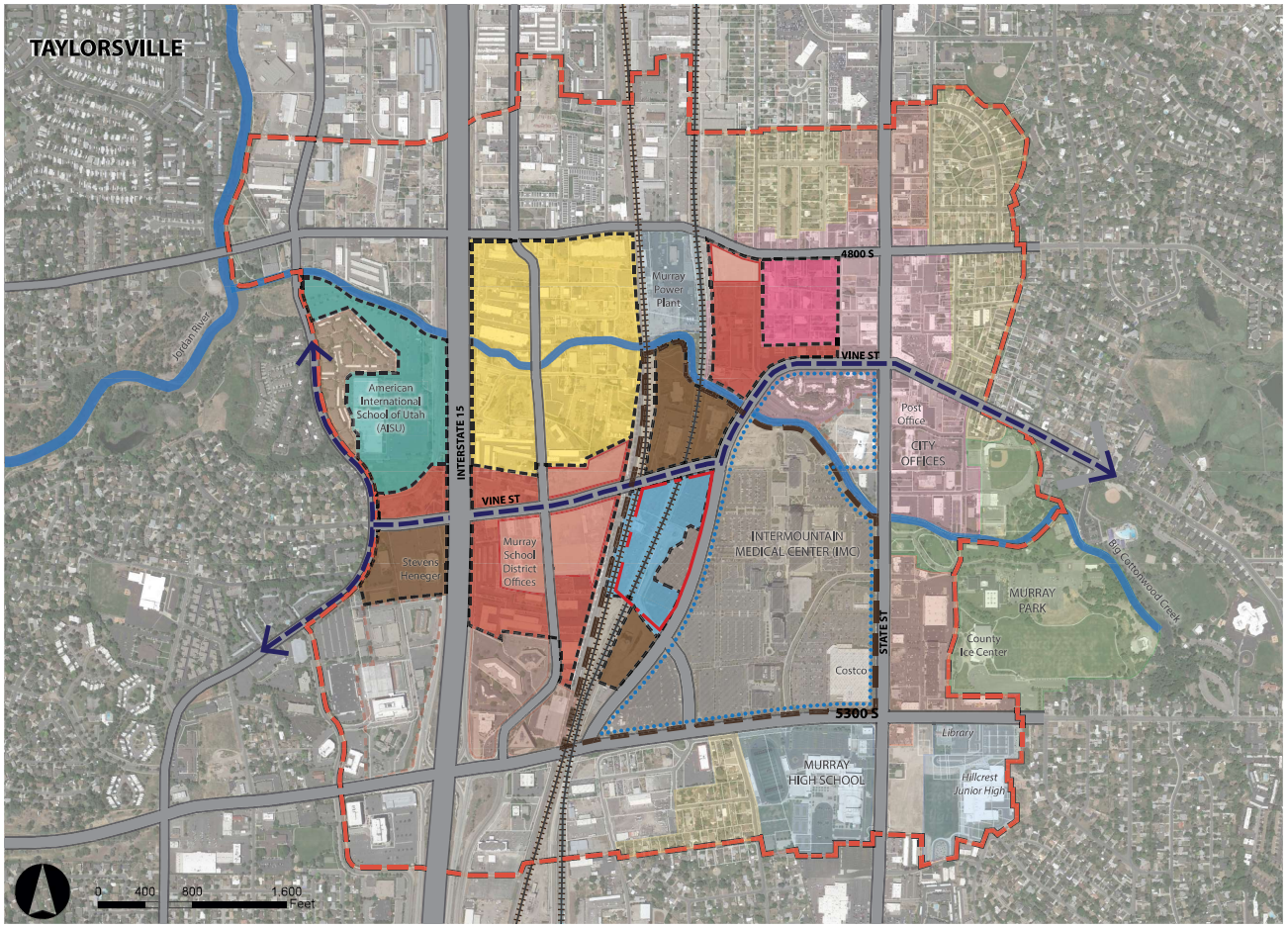
As illustrated in Figure 26, the challenging site and management conditions in this area are demonstrated by a Planning Concept that links a redeveloped and intensified Murray Central Station with other contributing uses along Vine Street as part of a Station Boulevard. According to this concept, redeveloping **Murray Central Station** into an iconic destination is essential for creating a superlative station district. Beyond the station, **Vine Street** is transformed into a linear boulevard, linking the station with supportive uses along the roadway from State Street to the west side of I-15. Supporting development efforts along this route will take place as **Primary, Secondary and Tertiary** projects, the hierarchy indicating proximity to the corridor and the relationship each zone has with the corridor and station area.

Since Vine Street links the various uses into a discernible linear district, it is essential that the roadway be planned and designed to support **TOD development and multi-modal traffic movements**, with a distinct shift toward the creation of a pleasant and safe pedestrian and cycling environment. It is assumed that there will be a distinct focus on higher-density residential uses along the street, compensating for the lack of residential development in the environmentally-challenging portions of the site.

Examples of superlative pedestrian environments that are envisioned along a re-imagined Vine Street Boulevard

MURRAY CENTRAL STATION MASTER PLAN

Areas of Focus and Planning Concept Diagram



DEVELOPMENT ZONES

- **Murray Central Station Redevelopment Area**
- **Primary Redevelopment Area** - *Vine Street frontage properties and/or sites with a strong relationship to Murray Central Station*
- **Secondary Redevelopment Area** - *Sites in the Murray City Center District adjacent to Vine Street should merge the planning and design principles of both areas*
- **Secondary Redevelopment Area** - *Mixed use development area with a focus on higher density residential uses and transit-oriented development*
- **Secondary Redevelopment Area** - *AISU campus. Possible intensification of the campus and large parking lot for transit-oriented development*
- **Tertiary Redevelopment Area** - *Future development to be aligned with the Murray Central Station District principles*

OTHER KEY CONDITIONS AND CONSIDERATIONS

- ***Projects Currently Planned or Under Development***
- **Vine Street** - *Links Murray Central Station and uses fronting the roadway to create a pedestrian friendly boulevard*
- ***Central Station Study Boundary***
- **IMC Properties** - *Planned and developed according to a long-term IMC Site Master Plan. The Murray Central Station Master Plan should strengthen and acknowledge the relationship that exists between the IMC site, the station and surrounding uses*

Figure 26 - Areas of Focus and Planning Concept

OVERVIEW

After thoroughly analyzing the site and surroundings and determining the opportunities and challenges that presently exist, a preferred planning concept emerged that links a redeveloped and intensified Murray Central Station with other contributing uses along Vine Street as part of a Station Boulevard.

The following diagram illustrates this concept and identifies Areas of Focus for realizing the vision.

Key Concepts:

- *Murray Central Station is the heart of the project. Redevelopment of the station area is essential for creating a superlative station district is at the core of this study.*
- *Vine Street is transformed into a linear boulevard, linking the station with supportive uses along and immediately adjacent to the roadway*
- *Realization of the vision will occur as part of Primary, Secondary and Tertiary projects.*
- *Because Vine Street links the various uses into a discernible linear district, it is essential that the roadway be planned and designed to support transit- oriented development and multi-modal traffic.*

Detailed planning and design ideas for the Vine Street Corridor and Murray Central Station follow. These include two distinct Station Concepts, each providing achievable redevelopment and implementation ideas.

Vine Street Corridor Concept

As the central connective corridor for the Murray Central Station area, Vine Street plays a critical role for creating a mulit-modal station area. While many of the major streets surrounding the station are high-volume, high-speed arterials important to the regional traffic network (such as 5300 South, State Street, and I-15), Vine Street is the single corridor with good potential to connect through the entire station area in a pedestrian-supportive way. It connects directly to the station and has redevelopment opportunities along it. The main issues along Vine Street are the same that emerge at the station: pedestrian design, public space, connections to existing destinations, cyclist comfort and safety, facilitation of new walkable urban fabric, bus circulation and transfers, bus rapid transit (BRT) station interfaces, and private vehicle drop off and parking.

Walkable Street Concept

Figure 27 illustrates a generalized concept of a walkable street for a collector-level street such as Vine Street, identifying many of the elements that need to be integrated together if a walkable environment is to be achieved. Transforming Vine Street into a truly walkable street corridor is a complex endeavor, and will require careful design and political-will to be achieved.

Strategies for Vine Street

Figure 28 illustrates the transportation context of the Vine Street corridor, which runs from the historic east side neighborhoods of Murray through Downtown Murray, past the northern edge of the Intermountain Medical Center campus, along the north side of Murray Central Station and across the rail tracks and Interstate 15 to the west side neighborhoods of Murray and the Jordan River Parkway.

The corridor runs through an array of destinations of citywide and regional significance, intersecting with important regional streets such as State Street, encompassing a series of regional bicycle routes and transit routes along the way. The Vine Street Corridor also includes the planned Mid-Valley connector bus rapid transit route.

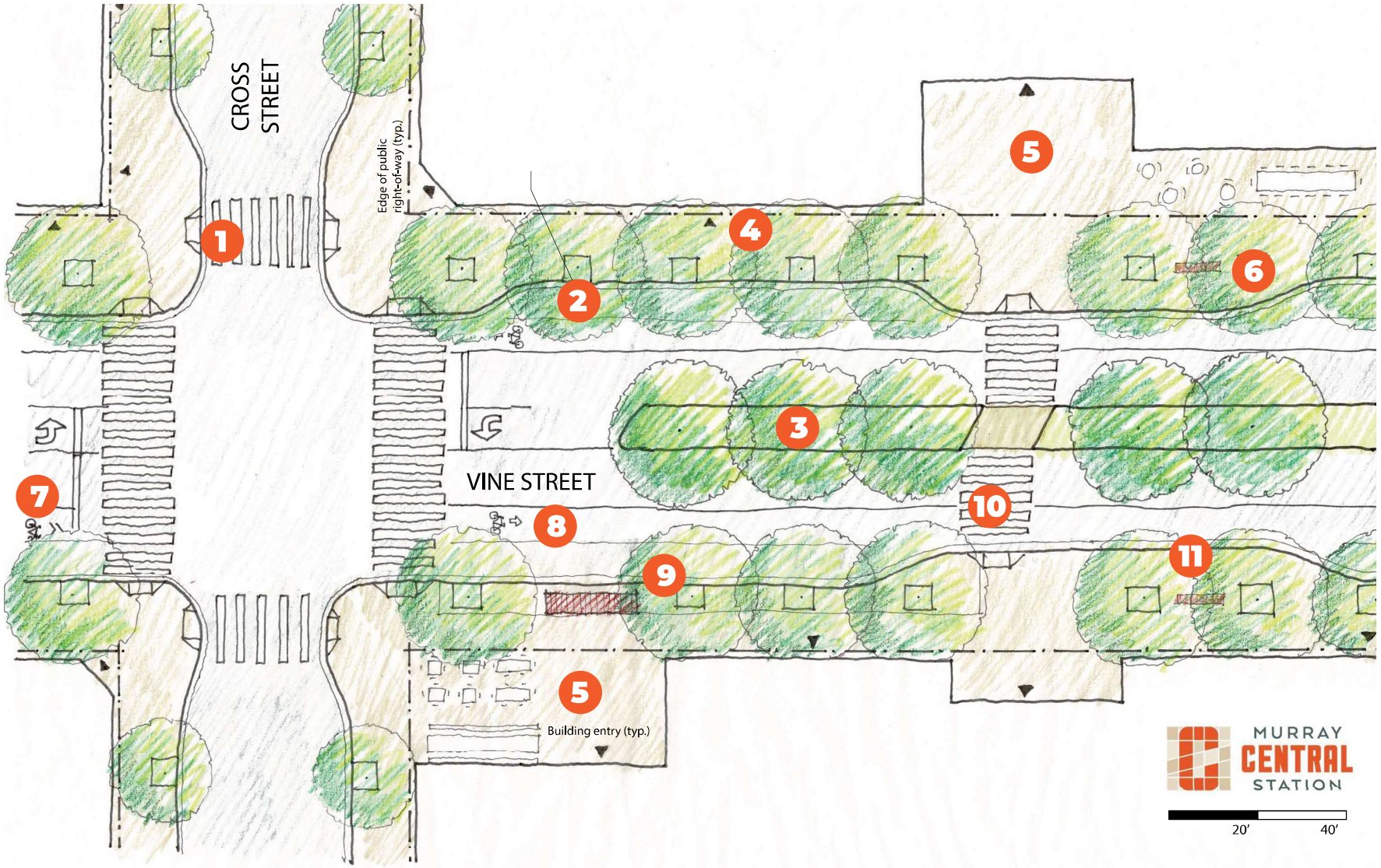


Figure 27 - Vine Street: Strategies to create a walkable corridor

1 Pedestrian-oriented intersection design
Vine Street's intersections can support pedestrians with short crossings, bulb-outs when possible, high-visibility crosswalks, and directional or full-corner curb ramps.



2 On-street parking
An essential ingredient for walkable streets and should be alternated with bulb-outs, transit stops, and shared mobility zones (see item #9).


3 Planted median
Where practicable, include a planted median to reduce the scale of the street and add life to it.

4 Walkable frontage
Property frontage is walkable when buildings meet the sidewalk with windows, frequent entries, outdoor dining, and entry courts.




5 Small patios, plazas, and other public/semi-public spaces
Vine Street can create opportunities for small, dining and gathering spaces in front or to the side of buildings along the street.


6 Street trees
Regularly spaced street trees provide shade, greenery, and help create outdoor "rooms."


7 Right turns/Queue jumps
Allow for places for a right-turn lane or bypass of traffic by buses in a "queue jump" lane; it can also be marked for shared use with cyclists.



8 Design for cyclists and mid-speed mobility
Vine Street can support bicyclists and others traveling in the 5 to 25 mile-per-hour speed range. In this corridor's busy, multi-modal, constrained environment, these users can best be supported by requiring and designing for slow speeds of autos, increasing motorist awareness of these users, marking conflict areas, and, where possible, designating bicycle lanes.

9 Transit and shared mobility zones
Consider curbside for high quality bus stops and pick-up and drop-off of shared mobility options, including shuttles, shared bikes and scooters, and transportation network companies such as Lyft and Uber.



10 Mid-block crossings
Look for opportunities to connect across the street at key mid- block points, aligned with entries with median pedestrian refuges.


11 Streetscape and pedestrian amenities
Streetscape amenities provide places for seating, bike racks, maps and signs, public art, lighting, and other elements to make the street hospitable.



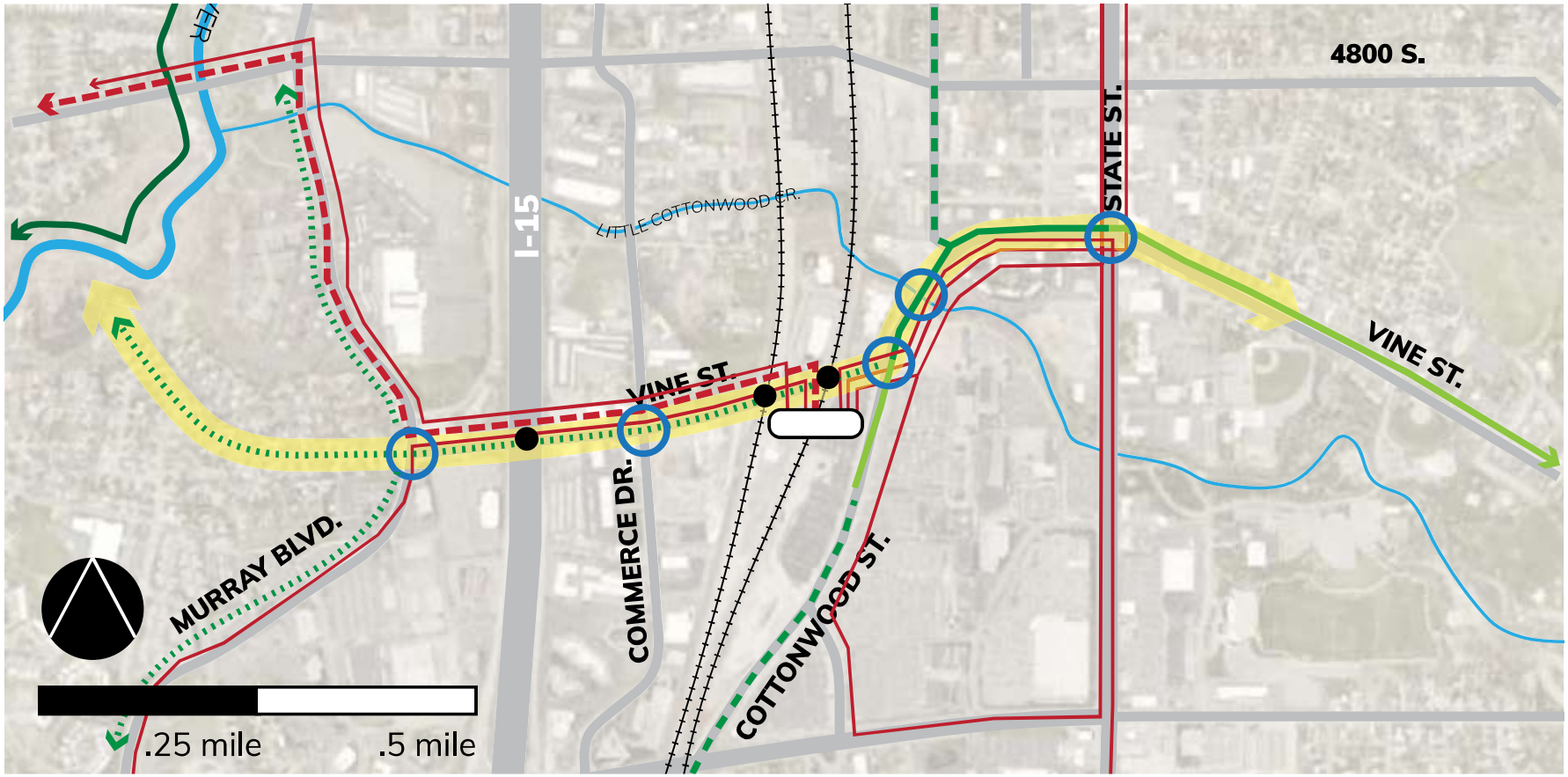


Figure 28 - Vine Street Transportation Concept

Key intersections

Places where Vine Street crosses major barriers such as Interstate 15 and rail tracks

Multi-modal networks

- Existing transit route
- Planned Midvalley Connector bus rapid transit
- Existing bike lane
- Existing bike route
- Planned bike lane
- Proposed bikeway (lane or route)

Connection westward: Through neighborhood; to Jordan River Parkway.

Connection eastward: Through downtown and historic Murray neighborhoods.

Proposed Vine Street Segments and Roadway Sections

The mile-long stretch of Vine Street between State Street and Murray Boulevard is envisioned to become a parkway that connects the station to other destinations in the region. At present the Vine Street right-of-way width varies significantly and is generally quite limited. Murray City intends to achieve a future right-of-way width of 90 to 95' throughout the mile-long corridor which will help ensure all movements are met.

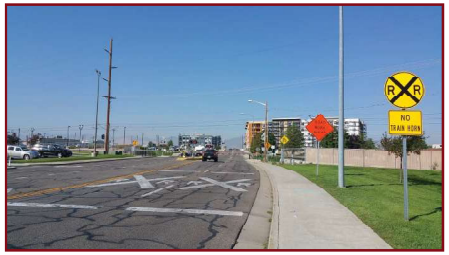
The following **segment concepts** illustrate how Vine Street can be modified transform the corridor into a unified and walkable street environment. Since this short length of roadway is marked by a range of conditions, it is divided into four separate segments that indicate characteristics related to right-of-way width, redevelopment opportunities and traffic conditions along the route. They are presented consecutively from west to east, beginning at Murray Boulevard and concluding at State Street.

SEGMENT 1: Murray Blvd. to Commerce Dr.

SEGMENT 2: Commerce Dr. to Murray Central Station

Figure 29 - Proposed Vine Street Segments

SEGMENT 3: Murray Central Station

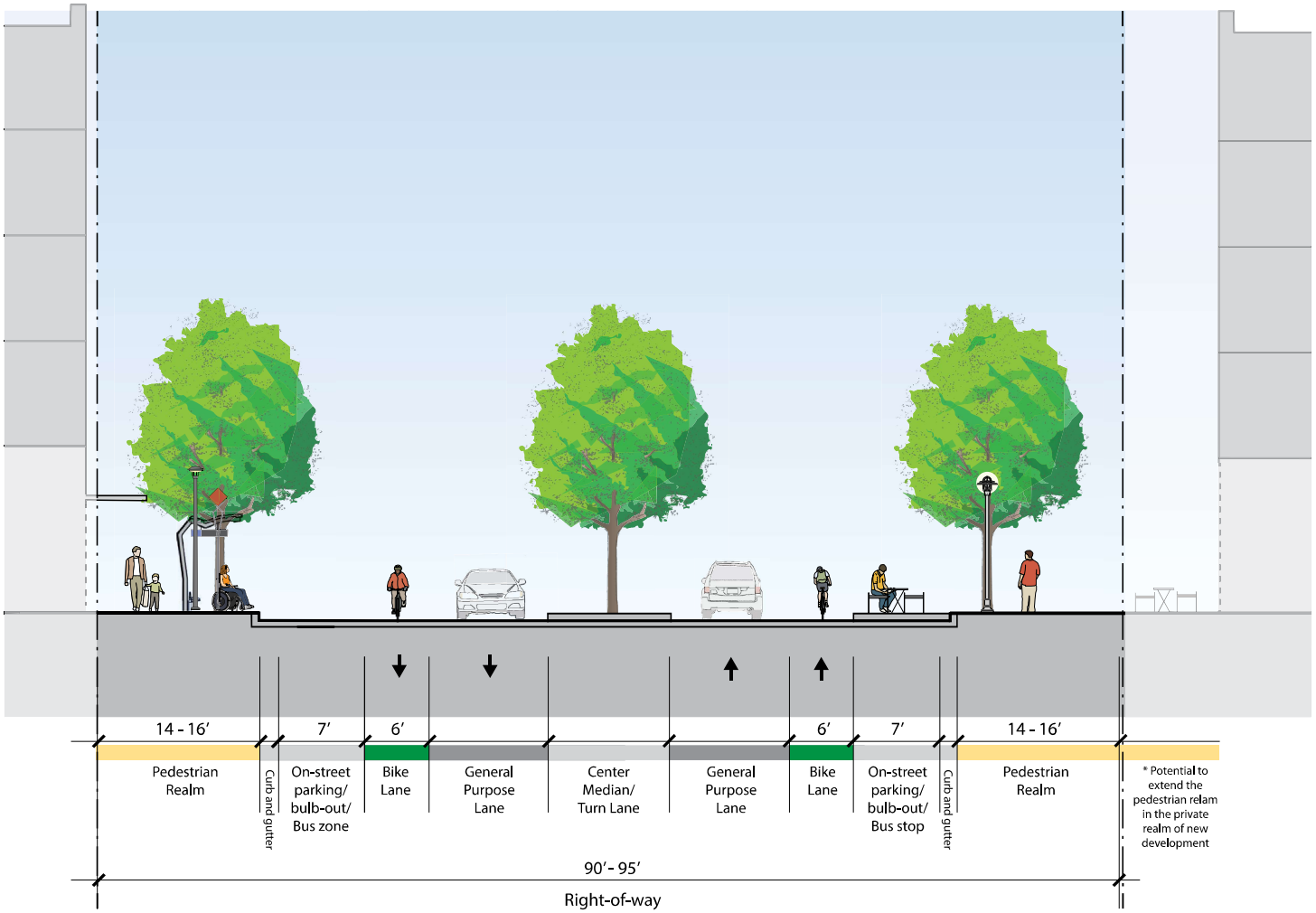


SEGMENT 4: Cottonwood St. to State St.

Segment 1: Murray Boulevard to Commerce Drive

Constraints: Existing I-15 bridge restricts this segment to three general purpose lanes
Opportunities: Redevelopment opportunities on both sides of I-15 could create section shown below
Existing right-of-way: 45' - 60'

Potential cross section for Vine Street between Murray Boulevard and Commerce Drive



Segment 2: Commerce Drive to Murray Central Station

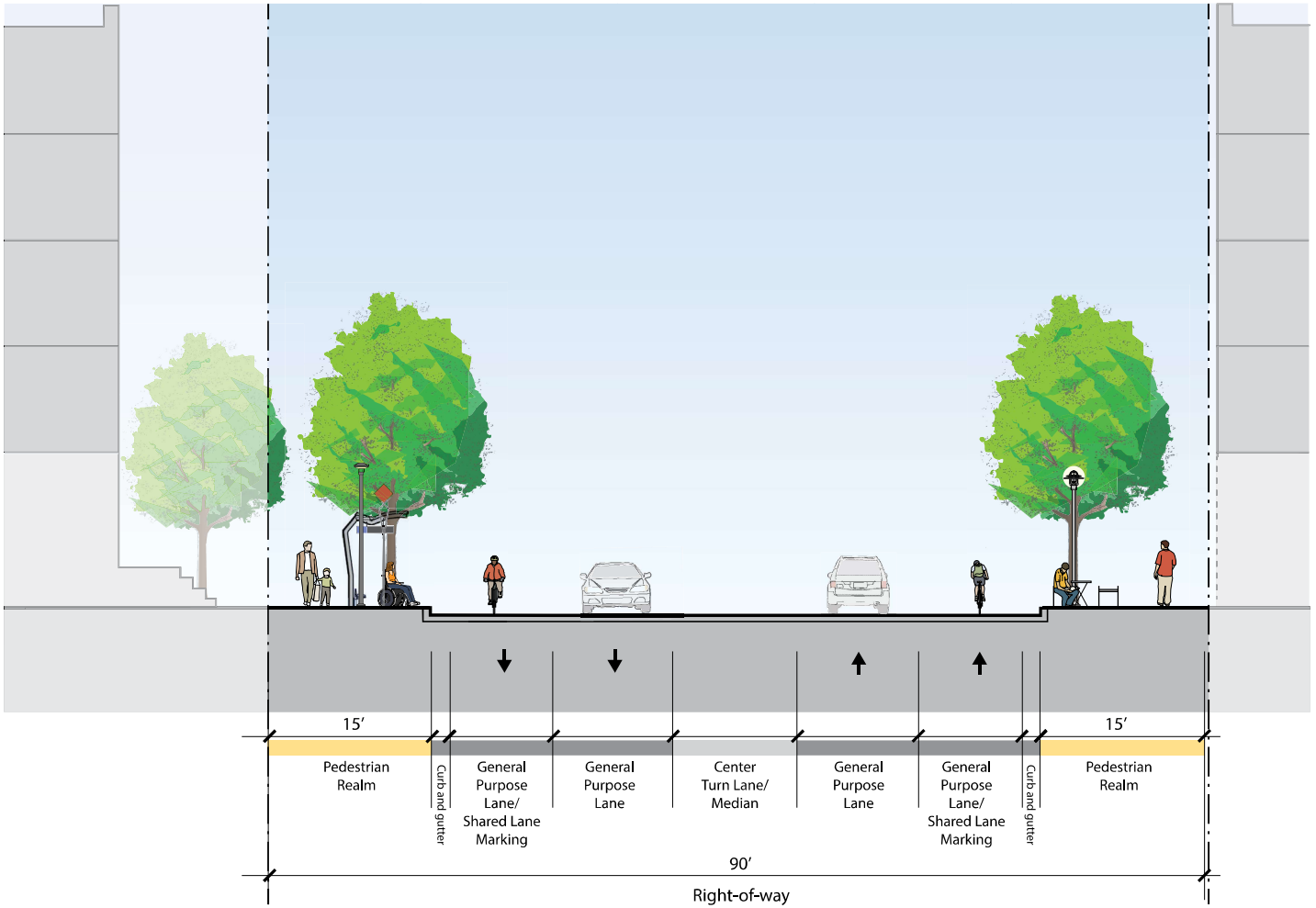
Constraints: High traffic pressure because of Vine's crossing of rail tracks; Vine Street currently being reconfigured to 5 lanes and 90-foot right-of-way between new Murray Crossing and EMI developments with the cross section below

Opportunities: Within 5-lane configuration shown below, can add streetscape amenities and quality transit stops

Existing right-of-way: 60' - 70'

1
2
3
4

Potential cross section for Vine Street between Commerce Drive and Murray Central Station



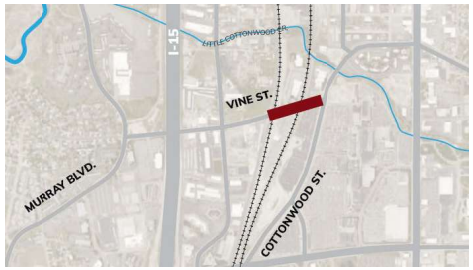
1

2

3

4

Segment 3: Murray Central Station

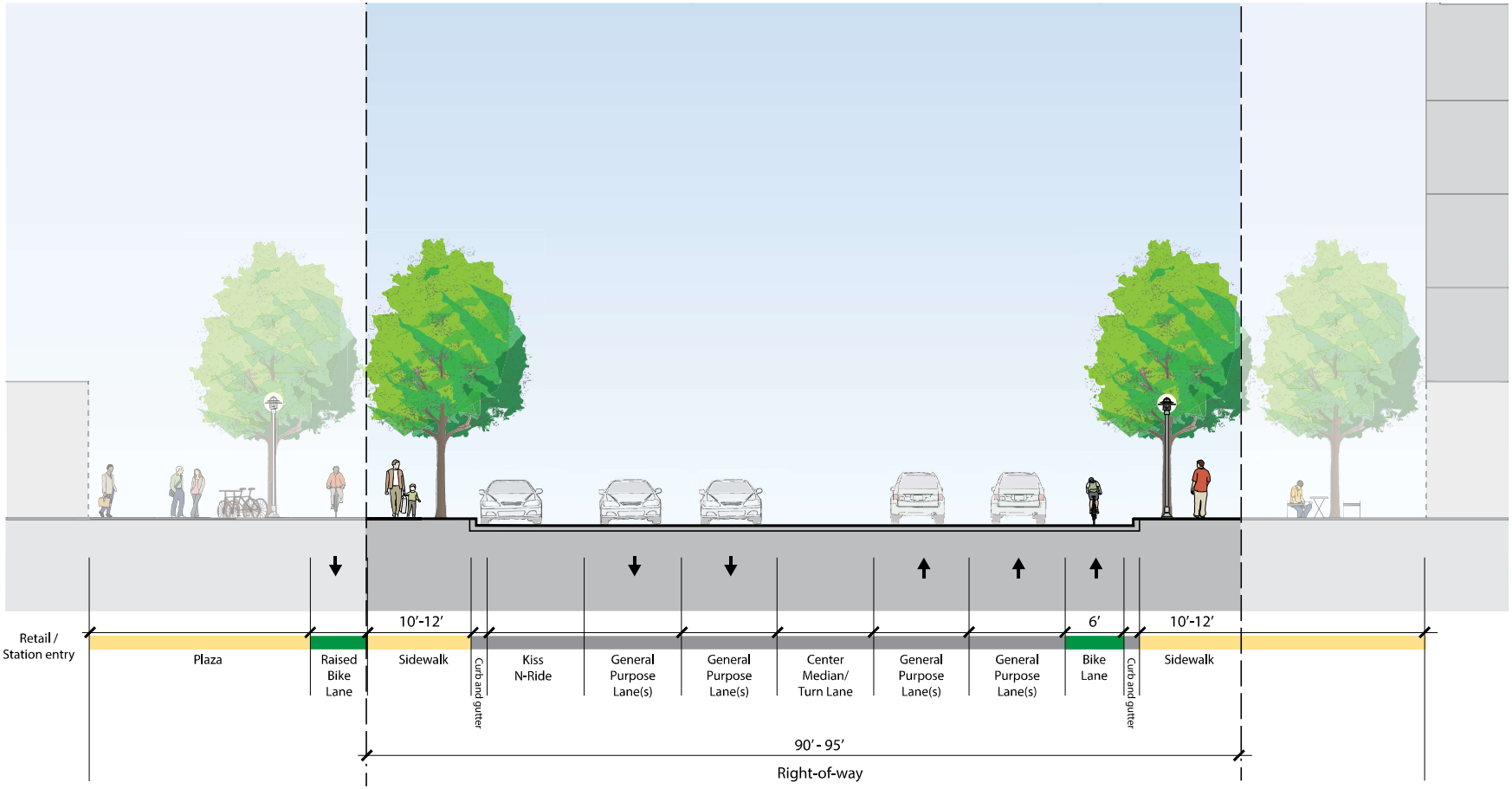


Constraints: Need to stack autos between and on either side of the rail tracks necessitates 4 general purpose lanes. Need for bicyclist access to station and safety as well as pedestrian space and vehicle drop-off creates more elements than there is space for

Opportunities: Increased presence and pedestrian orientation of station on Vine Street creates directive for high quality pedestrian space where station meets street, with complementary pedestrian space on the north side of the street (would happen with redevelopment). Pedestrian space would have to occur on UTA property

Existing right-of-way: 70' - 85'

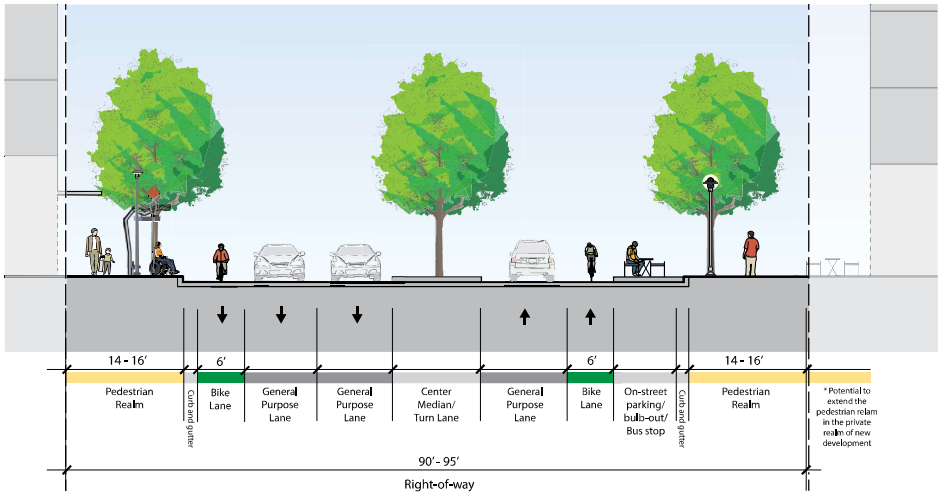
Potential cross section for Vine Street at Murray Central Station



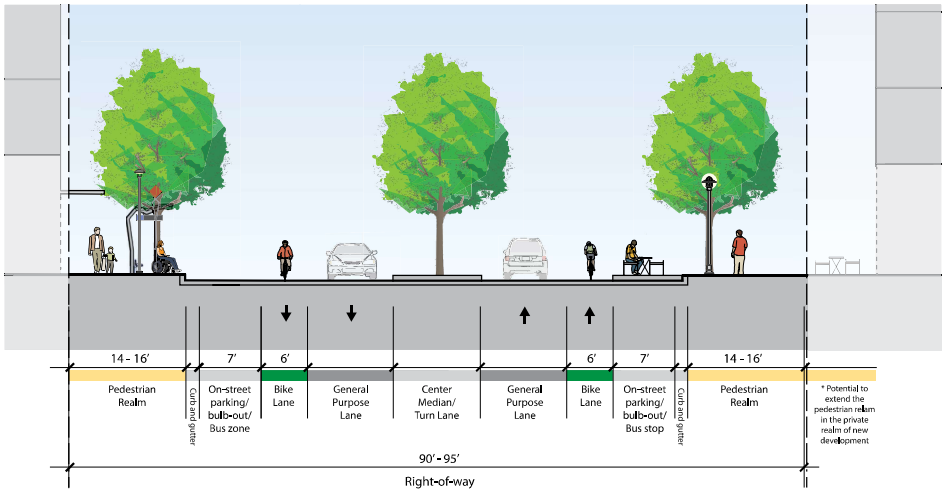
Segment 4: Cottonwood Street to State Street

Constraints: Desire to maintain flexibility in existing asphalt width
Opportunities: Amount of traffic projected for this segment would allow a reconfiguration to three general purpose lanes, bike lanes, and a parking lane with occasional bulb-outs, within the existing asphalt. Future redevelopment along this segment could help implement a wider, high quality pedestrian realm, which would need an expansion to a 90’ - 95’ right-of-way
Existing right-of-way: 70’ - 90’

Cross section options for Vine Street between Cottonwood Street and State Street



Cross section options for Vine Street between Cottonwood Street and State Street



Vine Street Corridor Transit Treatment

One reason Vine Street is such a good opportunity for the station area is it is the only corridor where a range of bus routes connecting to the station merge – making it a high-frequency transit corridor with connections nearly as diverse as the station itself. In order to meet the intensive transit needs of this area, transit treatments should include:

- Upgraded stops
- Bus pullouts in parking lane
- Strategic intersection operational treatments such as transit signal priority or queue jumps
- The incorporation of micro-transit

Vine Street Corridor Bicycle Treatment

While most of Vine Street is not a designated as a regional or local bicycle corridor, it is crossed by and links with several important bike corridors, including those on Cottonwood Street/Box Elder Street, Vine Street east of State Street, and along the Jordan River Parkway.
Due to the need for seamless and safe bicycle environment in the area, the Vine Street bicycle treatment should include the following:

- Application of a consistent bike treatment wherever possible, despite the range of conditions and opportunities within each segment of the corridor
- Trade-offs of bike lane on Vine versus shared lane markings (assuming a slow enough traffic speed), with space savings
- Wayfinding for connections to Jordan Parkway and Cottonwood/Box Elder corridor
- Potential bike station/hub near Little Cottonwood Creek

Vine Street nodes

The Vine Street corridor passes through a series of street intersections which are characterized here as “nodes” because of their potential to become integrated places and hubs of activity. Each node presents very different opportunities – the following is a summary of the recommended strategies for each node.

<u>Murray Boulevard</u>

- Bike wayfinding/conflict marking
- District gateway
- Convenient transit stops
- Explore smaller curb radii

Commerce Street
- Major transit stops
- High visibility crosswalks on all segments
- Shorten pedestrian crossings

Cottonwood Street
- Intersection/gateway improvements to emphasize unified Vine
- Consider creation of and IMC Gateway District
- Bike node for north-south regional bicycle corridor

Little Cottonwood Creek
- Connection to IMC path to west
- Consider crosswalk here
- Potential extension of path to west/north

State Street
- Reinforce pedestrian crossings
- Major transit stops

General Design and Redevelopment Strategies

Pedestrian Circulation

Pedestrian circulation should be the centerpiece of a re-developed Murray Central Station. Currently, pedestrians must find their way between the motor vehicle parking and circulation areas – both within and adjacent to the station, and extending between the platforms for the two rail services. A new station is envisioned which is predicated on the design of great pedestrian spaces that are generous in scale, comfortable, convenient, and which provide safe connections and clear wayfinding clues for all users.

A Central Plaza and Connections to Platforms

One of the most important transformations envisioned is he creation of a pedestrian space in the wedge-shaped area between the TRAX and FrointRunner platforms. This area is currently used for parking, vehicle circulation, drop-off, and the UTA police, and should instead become a central meeting place for the range of users and visitors passing through the area.

Pedestrian bridges

Crossing the rail track barriers is the challenge for existing station users. While costly, pedestrian bridges are essential infrastructure for safely and elegantly moving people to and from the station and on either side of it. Pedestrian bridges can help unify both rail systems to the station itself. The most critical pedestrian bridge connection is over the Union Pacific tracks at the south end of the station. Providing a crossing in this location would help provide a missing link to the emerging employment uses southwest of the station.

Connections to Vine Street

As part of a vision focused on transforming the Vine Street Corridor into a special parkway that links the station to destinations near and far, it is important that a re-designed station includes high-quality pedestrian connections to Vine Street. These should go well beyond utilitarian sidewalks, emerging as linear plazas and pathways with active frontage with new buildings that are emerging and planned for the area.

Rail Transit

Rail transit will likely remain relatively unchanged at the re-imagined Murray Central Station. The platforms should remain in the same places, and there is the potential for a second TRAX platform that would be shared with the BRT service. Instead, access to the rail transit and places in and around the station that should change.

Bus Transit

Murray Central Station is a busy bus terminal, with five routes reaching all corners of Salt Lake Valley. Bus service is expected to increase in the future. The station's bus hub is currently conveniently located immediately on the east side of the station. The Plan's concepts for a re-designed station area maintains the bus area in the same general location, although it is recommended that some small refinements to bus circulation be made. Currently, buses must run circuitously south to Cottonwood Street to get out of the station. Direct connections to either Vine Street or Cottonwood Street would reduce transit travel times in a way that would not likely overburden those streets. A re-built bus loop should also provide for more bus active bay and layover bay capacity.

Mid-Valley Connector Bus Rapid Transit (BRT)

The most important near-future programmatic change at Murray Central Station is the arrival of the Mid-Valley Connector bus rapid transit (BRT) service, which is anticipated to be implemented in the upcoming years and will terminate at the station. The BRT route westward links destinations to the west through Taylorsville and the Salt Lake Community College Redwood road campus, extending north to link with West Valley City center.

The way the Mid-Valley Connector integrates with Murray Central Station is critical to both the BRT service and to the station. From the perspective of this Plan, the BRT station should be well-integrated into both the bus and TRAX rail areas of the station. With BRT often acting as a light rail emulation service, the BRT could benefit from sharing a second TRAX platform with the rail service – this would be the ultimate integration of the BRT into the station.

Vehicles – drop off and parking

Since it is recommended that pedestrian circulation and public space take the central role in Murray Central Station, the following strategies are proposed for reconfiguring parking, circulation and drop-off areas:

- Keep convenient drop-off space and provide an adequate amount of parking
- Transition to structured parking
- Formalize drop-off within the station "wedge" , including looping systems to facilitate access to the station plaza
- Consider moving private vehicle drop-off area to east side of station, next to (but separated from) the bus area
- Consider a small, supplemental drop-off area on Vine Street near the station frontage

As illustrated in more detail for the two station concepts that follow, each drop-off and parking concept should be implemented in a way that complements and does not intrude on the pedestrian circulation and public spaces that will be the centerpiece of a re-designed station.

Shared mobility

Shared mobility refers to the provision of a range of transportation services that offer rides on shared vehicles and infrastructure, which typically include bike share, electric scooter, car share modes. At transportation centers like Murray Central Station, shared mobility can provide critical "first-last mile" links between the station and ultimate origins and destinations. It is critical for a re-designed station to provide places for shared mobility in convenient, integrated ways. In order to enable the widest range of trips through Murray Central Station without a private vehicle, shared mobility infrastructure should be located at different areas of Murray Central Station.

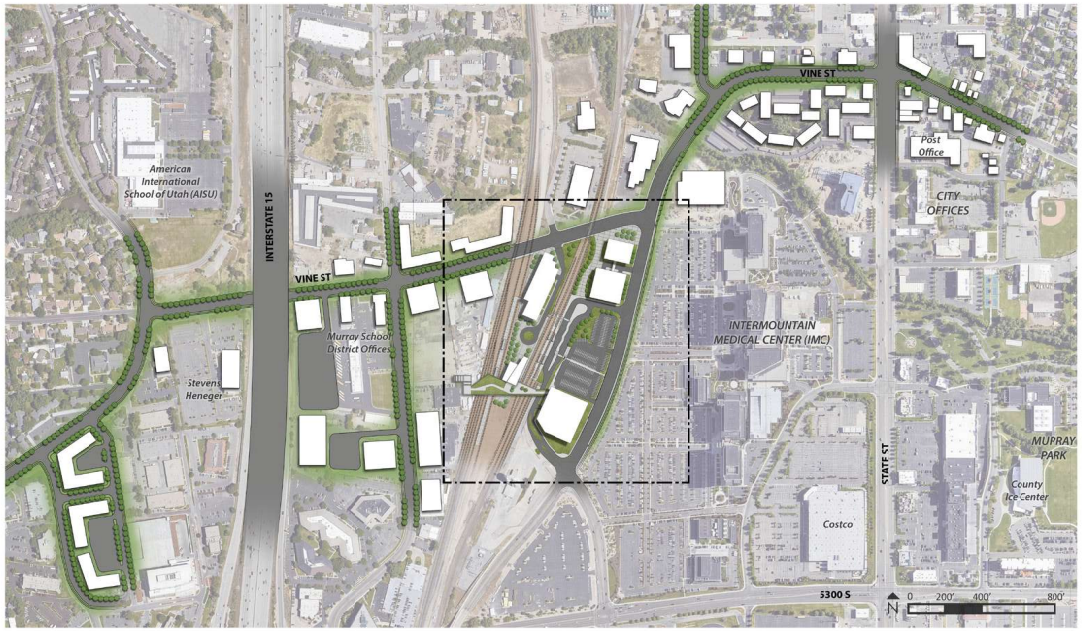
Murray Central Station Concept 1

As illustrated in Figure 30 (Station Concept 1 - Concept Illustrative), Murray Central Station is marked by a new station building near the southern extents, which is linked with an iconic pedestrian bridge structure that links the station to surrounding businesses and pedestrian traffic. The figure also illustrates plan details for the station and surrounding Vine Street Corridor, as well as precedent images for the pedestrian bridge. The design includes a formalized drop-off within the station "wedge", is supported with structured parking garages skinned with new office and retail buildings, links with buses from Cottonwood Street, and includes small public spaces along the Vine Street interface and near the pedestrian bridge.

Figure 31 (Massing and Square Footage) illustrates the general heights and massing of the various buildings, in addition to square footage that can be supported and the parking that results. It should be noted that both concepts maintain the total number of parking spaces required by UTA through structured parking. A schematic illustration from the pedestrian bridge (Figure 32) indicates the envisioned activities that might occur at the pedestrian bridge, and the forms and the relationship to the surrounding buildings and uses that will result.

MURRAY CENTRAL STATION MASTER PLAN

Station Concept One - Concept Illustrative



PRECEDENT IMAGES

Figure 30 - Murray Central Station Concept 1

STATION CONCEPT ONE - DETAIL

Major pedestrian bridge/plaza with station building | Formralize vehicle drop-off in station wedge | Link bus access to north | Infill station wedge with parking structure skirned on north and south

MURRAY CENTRAL STATION MASTER PLAN
Station Concept One - Massing and Square Footage

MAJOR PEDESTRIAN BRIDGE/ PLAZA WITH STATION BUILDING | FORMALIZE VEHICLE DROP-OFF IN STATION WEDGE | LINK BUS ACCESS TO COTTONWOOD | INFILL STATION WEDGE WITH PARKING STRUCTURE SKINNED ON NORTH AND SOUTH

PARKING ASSUMPTIONS

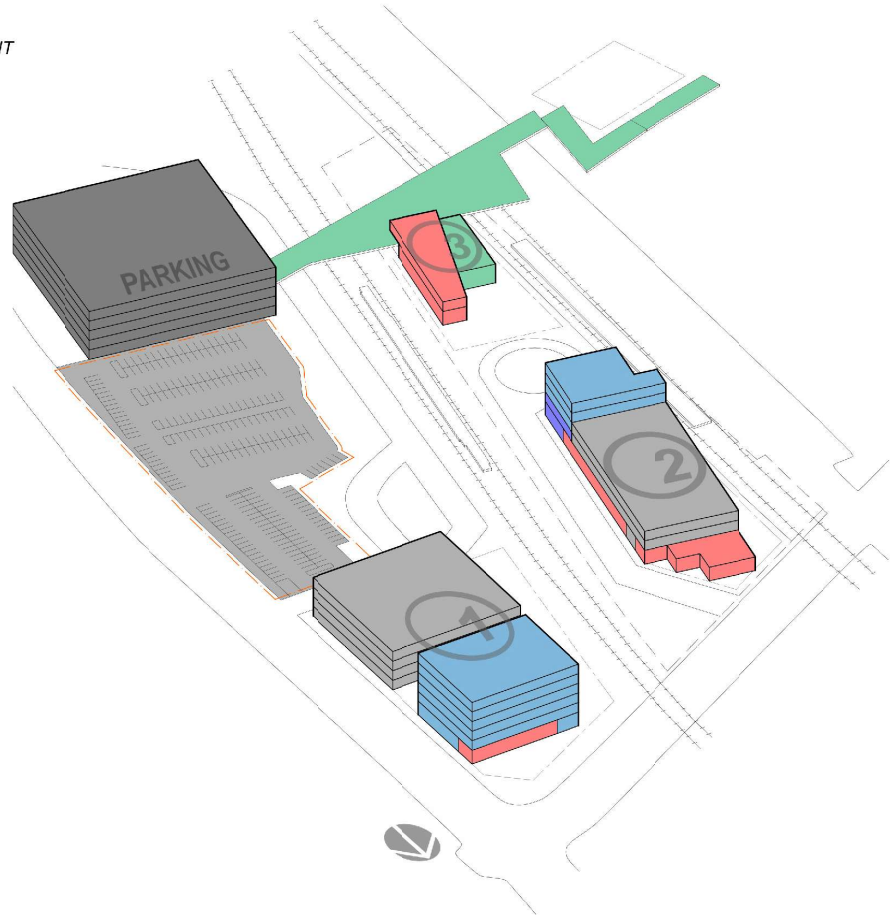
1/1	MAINTAIN EXISTING
1/1	UTA PARKING REPLACEMENT
3/1000	RETAIL/COMMERCIAL
3/1000	OFFICE
3/1000	STATION
350	SQFT PER PARKING SPACE

BUILDING FOOTPRINT (sqft)

BUILDING ONE: 50,400
BUILDING TWO: 42,300
BUILDING THREE: 11,176
PARKING: 57,600

TOTAL SQUARE FOOTAGE PER CONCEPT (sqft)

RETAIL/ COMMERCIAL: 32,475
OFFICE: 131,000
STATION: 4800
POLICE: 14,400
PARKING: 525,600



LEGEND

- RETAIL - COMMERCIAL (R)
- OFFICE (O)
- POLICE (PO)
- STATION (S)
- PARKING (P)
- REPLACEMENT PARKING
- ENVIRONMENTAL AREA

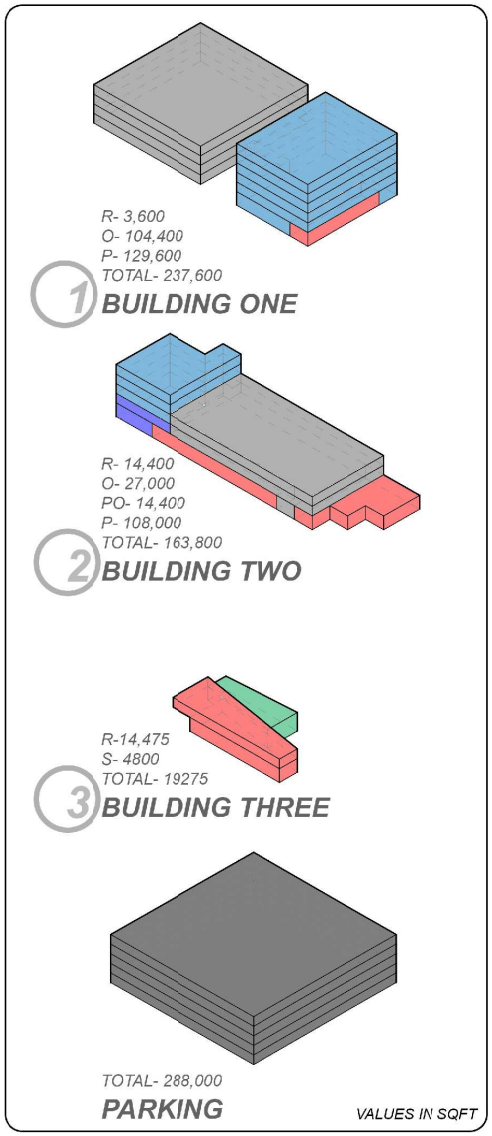


Figure 31 - Murray Central Station Concept 1 - Mass & Square Footage

Figure 32 - Murray Central Station Perspective - Concept 1: View to West from Pedestrian Bridge

Murray Central Station Concept 2

Figure 33 (Station Concept 2 – Concept Illustrative), conceptualizes the function of a re-imagined station. In contrast to Concept 1, the station building is moved toward Vine Street, providing a direct link with the parkway environment of the roadway and a streetside entrance and drop-off plaza. An iconic canopy links the pedestrian bridge structure, extending the reach of station and related office/retail uses to the east and merging the tracks and lanes as part of a unified station destination. The figure also illustrates plan details for the station and surrounding Vine Street Corridor, as well as precedent images for the pedestrian bridge.

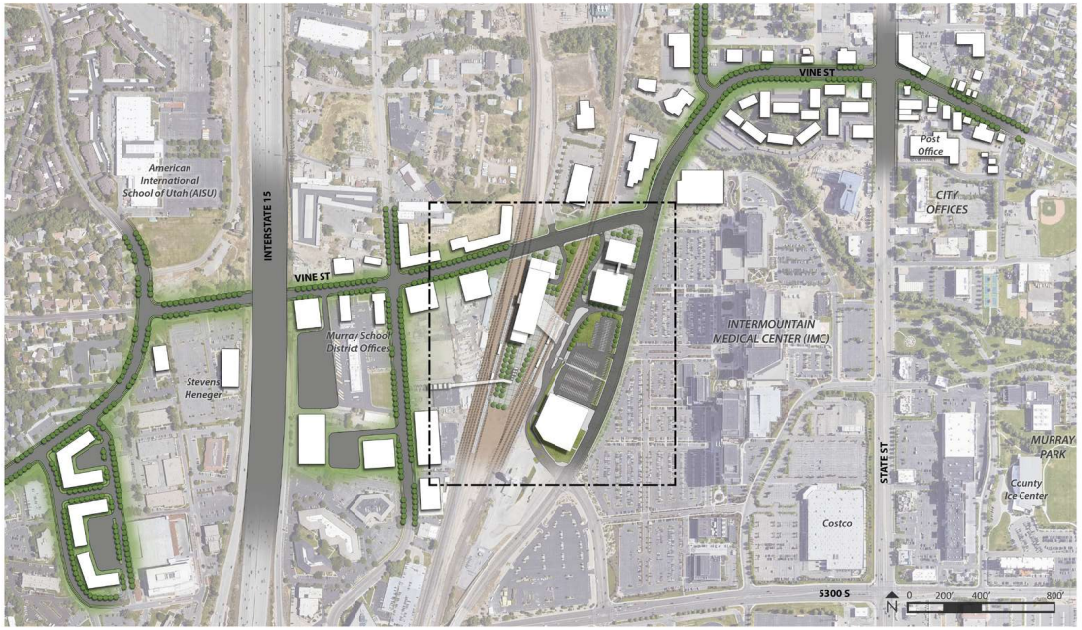
The parking garages and other buildings located on the east edge of the station area are similar to those in Concept 1, with the exception that the parking garage on the south end of the site is shorter and the police station is incorporated into the station building rather than the garage. A utilitarian bridge links the station to the surrounding businesses and pedestrian traffic flows to the south and west. The design includes a formalized drop-off within the station “wedge”, which is supported with structured parking garages “skinned” with new office and retail buildings. Links with buses from Cottonwood Street are also incorporated, in addition to small public spaces along Vine Street that link the streetside plaza with the pedestrian bridge.

Figure 34 (Massing and Square Footage) illustrates the general heights and massing of the various buildings, in addition to square footage that can be supported and the parking that results. It should be noted that both concepts maintain the total number of parking spaces required by UTA as currently exist.

Figure 35 is a perspective concept of the station and surrounding Vine Street Corridor, providing a view from the Vine Street Plaza toward the station. The strong presence of the building, the positive plaza spaces near the street, and the unifying effect of the large canopy combine to create an iconic destination.

MURRAY CENTRAL STATION MASTER PLAN

Station Concept Two - Concept Illustrative

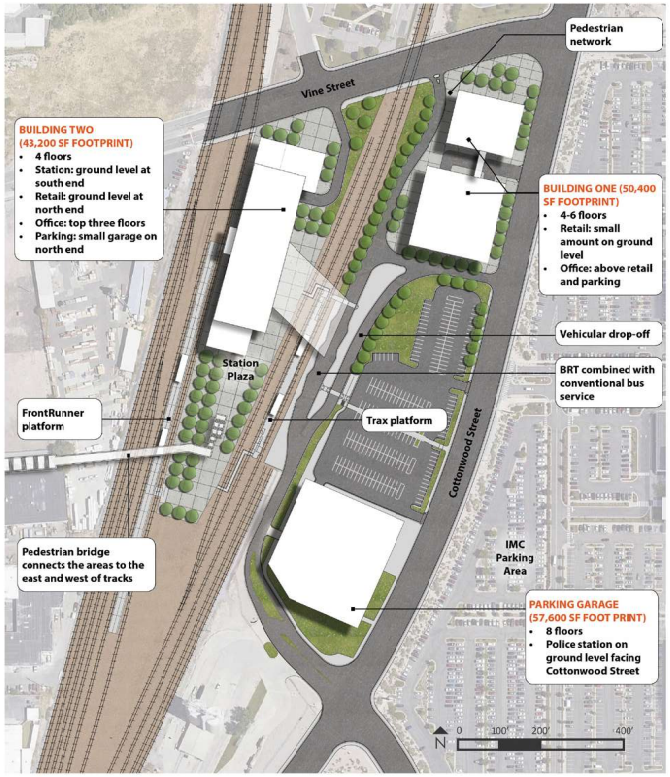


PRECEDENT IMAGES

Figure 33 - Murray Central Station Concept 2

STATION CONCEPT TWO - DETAIL

Bus loop in station wedge | Vehicle drop-off/parking structure on east | New buildings oriented to Vine



MURRAY CENTRAL STATION MASTER PLAN
Station Concept Two - Massing and Square Footage

BUS AND VEHICLE CIRCULATION ON EAST, IN SEPARATE DRIVES | STATION ORIENTATED TO VINE WITH NEW BUILDING AND PLAZA | CANOPY SYSTEM OVER TRACKS/LANES UNIFYING STATION | PARKING STRUCTURE TO THE SOUTHEAST.

PARKING ASSUMPTIONS

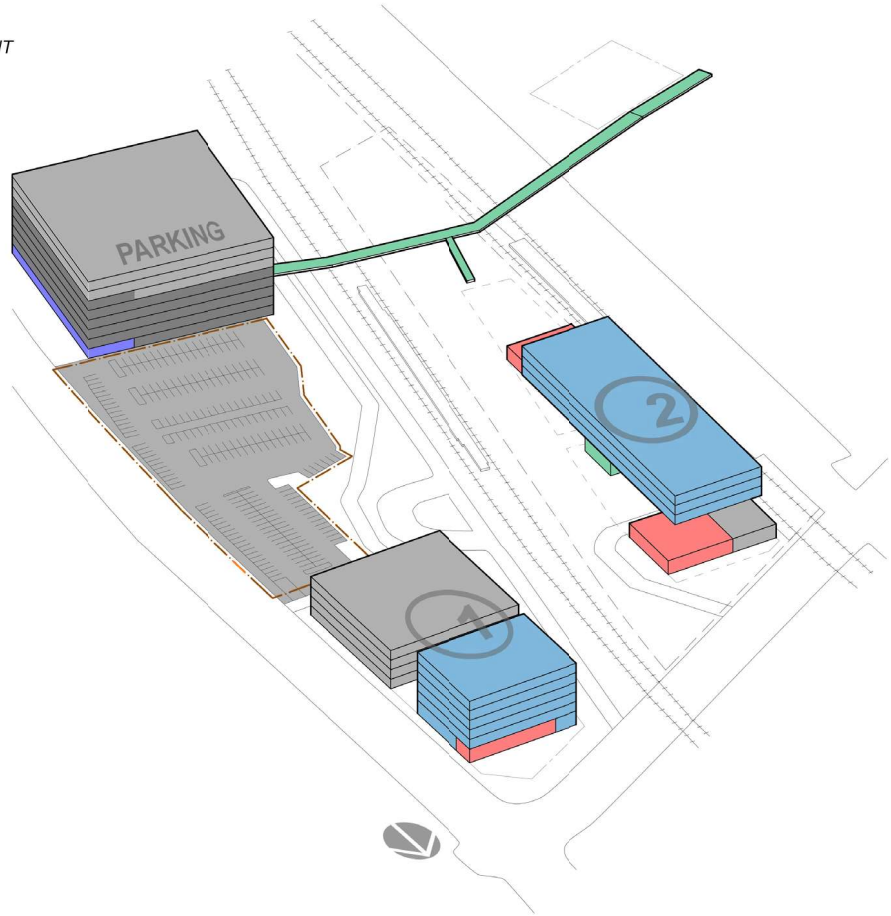
1/1	MAINTAIN EXISTING
1/1	UTA PARKING REPLACEMENT
3/1000	RETAIL/CCMMERCIAL
3/1000	OFFICE
3/1000	STATION
350	SQFT PER PARKING SPACE

BUILDING FOOTPRINT (sqft)

BUILDING ONE: 50,400
BUILDING TWO: 45,000
PARKING: 57,600

TOTAL SQUARE FOOTAGE PER CONCEPT (sqft)

RETAIL/ COMMERCIAL: 27,900
OFFICE: 234,000
STATION: 7,200
POLICE: 14,400
PARKING: 589,500



LEGEND

- RETAIL - COMMERCIAL (R)
- OFFICE (O)
- POLICE (PO)
- STATION (S)
- PARKING (P)
- REPLACEMENT PARKING
- ENVIRONMENTAL AREA

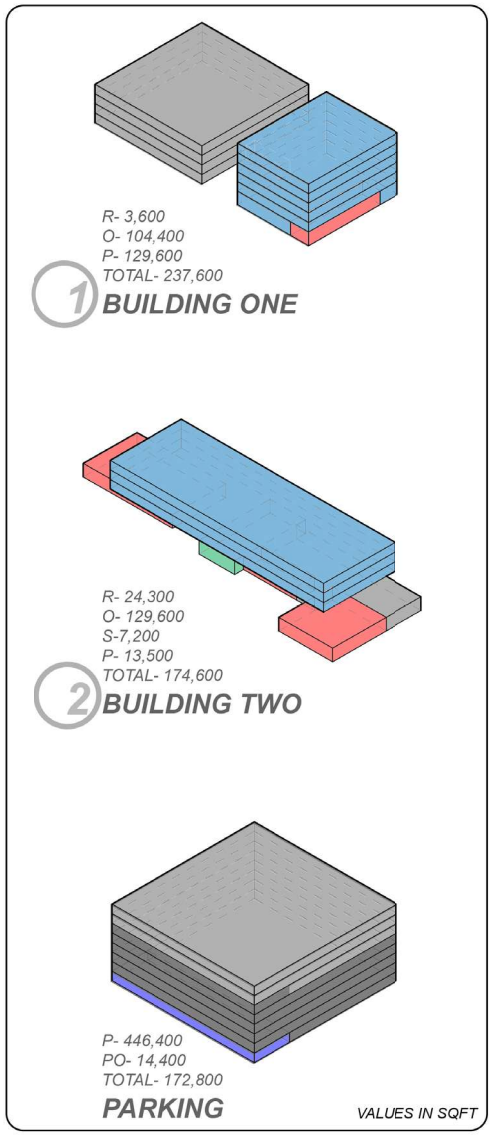


Figure 34 - Murray Central Station Concept 2 - Mass & Square Footage

Figure 35 - Murray Central Station Perspective - Concept 2: View from Vine Street Plaza to South

Introduction

Murray Central Station area has been influenced and defined by the industry in the area. It was the site of a major smelting operation in the Salt Lake valley, and in 1994 the area was identified by the U.S. Environmental Protection Agency as contaminated at a level requiring remedial action. In 2001 appropriate remedial action was completed in the area for redevelopment into a commercial area.

The Murray Central Station area is now a major medical employment area and the home of Intermountain Health Care's flagship medical facility and related services. The area's environmental past will continue to influence the urban form and redevelopment in the station area, as follows:

- Residential development is not allowed in the immediate station area (as defined by the Murray City's SSOD zoning designation)
- Contaminated materials capped beneath roads and parking lots must be handled in accordance with EPA and UDEQ approved guidelines
- Cottonwood Street and an the existing TRAX station parking lot cannot be disturbed

Example of New Station Area Development

Within this context there are opportunities for enhancing the Murray Central Station area by providing employment, retail, public space and residential (outside of the SSOD) uses. Developing a new urban district around the existing transit amenities can prioritize the pedestrian experience and provide visual and aesthetic interest. The combination of transportation and employment destination already in place within the Murray Central Station area provides an opportunity to create an iconic station and destination unlike any other within the current transit system that is:

- A regional transit hub bringing together FrontRunner, TRAX and BRT in the center of the valley
- A destination for medical services
- A lively neighborhood for locals and visitors

Future design and development in the Murray Central Station Area should improve the walkable and human scale of the area. Attention to the following design details will ensure that future development will foster pedestrian activity and increase the value of development within the station area.

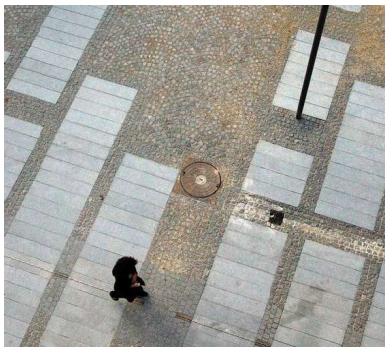
Design Values

In order for the Central Station area to meet its potential, it is critical to take advantage of community investments in transit and increase values and opportunities in the core of Murray City. The design should accommodate all travel modes, including pedestrian, bicycle, bus, and car. Development should focus on encouraging pedestrian traffic by creating multiple building entrances on the street level and minimize blank walls by including generous planes of glass.

All future developments and improvements in the Murray Central Station area should be based on solid urban design principles that create a welcoming pedestrian environment to the Station area. This should be a place designed for people, where uses foster activity on the street and create great and comfortable places. The presence of the FrontRunner and Trax stations, Intermountain Medical Center and nearby stable neighborhoods create a more varied destination. Human-scaled façades and building masses as well as street level interests should be the highest priority for the station area.

The guidelines that follow are intended to help establish the character of the Murray Central Station District as it is implemented. They provide references and ideas for the city, UTA and other stakeholders to consider as future designs, plans, projects and ordinances are developed and implemented. The guidelines provide direction for the treatment of the various buildings, built environments, landscapes, streetscapes and nodes to ensure the site is unified and coordinated.

A unified design and development strategy will enhance the special “sense of place” and character of the project. It should embrace what the existing site offers while incorporating anticipated uses as part of a coordinated plan. In general, the waterways and open spaces affiliated with Big Cottonwood Creek and the Jordan River should be enhanced so they can serve as places for recreation, as connecting greenways, and for visual relief within the intensely developed built environment.



Architecture and Built Form Guidelines

General guidelines and preferences for the architectural character of buildings constructed in the Murray Central Station area help establish a unified look and character for the station area. Well-designed buildings contribute to a "sense of place and arrival". Key buildings include the new station building and bridge to connect the existing FrontRunner and Trax station area with new office and residential buildings along Vine Street and with activity zones to the east and west. Buildings in the Murray Station development area will reflect the distinctive requirements of that zone. Although specific buildings west and north of the station area are not addressed, it is assumed that they will reflect mixed-use and transit-oriented design principle, creating a transition from the iconic station area to existing neighborhoods and development areas in the west and northwest areas of the City.

Criteria for the station buildings include forms that:

- Create a sense of destination and are identifiable as unique to the station;
- Reflect connectivity of the three transit lines (FrontRunner, Trax & BRT);
- Are visible from beyond the station area;
- Enhance the functionality of the station area by seamlessly connecting the station areas, accommodating passenger flows, and creating new room for commercial spaces; and
- Reflect Murray's role as a transportation hub in the Salt Lake Valley

New buildings within the station planning area should:

- Orient the front façade of all new buildings to Vine Street or Cottonwood Street;
- Locate parking and vehicle access away from entries, open space and street interactions;
- Create logical and intuitive access corridors for all modes of travel;
- Utilize simple and straightforward building forms and include practical, utilitarian use of space;
- Incorporate pedestrian scale lighting and amenities;
- Provide clear expressions as stand-alone structures surrounded by open space;
- Focus on street-level design and the creation of positive pedestrian connections;
- Incorporate versatile, durable, and long-lasting materials including metal, glass and stone;
- Reflect and respond to existing neighborhood context and vernacular expressions;
- Express an appropriate sense of scale, massing and form that matches the setting of the site; and
- Establish a design relationship with the adjacent medical center that enhances and frame view corridors to the iconic station building.

Parking Structure Design

These buildings should be skinned with pedestrian-friendly uses to create visual interest from a distance and close-up. Where possible, ground level office or retail uses should be adjacent to pedestrian ways, adhering to building permeability criteria, incorporating human scaled elements on façades and using stair and tower elements as iconic design elements.

Miami, Florida Parking Structure

Columbus, Indiana Parking Structure

Santa Monica, California Parking Structure

Building Permeability

Life on the street and a vibrant pedestrian environment depend on windows and doors at the street level. Building permeability connects businesses to pedestrians. Requiring new and redeveloped spaces to make interiors visible via doors, windows and wall openings significantly reduces the distinction between indoor and outdoor places and activities.

Materials

Materials should be versatile, durable, and long lasting, including metal siding and panels, horizontal and vertical metal siding patterns in prefinished colors, natural metal finishes, including weathered steel, in addition to exposed board-formed concrete, stone and glass.




Building Orientation

Building design and siting should consider solar orientation, climatic conditions, wind patterns, and other environmental conditions. Parking should be to the rear and between buildings or provided as part of screened and shared lots. The exterior of buildings should include windows and openings and architectural features that are coordinated on all sides of the building in order to achieve harmony and continuity.



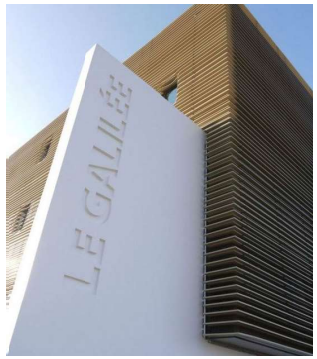
Architectural Screening

Roof top and ground level mechanical units, condensing units, electrical equipment and transformers, dumpsters, and service loading areas should be screened from view. Screening for all equipment and dumpsters should be integrated and complementary to the design of the site and buildings. Service and loading areas will need to be considered early on in the site planning process to accomplish effective screening.

Architectural Signage

Building signage on office and iconic structures should create a sense of place and reflect the role of the station area as a regional transit hub. Street level signage plays a critical role in the human scale of an area. The locations and types of signs can establish the personality of an area in a way that will encourage people to return to discover new destinations each time they pass through Murray Central Station.

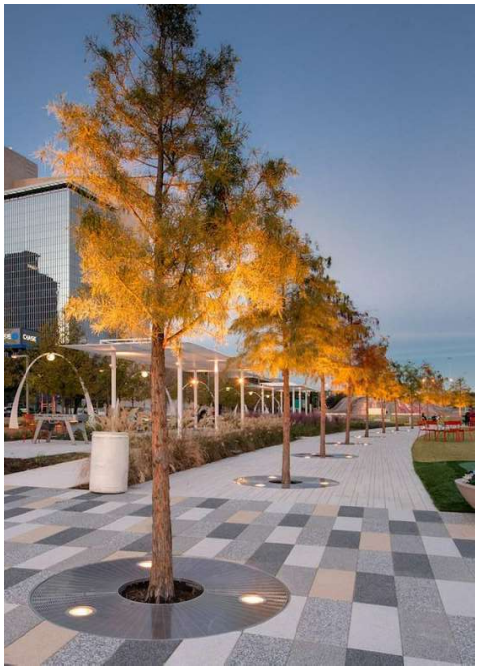
Correct signage placement is critical for orienting pedestrians, particularly in an area with competing pedestrian flows (like an area with multiple transit platforms.) Businesses need visibility and ease of customer access. Pedestrian focused signage should be scaled and reflect a pedestrian travel speed of approximately three miles per hour. Pedestrian focused signage can include building façade signs.



Public Realm Guidelines

The treatment of the areas surrounding the buildings – the streets, plazas, parking lots, pedestrian bridges and streetscape - should exude a contemporary and refined appearance, which is appropriate for such high activity areas. A limited palette of materials should be used, helping to merge the stations, buildings, plazas, paths and parking lots into a singular place. Trees and vegetation, for example, should typically be laid out in geometric patterns, emphasizing the flow of circulation traffic and helping to direct motorists, pedestrians and cyclists to nearby locations. This will also help merge the landscape with the hard edges of adjacent buildings, providing visual relief while screening the adjacent parking lots and service areas. The use of manicured lawns and other environmentally-challenging and high-maintenance treatments are out-of-character and should be avoided. Shade trees should be located in proximity to sidewalks, and pathways, providing shade and shelter to cyclists and walkers.

Fences, walls and berms should be used sparingly. They should be limited to the edges of exposed parking lots and service areas where screening is desired. When used, they should complement the design concept for the station area as part of creating a unified appearance. Such features should only be as tall as necessary and installed in a craftsman-like fashion, using the palette of materials that matches the look of surrounding buildings and structures.

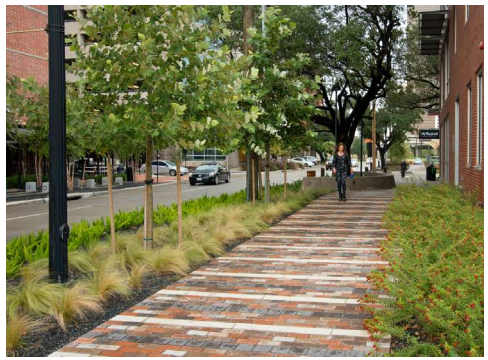


Streetscapes

The manner in which Vine Street is treated will have significant impact on the establishment of a unified look for the district. The edges of the streets should include a unified system of street lights, furnishings and hardscape treatments and be generously landscaped with trees, vegetation and special landmark treatments at entrances and gateways. In recognition of the differences that exist along the length of the roadway, minor variations in the design, materials, colors and plant species should be encouraged to emphasize those distinctions rather than attempting to deny them. For example, rows of street trees should be planted within the park strips where possible, extending across the street and into the medians where they exist. This will help create a unified “allee” appearance from near and far. Trees and plants should be utilized that are well-suited to the local climate. They should be unified with the landscape treatments of surrounding private developments, and incorporate water-conserving design concepts as detailed in these guidelines.

While additional design input is necessary to determine the final configuration of specific edge treatments, the sidewalks and walkways along the street edge should be highly urban, matching the look and feel of the stations and adjacent plazas. They should be constructed of concrete, unit pavers or similar materials in accordance to specific design needs and functional requirements. Pavement colors should be carefully considered to ensure these facilities fit with the surrounding landscape.



Street Design

New or retrofitted streets in the Murray Central Station area should be carefully designed to be oriented to pedestrians and cyclists. Streets should accommodate motor vehicles as well, but pedestrians and other active modes are the top priorities. Most if not all new and retrofitted streets in the Plan area are expected to be “Local” level streets – with the exception of Vine Street, which is addressed separately.

The following are elements of new streets in the area:

- Comprehensive pedestrian realm: Streets should have foremost a generous, complete pedestrian realm, with:
    - A through zone where people walk;
    - A furnishings zone, for street trees, street furniture, pedestrian-scale lighting. This zone is also used as a buffer for pedestrians from moving traffic.
    - A frontage zone, where the land uses can “spill out” onto the street with outdoor dining, display, seating, plantings or other uses.
- A roadway designed for low vehicle speeds – 25 miles per hour or lower.
- The awareness of cyclists through on-street markings and signage, especially in conflict areas. For the local-level streets that these new streets will be, dedicated bike lanes will likely not be necessary if the traffic speeds of the street can be kept low.
- An on-street parking lane, with bulb-outs and other uses where appropriate, such as pedestrian crossings.
- Segments of curb dedicated to shared mobility such as micro-transit or transportation network companies.

FURNISHING ZONE :

Space acting as a pedestrian buffer from moving traffic and space for amenities such as benches and other street furniture and lighting and utility poles

THROUGH ZONE

Space for people to walk. The Through Zone should be able to accommodate wheelchairs passing, and, depending on the environment and amount of pedestrians, people or pairs of people walking past one another.

FRONTAGE ZONE

Space for things asociated with :he adjacent land use such as plantings, dining, seating or display.

Intersection Design

Intersections are a special area of street design where conflicts between users are usually at their highest potential. Intersections in walkable areas need special design care. Intersections in the Murray Central Station area should emphasize:

- Short pedestrian crossings
- Frequent pedestrian crossings
- High-visibility pedestrian crossings
- Areas with conflicts between bicyclists and motor vehicle traffic, such as right-turn lanes, identified with green paint
- Medians and refuges
- High-quality corner environments, with directional curb ramps

Development Frontage

While streets can establish comfortable, convenient, and safe environments for pedestrians, the nature of the built environment on the adjacent blocks completes the pedestrian environment, especially to create places where people feel comfortable and want to be. In this way, the frontage of development forms a critical complementary piece of the pedestrian environment.

Creating pedestrian-supportive development frontage rests on establishing a human scale that is tailored all aspects of the urban environment. A human scale includes things like comfort, greenery, visual interest, and social encounters. These needs are addressed through elements like trees in the street, lots of windows in buildings, frequent building entries, small courtyards and plazas, places to sit, public art, and details on building facades.

The following are policy and design tools that can be used to create a walkable frontage for development – many, if not all, could be part of a form-based code:

- Building placement guidelines and standards: These are design and policy mechanisms that require buildings to be built either directly along a street frontage property line or a maximum distance back of it. This approach is the exact opposite of the conventional building placement approach, which uses minimum distances back, or setbacks, from the street frontage property line. Usually, the requirement is that a minimum percentage of the street frontage property line be built to the build-to line.
- Active uses: promote uses on the ground floor of buildings that help to animate the pedestrian environment. These could be a range of uses, from shops to residences to offices. These active uses should extend into the pedestrian realm of the street as much as possible – in the form of dining, seating, goods display or other uses.
- Transparency and human-scale design: The facades of the buildings housing the active ground floor should be designed to be inviting, comfortable and interesting to people walking along the street. This means, for example, a minimum required frequency of entries, a minimum percentage of glazing on building facades. This sense of transparency and human scale should also include the spaces in front of and between the buildings.
- Frontage types: these which typically consist of a set of coordinated design standards for pedestrian-oriented site frontages for different contexts – such as a "Main Street," an office environment, multifamily residential, or parks.
- Vehicular use area placement and design: The placement and design of vehicular use areas like parking lots can have a major impact on the character of walkable areas. Development standards should require that parking or other vehicular areas be located in the back or to the side of buildings, that driveway curb cuts be minimized on streets, and that street-side vehicular areas be buffered by an acceptable set of walls or landscaping.

Lighting and Furnishings

Streetlights and furnishings should be coordinated, providing a highly refined and unified look for the corridor while encouraging a sense of individuality at the station area and other destinations along Vine Street. Furnishings should be limited to a select range of benches, bollards, bike racks, trash receptacles and other basic elements appropriate for the active setting. Street lights should complement the look and feel of the stations, with nighttime lighting concepts developed to help establish the station as the primary destination along the route. Specific light fixtures should be selected from a single model-line, the poles, bollards and fixtures complementing the feel of the district. All lighting and furnishing elements should be high quality and "Night Sky" compliant, with powder-coated steel, aluminum and similar durable materials preferred for poles and lighting housings.





Parking Lots and Service Areas

Parking lots and service areas are essential components of the project. The design of these areas should be treated with the same care as the adjacent streets. A well-conceived shading strategy should be developed that provides a level of order and structure that will help transform parking lots into a clearly articulated, safe, comfortable and visually interesting spaces. Wherever possible, parking lots and service areas should be landscaped with a mix of shade trees with heavy canopies to help provide good shade and filter pollutants. The trees and vegetation used in parking areas should be water conserving, avoiding root systems that are likely to heave paving or otherwise difficult to maintain. Parking lot

vegetation are typically planted in rows within barrier islands, although clustered groupings of trees may be preferable under special conditions. Where parking is visible from Vine Street and adjacent pedestrian areas, trees should help buffer the visual impact of the parking lots. Lighting should be provided in all parking lots, utilizing poles and fixtures that complement the urban feel of each node.



Street Trees and Vegetation

A variety of shade trees should be used to transform the station district into a lush and inviting place. In general, shade and street trees should be selected that are large at maturity, since this will reinforce the formation of a pleasant and unified district character. Trees and other vegetation should be selected to meet the specific design and environmental intent of the area, reflecting regionally-appropriate water-wise design and implementation concepts. They should have a broad canopy that helps mitigate wind and summer heat.



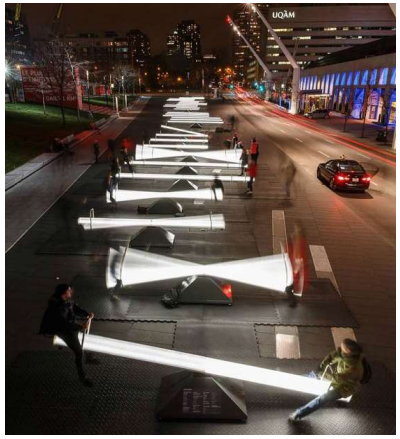

Public Art

Public art brings an air of imagination and creativity to public spaces, encouraging curiosity and at times, interaction. Public art can also provide visual relief and lively energy to otherwise indistinct places. The metered use of public art can help create a unified station expression. It is assumed that such features will be focused at the station and surrounding plazas, at key intersections, corners and near entrances to station buildings as part of facilitating way finding. This will help establish a sense of entry and create a distinct look for the station district. If water features are utilized they should be simple and easy to maintain. Water features such as stylized springs, runnels and mist-producing nozzles can be highly effective and engaging.










Sustainability Goals

The responsible use of resources is an important consideration for this project. As the station area and Vine Street are modified and developed, changes should be made that will make the district a more sustainable place while improving the quality of life and well-being of the area. In order to ensure that design and development efforts are sustainable, it is recommended that an environmental evaluation and rating system be used to ensure implementation matches the environmental benchmarks established for the district and Murray City. Of the various "green building" evaluation and rating systems in use nationwide, two might be considered for the Murray Station Area:: Leadership in Energy and Environmental Design (LEED) and the Sustainable Sites Initiative™ (SITES™), both of which are administered by the U.S. Green Building Council (USGBC).

LEED (http://www.usgbc.org/leed) has developed guidelines for a wide range of project types, including building design and construction, interior design and construction, building operation and maintenance, neighborhood development, and homes. The LEED system addresses the planning design, and construction process; the location of projects and transportation options; materials and resources; water efficiency; energy and atmosphere; sustainable sites; indoor environmental quality; innovation; regional environmental priorities; neighborhood pattern and design; and green infrastructure and buildings.

While LEED applies primarily to buildings and building systems, the SITES™ Rating System (http://www. sustainablesites.org/) focuses on sustainable land design and development. SITES™ is applicable to a full range of project types as well, and evaluates projects in ten categories, including site context; pre-design assessment and planning; water; soil and vegetation; materials selection; human health and well-being; construction; operations and maintenance; education and performance monitoring; and innovation and exemplary performance.

Applied together, the LEED and SITES™ rating systems form a comprehensive system of green development strategies which can help ensure that the Murray Central Station district evolves into a high-quality and attractive place with a thoughtful network of streets, pathways, open spaces, plazas, and corridors.

MURRAY
CITY COUNCIL

Discussion Item #2

MURRAY

Community & Economic Development

Proposed Text Amendment - Front Setback for Outdoor Dining

Council Action Request

Committee of the Whole

Meeting Date: April 2, 2019

Department Director
Melinda Greenwood

Phone #
801-270-2428

Presenters
Jared Hall
Jim McNulty

Required Time for Presentation
15 Minutes

Is This Time Sensitive
Yes

Mayor's Approval

Date
March 19, 2019

Purpose of Proposal

Proposed Text Amendment to the Murray City Land Use Ordinance.

Action Requested

Informational item.

Attachments

PowerPoint presentation attached.

Budget Impact

None

Description of this Item

Prohibition Management, LLC has requested a Text Amendment to the Murray City Land Use Ordinance. This proposed revision would include Section 17.160.050(B) which establishes a required 20' building setback in the Commercial Development, C-D Zone. The applicant's request would allow for covered outdoor dining areas to encroach within 10' of the required 20' setback, with a 10' landscape buffer being required.

Prohibition Management, LLC has also proposed the creation of a "Murray Restaurant & Entertainment District" which would be located between 5900 South and East Winchester Street, from State Street to Fashion Boulevard.

COMMITTEE OF THE WHOLE

April 2, 2019

MURRAY
COMMUNITY &
ECONOMIC
DEVELOPMENT

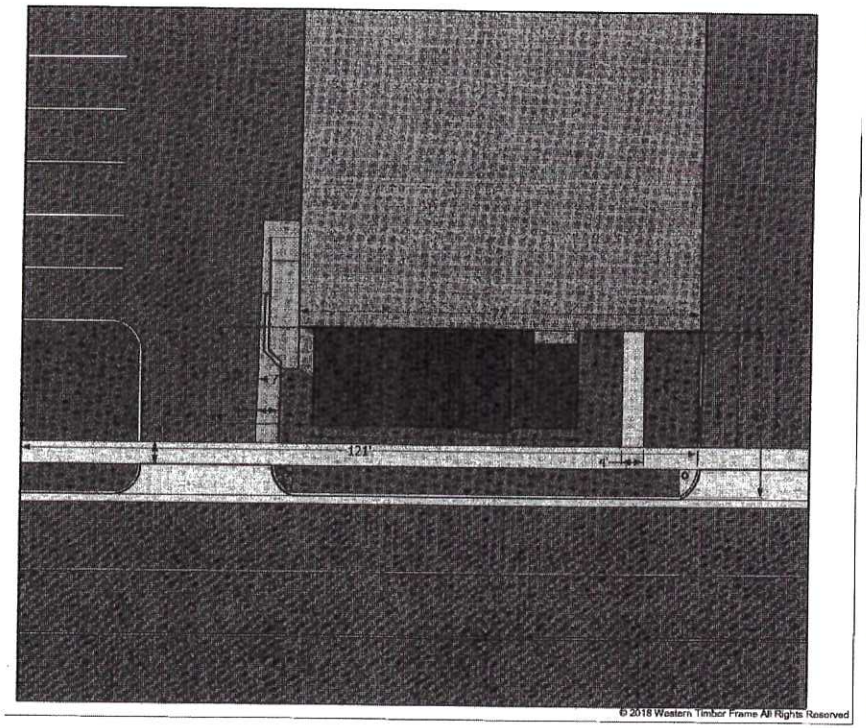
PROPOSED TEXT AMENDMENT FRONT SETBACK FOR OUTDOOR DINING

COMMERCIAL DEVELOPMENT, C-D ZONE

MURRAY CITY LAND USE ORDINANCE

SECTION,17.160.050(B)


6100
South


12"
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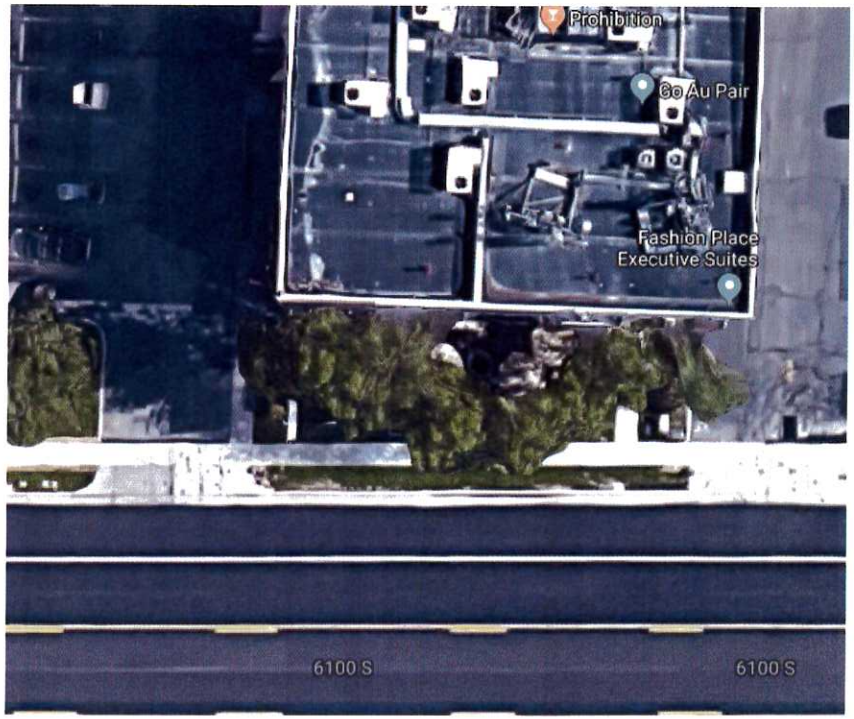
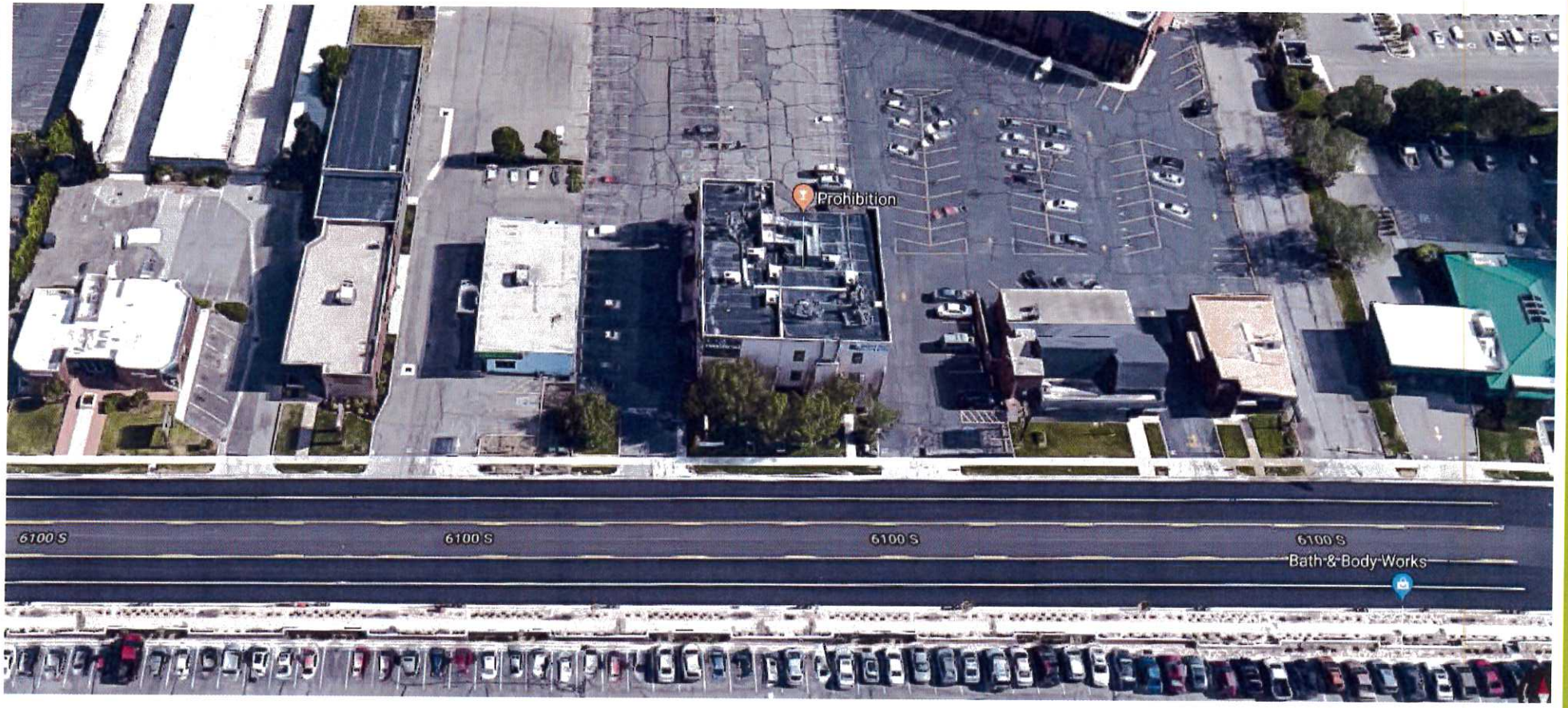

Prohibition
Go Au Pair
Fashion Place
Executive Suites
6100 S
6100 S


Prohibition
6100 S
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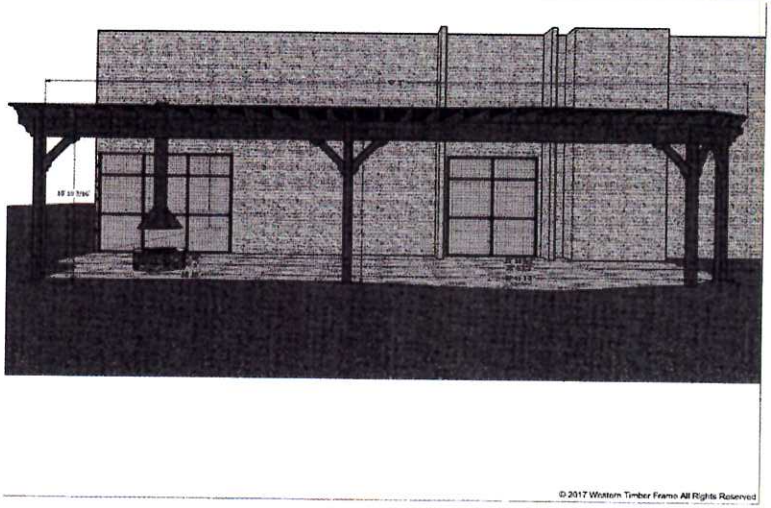
Bath & Body Works

Subject property, looking north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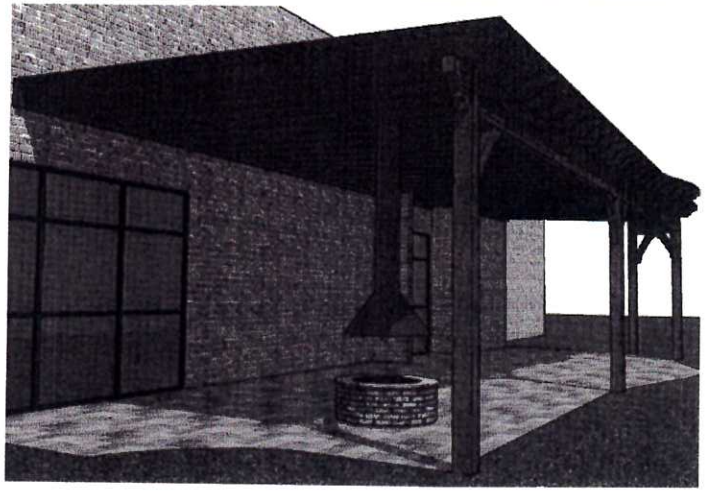
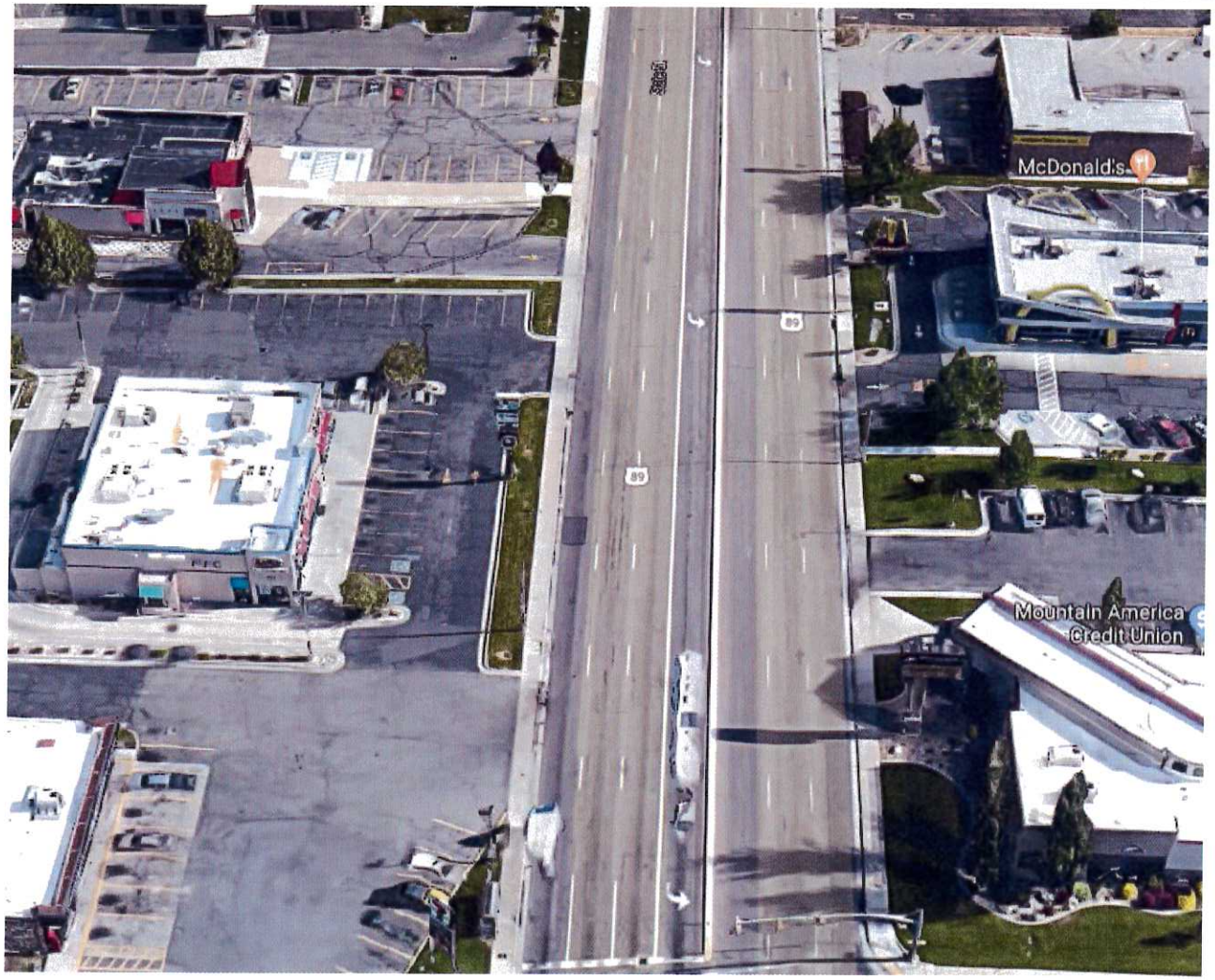
Existing patio area




McDonald's
Mountain America
Credit Union
89

STAFF FINDINGS

1. Aspects of the proposed text amendment can be positively supported by the Murray City General Plan.

2. Research indicates that a number of other cities along the Wasatch Front have allowed similar exceptions into required setbacks of traditional corridor commercial environments and zoning districts.

3. Staff needs additional time to conduct research and analysis regarding potential impacts to other businesses, traffic patterns, and appropriate methods of potentially allowing for this exception.

STAFF & PLANNING COMMISSION RECOMMENDATION

Based on the background, analysis, and the findings in this report, Staff recommends that the Planning Commission discuss the item, take public comment, then continue the item to the regularly scheduled meeting on April 18, 2019 allowing Staff time to review with City officials, do additional research, and make a recommendation.

The Planning Commission followed the City staff recommendation and continued the item until April 18, 2019.

MURRAY
CITY COUNCIL

Discussion Item #3

MURRAY

Finance and Administration

Budget Amendment Discussion

Council Action Request

Committee of the Whole

Meeting Date: April 2, 2019

Department Director Brenda Moore **Phone #** 801-264-2513 **Presenters** Mayor Camp Brenda Moore **Required Time for Presentation** 30 Minutes **Is This Time Sensitive** Yes **Mayor's Approval**  **Date** March 20, 2019	**Purpose of Proposal** Discuss an amendment to the current fiscal year budget **Action Requested** Discussion only **Attachments** Memo outlining the amendment **Budget Impact** Budget impacts are addressed in the attached memo **Description of this Item** Please see attachment

MURRAY CITY CORPORATION
FINANCE & ADMINISTRATION

To: Murray City Municipal Council

From: Brenda Moore, Interim Director of Finance & Administration

Date: March 19, 2019

Re: Fiscal Year 2019 Budget Opening

A budget opening has been requested for April 16th. This opening will request funds for the following purposes:

The following outlines the items that have been requested for your approval for the fiscal year 2019 budget:

General Fund
Total Reserve Request: $0

1. Receive and appropriate the following General Fund revenue and expenditures with no financial impact:

    a. The City was reimbursed by various state agencies for us of the City's equipment in response to the California Wildfire deployments.

    Request receipt of ($84,289) be added to Other Intergovernmental Revenue.

    b. The City was awarded a Salt Lake County Zoo Arts and Parks (ZAP) grant to help fund arts projects.

    Request receipt of ($85,000) be added to Zoo Arts and Parks Revenue.

    c. The City has experienced and increase in passport activity for the year.

    Request receipt of ($30,000) be added to Passport Revenue.

    d. The City received payment of $26,133 from the High Intensity Drug Trafficking Areas (HIDTA) Grant for administrative and accounting services for the DEA Metro Task Force.

    Request receipt of ($26,133) be added to Intergovernmental Revenue.

    e. The City has entered into an agreement with American International School of Utah (AISU) to partial reimburse the city for a Police officer within the school.

    Request receipt of ($12,000) be added to School Resource Officer Revenue.

    f. State liquor tax received in previous years has an accumulated balance which is restricted for use in support of alcohol and drug-related enforcement and education. This request is for those funds to be added to the budget.

    Request appropriation of $104,629 be added to Police Alcohol Funds.

g. During fiscal year 2018 the Jimmy Johns sponsored recreation programs for the Parks Center. The total sponsorship was not spent prior to year-end. This request is for those funds to be added to the budget.

   Request appropriation of $2,372 be added to Park Center Supplies - Sponsorships.

h. The part-time office administrator position previously used to support the ADS Department was transferred to the City Recorder's Office to assist in passport processing. The demand for service has increased and the Recorder has requested the hours for this position be increased. The cost of this increase is more than offset by the increase in passport revenue.

   Request appropriation of $5,000 be added to Part-time Wages, and $383 to Social Security.

i. The City added a Database Analyst position at mid-year due to a military deployment. There was a difference in cost to employ a more experienced analyst to fill the vacancy.

   Request appropriation of $12,000 be added to FT Wages, $1,000 be added to Social Security, $8,000 be added to Insurance, $3,000 be added to Retirement, and $100 be added to Workers Compensation.

j. The Courts are preparing to consolidate services into exclusively City-owned facilities on the first floor of the building. They will be vacating the 2nd floor and cancelling the lease. In order to cancel the lease, some improvements will need to be done. Annual cost of the lease is $60,000.

   Request appropriation of $15,000 be added to Courts Building & Grounds Maintenance.

k. The City released a senior staff member from service which resulted in a payout of accrued leave time and severance.

   Request appropriation of $50,000 be added to FT Wages, $5,000 to Social Security, and $5,000 to Insurance.

l. The aforementioned requests net to a gain of $25,939.

   Request appropriation of $25,939 be added to Non-departmental Miscellaneous Expense.

2. Receive and appropriate the following General Fund grants and related expenditures with no financial impact:

   a. The City received payment from the FY2018 Edward Byrne Memorial Justice Assistance Grant (JAG) to purchase supplies and/or equipment for the Police Department.

      Request ($36,067) be added to the JAG Revenue, and $36,067 be added to the Police JAG Supplies.

   b. The City received payment from the State Home Land Security Program (SHSP) purchase supplies and/or equipment for the Fire Department. There is no financial impact to the City.

      Request ($14,592) be added to Emergency Management Program Revenue, and $14,592 be added to the Police State SHSP Small Equipment.

c. The City received a grant from the Emergency Medical Services Population Grant (EMS) to reimburse the City for ambulance service equipment.

Request ($3,706) be added to EMS Grants Revenue, and $3,706 be added to Fire Small Equipment.

d. The City received a sponsorship from Jimmy Johns Corporation for recreation programs through the Park Center.

Request ($6,000) be added to Park Sponsorship/Donations, and $6,000 be added to Park Center Supplies – Sponsored.

e. The city received payment from the Division of State History CLG Grant to reimburse a portion of the Murray theater feasibility study and historic preservation projects within the city.

Request ($16,615) be added to State Art & History Grants, and $16,615 be added to the History Contract Fees.

f. The City received a grant from the Utah Department of public safety, Alcohol & Drug free Committee for police equipment.

Request ($5,000) be added to the State Grants Revenue, and $5,000 be added to Police Small Equipment.

g. The city received Federal Asset Forfeiture Sharing funds from the DEA Metro Task Force for police equipment.

Request ($56,556) be added to Asset Forfeiture Revenue, and $56,556 be added to Police Equipment.

h. The City was awarded a grant from the Division of Forestry, Fire and State Lands for a vegetation improvement project on the Jordan River Parkway.

Request ($22,500) be added to the State Grants Revenue, and $22,500 be added to Parks Grant Supplies.

i. The City was reimbursed by the State of Utah for its response to the Pole Creek fire.

Request ($40,881) be added to State Grants Revenue, $37,753 be added to Fire Reimbursed Overtime, and $3,128 be added to Social Security.

j. The City was reimbursed by the State of Utah for its response to the California Wildfires.

Request ($118,310) be added to Other Intergovernmental Revenue, and $109,902 be added to Fire Reimbursed Overtime and $8,408 be added to Social Security.

k. The City is no longer the fiscal fiduciary of the DEA Metro Narcotics Task Force. The City is contracting two employees to the DEA Metro Task Force.

   Request ($165,000) be added to Metro DEA Reimbursement Revenue, and $112,000 be added to FT Wages, $9,000 be added to Social Security, $14,000 be added to Insurance, $29,500 be added to Retirement, and $500 be added to Workers Compensation.

l. The City entered into an agreement with the State Division of Forestry, Fire and State Lands to provide overtime reimbursement for additional law enforcement patrols along the Jordan River Parkway.

   Request ($12,500) be added to the State Grants Revenue, and $12,500 be added to Police Overtime.

m. The City received payment of the FY19 State Liquor Tax Allotment. The amount exceeded the budget.

   Request ($11,555) be added to State Liquor Allotment Revenue, and $11,555 be added to Police Alcohol Funds.

3. Request authorization to transfer from the General Fund to the Capital Improvement Projects Fund any amount which exceeds the fund balance maximum amount per state law.

Capital Improvement Projects Fund
Total Reserve Contribution: $129,956

4. Receive and appropriate the following Capital Projects Fund revenue and expenditures with no financial impact:

   a. The Valley Emergency Communications Center (VECC) alerting system for new fire station will be partially reimbursed by VECC at 50%.

      Request ($23,644) be added to Miscellaneous Fire revenue, and $23,644 be added to the Fire Station Project.

   b. The Parks & Recreation Director has requested an expansion to the Cemetery Niche project.

      Request ($19,100) be added to Perpetual Care Transfer Revenue, and $19,100 be added to the Project.

5. The MUNIS conversion project has been funded out of the Capital Projects Fund for many years and included the utility billing module. This module should be funded out of the utility funds. This request will restore funds to the Capital Projects Fund and move them to the five utility funds.

   Request $153,600 be removed from the IT Equipment.

6. The City will need to match the contribution from Valley Emergency Communications Center (VECC) for the alerting system for the new fire station.

   Request appropriation of ($23,644) to the Fire Station Project.

Cemetery Perpetual Care Fund
Total Reserve Request: $0

7. The Parks & Recreation Director has requested an expansion to the Cemetery Niche project.

   Request ($3,000) be added to Perpetual Care Fees Revenue, ($16,100) be added to Interest Income Revenue, and $19,100 be added to Capital Projects Transfer.

Water Fund
Total Reserve Request: $35,000

8. The City will be implementing a new utility billing software, the total cost of the project is shared evenly by all utilities.

   Request $35,000 be added to Software Maintenance.

Wastewater Fund
Total Reserve Request: $35,000

9. The City will be implementing a new utility billing software, the total cost of the project is shared evenly by all utilities.

   Request $35,000 be added to Software Maintenance.

Power Fund
Total Reserve Request: $35,000

10. The City will be implementing a new utility billing software, the total cost of the project is shared evenly by all utilities.

    Request $35,000 be added to Software Maintenance.

Solid Waste Fund
Total Reserve Request: $35,000

11. The City will be implementing a new utility billing software, the total cost of the project is shared evenly by all utilities.

    Request $35,000 be added to Software Maintenance.

Storm Water Fund
Total Reserve Request: $35,000

12. The City will be implementing a new utility billing software, the total cost of the project is shared evenly by all utilities.

    Request $35,000 be added to Software Maintenance.

Murray Parkway Golf Fund
Total Reserve Request: $0

13. The Golf Fund's online scheduling software is paid for by allowing the software company to keep the revenue of some tee times.

    Request ($21,115) be added to Green Fees Revenue, and $21,115 be added to Professional Services.

Library Fund
Total Reserve Request: $0

14. The Library custodians have requested to be added as part-time employees of the City. The Library has received high quality service from these individuals and wishes to continue receiving services.

    Request ($15,200) be removed from Building & Grounds Maintenance and $15,200 be added to PT Wages.

ORDINANCE NO.

AN ORDINANCE AMENDING THE CITY'S FISCAL YEAR 2018-2019 BUDGET

On June 12, 2018, the Murray City Municipal Council adopted the City's budget for Fiscal Year 2018-2019. It has been proposed that the Fiscal Year 2018-2019 budget be amended as follows:

1. Receive and appropriate the following General Fund revenue and expenditures with no financial impact:

    a. Receive $84,289 from the State of Utah for reimbursement of equipment used to support California Wildfire response teams, and;

    b. Receive $85,000 from the Zoo Arts and Parks (ZAP) Grant to fund Arts projects, and;

    c. Receive $30,000 from additional passport revenue, and;

    d. Receive $26,134 from the DEA HIDTA grant for administration and accounting services for the Metro DEA Task Force, and;

    e. Receive $12,000 from an agreement with American International School of Utah (AISU) as partial reimbursement for a Police officer within the school, and;

    f. Appropriate $104,629 for prior year state liquor tax to provide alcohol and drug-related enforcement and education, and;

    g. Appropriate $2,372 for prior year sponsorships from Jimmy Johns to provide recreation program supplies at the Park Center, and;

    h. Appropriate $5,383 in part-time wages and benefits, in the Recorders office to support increased passport activity, and;

    i. Appropriate $24,100 in full-time wages and benefits for an additional Database Analyst position needed due to a Military deployment, and;

    j. Appropriate $15,000 in the Courts Building & Grounds Maintenance to provide for repairs needed to consolidate operations to city-owned space, and;

k. Appropriate $60,000 in full-time wages and benefits due to the release of a senior staff member in Human Resources, and;

l. Appropriate $25,939 to miscellaneous non-departmental expense.

2. Receive and appropriate the following grants and/or reimbursements in the General Fund with no financial impact:

a. $36,067 from the FY2018 Edward Byrne Memorial Justice Assistance Grant for police supplies and/or equipment, and;

b. $14,592 from the State Home Land Security Program to purchase fire department supplies and equipment, and;

c. $3,706 from the Emergency Medical Services Population Grant (EMS) to reimburse the City for ambulance service equipment, and;

d. $6,000 from Jimmy Johns Corporation to sponsor recreation programs at the Park Center, and;

e. $16,615 from the Division of State History CLG Grant to support a portion of the Murray Theater feasibility study and historic preservation projects within the city, and;

f. $5,000 from the Utah department of public Safety, Alcohol & Drug free Committee for police equipment, and;

g. $56,556 from Asset Forfeiture revenue received from the DEA Metro Narcotics Task force for police equipment, and;

h. $22,500 from the Division of Forestry, Fire and State Lands for vegetation improvements along the Jordan River Parkway, and;

i. $40,881 from the State of Utah to reimburse the City's fire department for deployment to the Pole Creek fire, and;

j. $118,310 from the State of Utah to reimburse the City's fire department for deployment to the California wildfires, and;

k. $165,000 from the DEA Metro Narcotics Task Force for reimbursement of two employees contracted to support the Task Force, and;

l. $12,500 from the State Division of Forestry, Fire and State Lands to provide additional law enforcement along the Jordan River Park Way, and;

m. $11,555 from State Liquor Tax Allotment to provide alcohol and drug-related enforcement and education, and;

3. Authorize the Director of Finance and Administration to transfer any amount from the General Fund to the Capital Projects Fund at the close of fiscal year 2018-2019 any amount which exceeds the maximum fund balance as determined by Utah Code Ann section 10-6-124.

4. Receive and appropriate the following grants and/or reimbursements in the Capital Projects Fund with no financial impact:

    a. $23,644 from the Valley Emergency Communications Center (VECC) for 50% of new fire station alerting system, and;

    b. $19,000 from the Perpetual Care Fund for the Cemetery Niche project.

5. Contribute $153,600 to the Capital Projects Fund reserves for the transfer of the Munis Utility Billing Module to the utility funds.

6. Appropriate $23,644 from the Capital Projects Fund for the City's portion of the cost of the new alerting system for the fire station.

7. Receive and appropriate the following Perpetual Care Fund revenue and expenditures with no financial impact:

    a. Receive $3,000 of receipts to the Perpetual care fees revenue, and;

    b. Receive $16,100 of receipts to the interest income revenue, and;

    c. Appropriate $19,100 to the Capital Projects Transfers for the Cemetery Niche project.

8. Appropriate $35,00 from the Water Fund for 20% of the MUNIS utility billing software implementation project.

9. Appropriate $35,00 from the Wastewater Fund for 20% of the MUNIS utility billing software implementation project.

10. Appropriate $35,00 from the Power Fund for 20% of the MUNIS utility billing software implementation project.

11. Appropriate $35,00 from the Solid Waste Fund for 20% of the MUNIS utility billing software implementation project.

12. Appropriate $35,00 from the Storm Water Fund for 20% of the MUNIS utility billing software implementation project.

13. Receive and appropriate the following Golf Course Fund revenue and expenditures with no financial impact:

    a. Receive $21,115 of receipts to Green Fees revenue for tee times provided in exchange for the use of the online scheduling software, and;

    b. Appropriate $21,115 to record the in-kind cost of the online scheduling software.

14. Reclassify the following expenses in the Library Fund with no financial impact:

    a. Transfer $15,200 from Building and Grounds Maintenance to part-time wages for custodial services.

Section 2. Effective Date. This Ordinance shall take effect on first publication.

PASSED, APPROVED AND ADOPTED by the Murray City Municipal Council on this day of , 2019.

MURRAY CITY MUNICIPAL COUNCIL

_____
Dave Nicponski, Chair

ATTEST:

_____
Jennifer Kennedy, City Recorder

MAYOR'S ACTION: Approved

DATED this ____ day of _____, 2019.

_____
D. Blair Camp, Mayor

ATTEST:

_____
Jennifer Kennedy, City Recorder

CERTIFICATE OF PUBLICATION

I hereby certify that this Ordinance or a summary hereof was published according to law on the ___ day of _____, 2019.

_____
Jennifer Kennedy, City Recorder

ATTEST:

_____
Jennifer Kennedy, City Recorder

CERTIFICATE OF PUBLICATION

I hereby certify that this Ordinance or a summary hereof was published according to law on the ___ day of _____, 2019.

_____
Jennifer Kennedy, City Recorder

MURRAY
CITY COUNCIL

Discussion Item #4

Parks and Recreation Department

Cemetery Fee Increases

MURRAY

Council Action Request

Committee of the Whole

Meeting Date: April 2, 2019

Department Director Kim Sorensen **Phone #** 801-264-2619 **Presenters** Kim Sorensen **Required Time for Presentation** 15 Minutes **Is This Time Sensitive** No **Mayor's Approval** **Date** March 19, 2019	**Purpose of Proposal** Discuss cemetery fee increases **Action Requested** Cemetery fee adjustments **Attachments** Ordinance-Amending Cemetery Fee Changes **Budget Impact** Positive impact on cemetery revenue **Description of this Item** Increase in fees charged for burial services and cremation niches at the Murray Cemetery. We propose adopting fee adjustments prior to the completion of new cremation niche spaces at the Murray Cemetery.

	Resident Fee	Nonresident Fee	Resident Perpetual Care Fee
Disinterment:			
Standard and monument ~~lot~~	~~$1,000.00~~$1,300	$1,300.00	n/a
Re-burial to Double depth ~~lot~~	~~1,300.00~~$2,000	~~1,600.00~~$2,000	n/a
Infant and cremains lot	200.00	300.00	n/a
Lot:			
Standard	n/a	n/a	$ 900.00
Monument	n/a	n/a	1,200.00
Infant and cremains	n/a	n/a	200.00
Marker inspection fee	$ 50.00	$50.00	n/a
Niche:			
Lettering for niche	~~150.00~~$200	~~n/a~~$200	n/a
Opening and Closing	$100	$100	
Niche for cremains	~~n/a~~800.-	~~n/a~~900.-	
Opening and closing:			
Standard and monument ~~lot~~	$500.00	$750.00	n/a
Double depth ~~lot~~	$~~700.00~~750.00 for the first and $500.00 for the second	$1,000.00 for the first and $750.00 for the second	n/a

	Infant and cremains lot	$200.00	$300.00	n/a
	After 3:00 P.M.	$100.00/hour	$100.00/hour	n/a
	Weekend and holidays	$100.00/hour with 3 hour minimum	$100.00/hour with 3 hour minimum	n/a
Title transfer or duplicate title fee		$40.00	$50.00	n/a

MURRAY
CITY COUNCIL

Discussion Item #5

MURRAY

Fire Department
Jon Harris

Modification to Murray City Ordinance Ch. 15.24 Fire Code.

Council Action Request

Committee of the Whole

Meeting Date: April 2, 2019

Department Director

Jon Harris

Phone #

801-264-2786

Presenters

Mike Dykman
Joey MIttelman

Required Time for Presentation

10 Minutes

Is This Time Sensitive

Yes

Mayor's Approval

Date

March 13, 2019

Purpose of Proposal

Modification to Murray City Ordinance Chapter 15.24 related to the fire code.

Action Requested

Discussion of proposed changes to Murray City Ordinance Chapter 15.24, relating to the fire code.

Attachments

Proposed ordinance changes

Budget Impact

None.

Description of this Item

The current Murray City Ordinance Chapter 15.24 Fire Code is old and needs to be updated.

We would like to make a 10 minute presentation to the Committee of the Whole on 4/2/19, followed by a 10 minute presentation at the City Council Meeting on 4/16/19.

The attorney's office has requested this item be heard in April.

ORDINANCE NO. _____

AN ORDINANCE AMENDING CHAPTER 15.24 OF THE MURRAY CITY MUNICIPAL CODE RELATED TO THE FIRE CODE

BE IT ENACTED BY THE MURRAY CITY MUNICIPAL COUNCIL:

Section 1. Purpose. The purpose of this ordinance is to amend Chapter 15.24 of the Murray City Municipal Code relating to the fire code.

Section 2. Amend Chapter 15.24. of the Murray City Municipal Code. Chapter 15.24 of the Murray City Municipal Code shall be amended to read as follows:

Chapter 15.24
FIRE CODE

15.24.010: INTERNATIONAL FIRE CODE ADOPTED:

The International Fire Code and appendices, as promulgated by the International Fire Code Institute and adopted by the Utah State Fire Prevention Board, is, pursuant to State law, applicable in its entirety in the City~~, except for the following additions, amendments, exceptions and exclusions~~. The City also adopts national standards pursuant to state law.~~:~~

~~A. 1. The following appendices are adopted in their entirety: appendices B, C, E, F, and G.~~

~~2. Appendix D, sections 103.5, 103.6 and 103.1 of appendix D, are adopted in part. Sections 103.5, 103.6 and 103.1, as amended hereunder, shall be required.~~

~~B. 103.1 Exception. Section 103.1 of appendix D shall include the additional requirement that lanes 250' in length or less may be reduced to 20' in width.~~

~~C. Chapter 1 of the international fire code is amended by adding section 105.8 pertaining to fee calculations for issuance of permits. Pursuant to section 105, the fee calculations for the issuance of permits shall read as follows:~~

~~Section 105.8 Fee Calculation.~~

15.24.020: FEES:

The following fees shall be collected prior to the issuance of any permit issued pursuant to ~~this~~ section 105~~.8~~ of the~~is~~ International Fire cCode:

Interior lining of below ground storage tanks	$250.00 per site

LPG (liquified petroleum gas) installations	$60.00 per site
Medical gas	$50.00
Public fireworks display	$60.00
Fuel storage tank installation - above ground	$60.00
Fuel storage tank installation or removal - below ground	$250.00
Smoke removal	$50.00
Tents and canopies	$25.00
Fire alarm systems	$100.00 <6,000 square feet
	$150.00 >6,000 square feet
Commercial cooking, fire suppression systems	$100.00
Paint booths	$100.00

15.24.030: VIOLATIONS AND PENALTIES:

~~D.~~ Section 109~~.3~~ of the International Fire Code related to violations and penalties shall read as follows:

~~It is a class B misdemeanor for any person to violate any provision of this code, including, without limitation, (1) the failing to comply with any of the requirements thereof; or (2) erecting, installing, altering, repairing or doing work in violation of the approved construction documents or the directives of the code official; or (3) otherwise violating the conditions of a permit or certificate use under provisions of this code. Each day a violation continues after due notice has been served shall be deemed a separate offense.~~Persons who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, install, alter, repair or do work in violation of the approved construction documents or directive of the fire code official, or of a permit or certificate used under provision of this code, shall be guilty of a class B misdemeanor, punishable by a fine of not more than $1,000.00 or by imprisonment not exceeding 180 days, or both such fine and imprisonment. Each day that a violation continues after due notice has been served shall be deemed a separate offense.

~~E. Section 903.2.12.3 of section 903 is amended to read as follows:~~

~~An automatic fire sprinkler system shall be installed throughout in any building having a height of three or more stories regardless of the building's occupancy classification or type of construction.~~

F. Chapter 903 is amended by adding sections 903.7, 903.8, 903.9, 903.10 and 903.11 pertaining to automatic fire sprinklers, and shall read as follows:

903.7 An automatic fire sprinkler system shall be installed in all buildings classified as group B, F-1, F-2, M, S-1 and S-2 occupancies of type III, IV, and V construction where the floor area exceeds 6,000 square feet on any floor or 12,000 square feet on all floors. The area of the mezzanines shall be included in determining the area where sprinklers are required.

903.8 Basements. An automatic fire sprinkler system shall be installed in basements classified as group B, F-1, F-2, M, S-1 and S-2 occupancies when the basement exceeds 1,500 square feet in floor area. All other occupancy groups shall comply with the requirements of and meet the intent of sections 903.2.12.1 through 903.2.12.3.

903.9 Modifications. An automatic fire sprinkler system shall be installed in an existing building classified group B, F-1, F-2, M, S-1 and S-2 occupancies, type III, IV, or V construction, when:

(i) One half or more of the total square footage of the building is remodeled or modified; or

(ii) The building, following any enlargement or addition, would meet the description of section 903.7.

903.10 An exterior control valve shall be installed on all automatic fire sprinkler systems. The control valve shall be of a wall mount or a post indicating type valve and comply with the requirements of section 903.4, sprinkler system monitoring and alarms.

903.11 Buildings Two Or More Stories. An automatic fire sprinkler system above the first story and 6,000 square feet or greater, shall be provided with a control valve and flow switch for each floor above the first story to indicate water flow on each floor. When an automatic fire sprinkler system is installed in buildings two or more stories in height, and the area protected is 6,000 square feet or greater per floor, a control valve and flow switch shall be provided for each floor above the first to indicate water flow on each individual floor. Each control valve shall be equipped with a tamper alarm switch.

G. Chapter 2206 is adopted with the following amendments:

1. Subsection 2206.2.3(1), 2206.2.3(2) above ground tank design are amended to read as follows:

2206.2.3(1) General. Protected above ground tanks shall be listed and shall meet the requirements specified in chapter 34, 35 and UL 2085, and shall be labeled accordingly, and shall be a type approved by the City Fire Department.

2206.2.3(2) Size. Tanks containing class 1 liquids shall not exceed 6,000 gallon total capacity in a maximum of two tanks per site. Tanks containing class II or class III liquids shall not exceed 12,000 gallon individual capacity, aggregate quantities of all classes of liquids shall not exceed 18,000 gallons per site.

H. Subsection 2206.2.3 of section 2206 installation of tanks 2206.2.3 is amended by adding the following subsection 2206.2.3(4) to read as follows:

~~No tank shall be located within 100 feet of any residential zoning district and no tank shall be located within 50 feet of any group A, group E or group M occupancy.~~

~~I. Subsection 3404.2.9.5.1 of section 3404.2 is amended to read as follows:~~

~~3404.2.9.5.1 Locations where above ground tanks are prohibited. Storage of class I and class II liquids in above ground tanks outside buildings is prohibited in all residential zones.~~

~~Tanks located in zoning districts O-S, A-1, G-O, C-N-C and H shall not exceed a 500 gallon liquid capacity per tank, and no more than two tanks per site are allowed.~~

~~Tanks located in zoning districts C-D-C shall not exceed a 500 gallon liquid capacity per tank, and no more than two tanks per site are allowed.~~

~~Tanks located in zoning district M-G-C with a capacity greater than 100 gallons shall be protected type tanks meeting UL standard 2085 and approved by the fire department (refer to chapter 45, referenced standards).~~

15.24.0240: APPEALS:

A. An applicant may appeal a decision of the Fire Marshal:

1. If the Fire Marshal denies an application or refuses to grant a permit;

2. When it is claimed that the provisions of the Code do not apply; or

3. When it is claimed that the true intent and meaning of the Code has been misconstrued or wrongly interpreted.

B. The applicant must appeal the decision in writing to the City Fire Chief within thirty (30) days from the date of the decision. An appeal shall set forth the specific grounds for the appeal. The appealing party has the burden of providing proof that the appeal should be granted. The appeal shall be conducted as an informal administrative hearing.

Section 3. Effective date. This Ordinance shall take effect upon first publication.

PASSED, APPROVED AND ADOPTED by the Murray City Municipal Council on this ____ day of _____, 2019.

MURRAY CITY MUNICIPAL COUNCIL

_____

Dave Nicponski, Chair

ATTEST:

_____
Jennifer Kennedy, City Recorder

MAYOR'S ACTION: Approved

DATED this ____ day of _____, 2019.

_____
D. Blair Camp, Mayor

ATTEST:

_____
Jennifer Kennedy, City Recorder

CERTIFICATE OF PUBLICATION

I hereby certify that this Ordinance, or a summary hereof, was published according to

law on the ___ day of _____, 2019.

_____
Jennifer Kennedy, City Recorder

MURRAY
CITY COUNCIL

Adjournment

MURRAY
CITY COUNCIL

Council Meeting
6:30 p.m.

Call to Order

Pledge of Allegiance

MURRAY
CITY COUNCIL

Special Recognition #1

MURRAY

Murray City Police Department

Promotional Swearing in of New Sergeant

Council Action Request

Council Meeting

Meeting Date: April 2, 2019

Department Director Craig Burnett **Phone #** 801-264-2613 **Presenters** Chief Craig Burnett Jennifer Kennedy **Required Time for Presentation** **Is This Time Sensitive** Yes **Mayor's Approval** **Date** March 12, 2018	**Purpose of Proposal** Swearing in and Oath of Office for new Sergeant Alisha Richmond **Action Requested** Jennifer Kennedy to give Oath of Office to new Sergeant **Attachments** **Budget Impact** N/A **Description of this Item** Promotion of New Sergeant for the Police Department - Oath of Office Swearing In

MURRAY
CITY COUNCIL

Special Presentation

Mayor's Office

Mayor Camp's Budget Address

MURRAY

Council Action Request

Council Meeting

Meeting Date: April 2, 2019

Department Director Blair Camp **Phone #** 801-264-2600 **Presenters** Mayor Camp **Required Time for Presentation** **Is This Time Sensitive** Yes **Mayor's Approval** **Date** March 19, 2019	**Purpose of Proposal** To present the Mayor's budget for fiscal year 2019 - 2020. **Action Requested** Resolution approval **Attachments** N/A **Budget Impact** We are presenting a balanced budget for the upcoming fiscal year. Budget elements will be discussed in greater detail at the meeting. **Description of this Item** I appreciate the opportunity to present our budget recommendations to you. Last year, the council authorized the implementation of a step compensation plan for employees, resulting in most departments staying fully staffed and city employees being compensated at competitive rates. You also authorized funding for a comprehensive capital improvement plan, which addresses vehicle and equipment replacement, large-scale improvement projects, and various road improvements. I look forward to continuing and building on these programs in the upcoming budget year. I'm pleased to present my balanced budget for the 2019-2020 budget year. Please let me know if you have any questions.

RESOLUTION NO. _____

A RESOLUTON ACKNWLEDGING RECEIPT OF THE FISCAL YEAR 2019 – 2020 TENTATIVE BUDGET FROM THE MAYOR AND REFERRING THE MAYOR'S TENTATIVE BUDGET FOR REVIEW AND CONSIDERATION TO THE BUDGET AND FINANCE COMMITTEE OF THE MURRAY CITY MUNCIPAL COUNCIL.

WHEREAS, Section 10-6-111 of the Utah Code requires that on or before the first regularly scheduled meeting of the governing body in May of the current fiscal year, the Mayor shall prepare the Mayor's tentative budget for each fund for which a budget is required for the ensuing fiscal year; and

WHEREAS, the Mayor submitted the fiscal year 2019 - 2020 Mayor's tentative budget on April 2, 2019 to the Murray City Municipal Council; and

WHEREAS, the Murray City Municipal Council wants to acknowledge receipt of the Mayor's tentative budget and refer it to the Budget and Finance Committee.

NOW, THEREFORE, be it resolved by the Murray City Municipal Council as follows:

1. It hereby acknowledges receipt of the fiscal year 2019 - 2020 Mayor's tentative budget from the Mayor on April 2, 2019.

2. The submitted Mayor's tentative budget is hereby referred to the Budget and Finance Committee of the Murray City Municipal Council for review and consideration.

DATED this day of April, 2019.

MURRAY CITY MUNICIPAL COUNCIL

_____
Dave Nicponski, Chair

ATTEST:

_____
Jennifer Kennedy, City Recorder

MURRAY
CITY COUNCIL

Citizen Comments

Limited to three minutes, unless otherwise approved by Council

MURRAY
CITY COUNCIL

Public Hearing #1

Murray City Corporation

NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN that on the 2nd day of April, 2019, at the hour of 6:30 p.m. of said day in the Council Chambers of Murray City Center, 5025 South State Street, Murray, Utah, the Murray City Municipal Council will hold and conduct a Public Hearing to consider land use code text amendments to Sections 17.170.040, 17.170.090, 17.173.010 and 17.174.010 of the Murray City Municipal Code relating to sustainability standards within the Murray City Center District (MCCD), Business Park (B-P) and Professional Office (P-O) zones.

The purpose of this public hearing is to receive public comment concerning the proposed land use code text amendment as described above.

DATED this 19 day of March, 2019.

MURRAY CITY CORPORATION

_____

Jennifer Kennedy
City Recorder

DATE OF PUBLICATION: March 22, 2019
PH 19-07

Mayor's Office

MURRAY

Ordinance Amendments for Sustainable Development Practices

Council Action Request

Council Meeting

Meeting Date: April 2, 2019

Department Director Blair Camp **Phone #** 801-264-2601 **Presenters** Doug Hill **Required Time for Presentation** **Is This Time Sensitive** Yes **Mayor's Approval**  **Date** March 19, 2019	**Purpose of Proposal** Amends Ordinance 17.170.040, 17.170.090, 17.173.010, 17.174.010 for sustainable development practices. **Action Requested** Consideration of proposed ordinance, as discussed in Committee of the Whole on March 5, 2019. **Attachments** Ordinance, State of Utah High Performance Building Standards, Presentation PowerPoint. **Budget Impact** Up to 1% of building construction cost savings. **Description of this Item** Currently, Murray City Municipal Code requires that all public buildings constructed within the MCCD be designed and built to comply with LEED silver level certification. Buildings in the Business Park (B-P) zone and Professional Office (P-O) zone also encourage LEED certification. The Ordinance amendment removes the LEED silver level certification and replaces it with the High Performance Building Standards developed by the State of Utah Division of Facilities Construction Management. (attached)

ORDINANCE NO. _____

AN ORDINANCE AMENDING SECTIONS 17.70.040, 17.170.090, 17.173.010, AND 17.174.010 OF THE MURRAY CITY MUNICIPAL CODE RELATING TO SUSTAINABLE DEVELOPMENT PRACTICES.

BE IT ENACTED BY THE MURRAY CITY MUNICIPAL COUNCIL:

Section 1. Purpose. The purpose of this ordinance is to amend sections 17.170.040, 17.170.090, 17.173.010 and 17.174.010 of the Murray City Municipal Code relating to sustainable development practices.

Section 2. Amend sections 17.170.040, 17.170.090, 17.173.010 and 17.174.010. Sections 17.170.090, 17.173.010 and 17.174.010 of the Murray City Municipal Code shall be amended to read as follows:

Chapter 17.170
MURRAY CITY CENTER DISTRICT MCCD

. . .

17.170.040: DEFINITIONS:

. . .

~~LEED: Leadership in energy and environmental design. It is a rating system published by the U.S. Green Building Council that encourages and accelerates global adoption of sustainable green building and development practices through the creation and implementation of universally understood and accepted tools, design criteria, and building and systems performance criteria. LEED certification requires third party review and verification of compliance with required criteria by an individual certified by the Green Building Certification Institute.~~

~~LEED-ND (Neighborhood Design): Sustainable standard published by the U.S. Green Building Council which recognizes development projects that successfully protect and enhance the overall health, natural environment, and quality of life. The rating system encourages best development practices, promoting the location and design of neighborhoods. It promotes more efficient energy and water use, especially important in urban areas.~~

. . .

17.170.090: SUSTAINABILITY STANDARDS:

A. The ~~Murray~~ City ~~Center District (MCCD)~~ has adopted the goal of pursuing and achieving sustainable development practices in the MCCD ~~that could lead to the eventual attainment of LEED-ND (neighborhood development) certification for the entire City Center District and encourages LEED certification for all individual buildings~~ The City may provide incentives for developers who ~~pursue~~ achieve ~~LEED~~ third-party sustainable development certification for buildings. ~~LEED-ND~~ Sustainable development standards are defined in the MCCD Design Guidelines and are recommended as standards for the development of the area. No sustainable development certifications are required under this section.

B. The City recognizes that, regardless of third party certification level, there are standards that are in the best interest of the health, safety, and general welfare of the residents of Murray. Standards to promote efficient and sustainable development have been included in the parking, landscaping and building and site design standards of the MCCD and are required whether or not an individual development attains ~~LEED~~ a third-party sustainable development certification. In addition, the following sustainability standards apply:

1. New Public Development. All new public buildings and uses shall, as practicable, be designed and built to comply with ~~LEED certified at the silver level~~ the High Performance Building Standards developed by the Utah Division of Facilities Construction Management;

2. New Non-Public Development.

a. All new developments shall provide for on site treatment of stormwater runoff from rooftops and hardscape areas. Each development shall be responsible for pretreating the runoff from their site through the use of bioswales or green roofs prior to allowing the water to enter the Little Cottonwood Creek watercourses, or the ~~Murray~~ City stormwater drainage system;

~~3~~b. All new construction shall minimize site disturbance and include a stormwater pollution prevention plan (SWPPP) for the site and obtain a land disturbance permit from ~~Murray~~ the City on sites greater than one acre in size;

~~4~~c. WaterSense labeled plumbing fixtures are also required in ~~the buildings for~~ all new developments and all new plumbing fixtures in existing buildings;

~~5~~d. All new buildings must demonstrate an average ten percent (10%) improvement over ANSI/ASHRAE/IESNA standard 90.1-2007 (with errata but without addenda). Buildings undergoing major renovations must demonstrate an average five percent (5%) improvement over ANSI/ASHRAE/IESNA standard 90.1-2007. Documentation of energy efficiency will be in accordance with the standards outlined in

appendix A of the adopted Design Guidelines for the MCCD. New multi-family residential buildings three (3) stories or fewer, ninety percent (90%) of buildings must meet Energy Star or equivalent criteria. Projects may demonstrate compliance with Energy Star criteria through the prescriptive requirements of a builder option package, the home energy rating system (HERS) index, or a combination of the two;

~~6~~e. For nonresidential buildings, mixed use buildings, and multi-family residential buildings four (4) stories or more indoor water usage in new buildings and buildings undergoing major renovations must be an average of twenty percent (20%) less than in baseline buildings as defined in appendix A of the adopted Design Guidelines for the MCCD;

~~7~~f. For new multi-unit residential buildings three (3) stories or fewer, ninety percent (90%) of buildings must use a combination of fixtures that would reduce water usage in accordance with appendix A of the adopted Design Guidelines for the MCCD. (Ord. 11-09)

. . . .

Chapter 17.173
BUSINESS PARK DISTRICT B-P

17.173.010: PURPOSE:

The purpose of the Business Park District B-P is to allow for and encourage a wide variety of office, creative services, manufacturing, technology, distribution, and other light industrial employment opportunities. Development under these regulations should provide for office space, light manufacturing, and commercial operations in a business park campus-type setting characterized by large buffer strips, open spaces, landscaping, and quality site development standards. This district requires site and design standards that:

. . .

F. Encourage property owners, developers, architects, and contractors to use a mix of high quality, durable, low maintenance building materials which ~~allow for~~ comply with ~~LEED certification~~ the High Performance Building Standards developed by the Utah Division of Facilities Construction Management or comparable third-party sustainable development standards. (Ord. 18-10)

. . . .

Chapter 17.174
PROFESSIONAL OFFICE DISTRICT P-O

17.174.010: PURPOSE:

The purpose of the Professional Office District P-O is to provide for mixed-use areas where urban public services are available or planned including access to high capacity transit. The intensity and quality of development will be higher than in other employment designations and urban in character. Development patterns adjacent to residential areas should enhance livability while contributing to the success of nearby businesses. This district requires site and design standards that:

. . .

F. Encourage property owners, developers, architects, and contractors to use a mix of high quality, durable, low maintenance building materials which ~~allow for~~ comply with ~~LEED certification~~ the High Performance Building Standards developed by the Utah Division of Facilities Construction Management or comparable third-party sustainable development standards. (Ord. 18-09)

Section 3. Effective date. This Ordinance shall take effect upon first publication.

PASSED, APPROVED AND ADOPTED by the Murray City Municipal Council on this ____ day of _____, 2019.

MURRAY CITY MUNICIPAL COUNCIL

_____
Dave Nicponski, Chair

ATTEST:

_____
Jennifer Kennedy, City Recorder

MAYOR'S ACTION:

DATED this ____ day of _____, 2019.

_____
D. Blair Camp, Mayor

ATTEST:

_____
Jennifer Kennedy, City Recorder

CERTIFICATE OF PUBLICATION

I hereby certify that this Ordinance, or a summary hereof, was published according to

law on the ___ day of _____, 2019.

_____
Jennifer Kennedy, City Recorder

MURRAY CITY CORPORATION
Community &
Economic Development

Building Division 801-270-2400
Community & Economic Development 801-270-2420

TO: **Murray City Planning Commission**

FROM: **Murray City Planning Division**

DATE OF REPORT: March 14, 2019

DATE OF HEARING: March 21, 2019

PROJECT NAME: Sustainable Development Practices

PROJECT NUMBER: 19-033

PROJECT TYPE: Murray City Land Use Ordinance Text Amendment

APPLICANT: Murray City Corporation

I. REQUEST:

The Community & Economic Development Department has drafted proposed text amendments to the Murray City Land Use Ordinance. The specific sections include the following:

- Sections 17.170.040, and 17.170.090, Murray City Center District (MCCD)
- Section 17.173.010, Business Park District (B-P)
- Section 17.174.010, Professional Office District (P-O)

II. STAFF REVIEW

Currently, the Murray City Land Use Ordinance requires that all public buildings constructed within the Murray City Center District, MCCD Zone be designed and built to comply with LEED Silver Level certification standards. Additionally, the Business Park, B-P and Professional Office, P-O Zones encourage property owners, developers, architects, and contractors to achieve LEED certification.

The proposed ordinance amendments would remove the LEED Silver Level certification requirement from the Murray City Center District, MCCD Zone, as well as the reference to LEED certification within the Business Park, B-P and Professional Office, P-O Zones. The language within these sections of Code would be replaced with the High-Performance Building Standards (HPBS) developed by the State of Utah Division of Facilities Construction Management (attached).

The State of Utah developed the HPBS to increase coordination, transparency, flexibility, efficiency and return on investment (life cycle cost) compared to LEED. Most architects and contractors in Utah are familiar with this standard. There are no certification costs associated with HPBS.

Proposed Ordinance Amendment:

The proposed ordinance amendment has been attached to the staff report for Planning Commission review and consideration. This includes a draft copy of the proposed text.

III. FINDINGS

i. The proposed text amendments to Sections 17.170.040, 17.170.090, 17.173.010 and 17.174.010 will allow for Sustainable Development Practices in the Murray City Center District (MCCD), the Business Park District (B-P), and the Professional Office District (P-O).

ii. The proposed text amendments are consistent with the purpose of Title 17, Murray City Land Use Ordinance.

iii. The proposed text amendments are consistent with the Goals & Policies of the Murray City General Plan.

IV. STAFF RECOMMENDATION

Based on the above findings, proposed text and other revisions as outlined, **staff recommends that the Planning Commission forward a recommendation of APPROVAL to the City Council for the proposed text amendments to the Murray City Land Use Ordinance, Sections 17.170.040, 17.170.090, 17.173.010, and 17.174.010, Sustainable Development Practices in the Murray City Center District (MCCD), the Business Park District (B-P), and the Professional Office District (P-O).**

James McNulty
CED Manager
(801) 270-2477
jmcnulty@murray.utah.gov

Key Points

- The Mayor and City Council requested a change to the MCCD sustainability requirements for public buildings to reduce certification costs. Recommended change is from LEED Silver to the State of Utah High Performance Building Standard (HPBS).

- The State of Utah developed the HPBS to increase coordination, transparency, flexibility, efficiency and return on investment (life cycle cost) compared to LEED. Most architects and contractors in Utah are familiar with this standard. There are no certification costs associated with HPBS.

- Requirement contained with the HPBS:

    - Team collaboration between owner, architect, contractor, energy engineer, building envelope commissioning agent, and building commissioning agent.

    - Energy performance (20% energy cost savings)

    - Life cycle cost measures

    - Water efficiency

    - Materials recycling and tracking

    - Indoor environmental quality (lighting, air quality, daylighting and views)

    - Metering

    - Building envelope commissioning

    - Transportation management

    - Site design (landscaping, storm water, light pollution, heat-island effect)

    - Education and Outreach

    - Commissioning

5.0 HIGH PERFORMANCE BUILDING SYSTEM

The State of Utah Division of Facilities and Construction Management require each project meet a sustainable design standard. All projects must meet the following standards. In the case where a conflict arises between different sections, the more stringent requirement should apply and the Department of Facilities and Construction Management (DFCM) should be notified about the conflict.

5.1 Integrated Design Process

A. General Intent

(1) The process and expectations outlined in section 5.1 includes certain activities and events that are required to happen during the project. Many of the activities are not required, but their inclusion is based upon the experience of DFCM and professionals that serve DFCM. The intent thereof is to inform the project team of what should happen over the course of a project to not only meet the requirements of the HPBS but also maximize the value of design and construction efforts to DFCM and the State of Utah.

(2) Adjustments to the process outline below, in order to best suit the needs of each project, are expected and should be discussed with the project team periodically through the project and recorded in the OPR.

a. The Owner shall directly hire the Energy Engineer, Building Envelope Commissioning Agent, and Commissioning Agent in the programming phase.

i. For Design Build projects the Energy Engineer shall provide the Energy Engineering over the course of the entire project as part of the design build team.

ii. Energy modeling and LCCA will be reviewed by the DFCM's third party reviewer.

b. The Owner, Energy Engineer, Commissioning Agent, and Building Envelope Commissioning Agent, shall provide timely input to the design team related to the OPR, BOD, and related HPBS documentation.

c. An updated BOD and OPR, including narrative of HPBS goals and strategies, shall be included in each design phase submittal to the owner. Changes from one phase to the next shall be documented as to provide a record of the development of the project.

d. An updated sustainable site plan shall be included in each design phase submittal to the owner

e. A HPBS Workshop must be completed during the first half of each phase of the project. Goals, strategies, and performance metrics must be documented in the OPR, BOD, and project documents accordingly. Additional informal HPBS Workshops shall be held to provide clear direction to the project in regards to the requirements of the HPBS

i. As coordinated by the design team and DFCM Energy Program Director, each HPBS Workshop shall include, but not limited to, the following project team members:

(a) Design team members
(b) Owner
(c) Agency Project Manager
(d) DFCM Project Manager
(e) Agency Energy Manager
(f) DFCM Energy Program Director
(g) Facilities Operators, if unknown at the time, it must be clearly identified who will be in attendance to represent the interests of facility operations.
(h) Energy Engineer

(i) Commissioning Agent
(j) User group representative(s)

f. The Owner, design team, Energy Engineer, Commissioning Agent, and Building Envelope Commissioning Agent shall review each design phase submittal for compliance to the HPBS. Appropriate design phase comments shall be provided to the design team within 10 business days.

g. The design team shall conduct a building envelop systems meeting, during design development and construction documents phases, to review possible envelope strategies. Topics to review included, but are not limited to, air, thermal and moisture performance, functional performance requirements, constructability, energy efficiency, aesthesis, mock ups, and testing.

B. Programming

(1) The following must be provided during the schematic design phase of the project. The design team shall provide simplified modeling iterations of various conceptual design proposals including, but not limited to, massing, orientation, glazing orientation, and glazing amount for the Energy Engineer to assess.

a. On an as needed basis, projects may be permitted an exception to this requirement, if approved by the DFCM Energy Program Director.

C. Schematic Design

(1) The following must be provided during the schematic design phase of the project.

a. The design team shall conduct a building systems meeting to review the possible systems applicable to the project. Agenda items to include, but not limited to, performance, LCC, first costs, operations and maintenance, and existing infrastructure integration.

i. The design team, appropriate Facilities Operators, Commissioning Agent, Agency Energy Manager and or DFCM Energy Program Director, General Contractor and appropriate subcontractors (if hired), and Energy Engineer must be in attendance.

b. DFCM Energy Program Director to sign Rocky Mountain Power's Incentive General Applications as provided by Architect

c. The Cost Estimator or General Contractor/Construction Manager must provide relevant supporting construction cost estimates to the Energy Engineer and Design Team in a timely manner.

D. Design Development

(1) The following must be provided during the design development phase of the project

a. The design team shall conduct a second building systems meeting to review the possible systems applicable to the project. Agenda items to include, but not limited to, performance, LCC, first costs, operations and maintenance, and existing infrastructure integration.

i. The design team, appropriate Facilities Operators, Commissioning Agent, Agency Energy Manager and or DFCM Energy Program Director, General Contractor and appropriate subcontractors (if hired), and Energy Engineer must be in attendance.

E. Construction Documents

(1) The following must be provided during the construction documents phase of the project.

a. The design team shall conduct a building controls meeting to review the possible systems applicable to the project. Agenda items to include, but not limited to, metering, controls, points, analytics and operations and maintenance.

i. The design team engineers, appropriate Facilities Operators, Commissioning Agent, Agency Energy Manager and or DFCM Energy Program Director, General Contractor and appropriate subcontractors (if hired), must be in attendance.

b. The Design Team shall coordinate all incentives and rebates as outlined in section 5.14.

c. The Design Team shall submit all required documentation to DFCM as part of the CD submittal. The submittal shall include, but is not limited to the following.
   i. Sustainable site plan
   ii. HPBS Spreadsheet
   iii. Any exceptions and appeals
   iv. Owner's Project Requirements
   v. Basis of Design

d. The Energy Engineer shall submit all required documentation, per section 5.5, to DFCM as part of the CD submittal:
   i. Energy Model Spreadsheet
   ii. Life Cycle Cost Worksheet

e. The CxA shall submit all required documentation, per section 5.12, to DFCM as part of the CD submittal:
   i. Commissioning Plan

f. The BECxA shall submit all required documentation, per section 5.13, to DFCM as part of the CD submittal:
   i. Building Envelope Commissioning Plan

F. Bidding

(1) Value engineering efforts and substitution request must be evaluated in context of the HPBS, preferred operations and maintenance procedures and performance impacts over the life of the building.

(2) The General Contractor shall account for HPBS requirements including, but not limited to, functional testing, building envelope function performance testing, and building flush out, in the construction schedule.

G. Construction

(1) Submittals and shop drawings related to HPBS requirements shall be reviewed by the CxA, BECxA and Energy Engineer in the time period set forth in the construction documents. Their review does not relieve or supersede the responsibility of the design team to review the HPBS related submittals and shop drawings for compliance set forth in the construction documents.

(2) The Design Team shall provide the required incentive and rebate documentation to the DFCM Energy Program Director as outlined in Section 5.14 and related appendices

(3) BECx related performance tests shall be tracked in the weekly OAC meeting minutes.

(4) At a minimum, the BECxA shall attend, in person or via a conference call, OAC meetings monthly. Reasonable effort by other team members shall be made to discuss related issues at the beginning of each meeting

(5) A building envelope commissioning kick off meeting shall be coordinated by the general contractor and BECxA.
   a. Required attendees include, but are not limited to the following: Architect, DFCM Energy Program Director. Subcontractors responsible for the following building components shall attend when applicable; masonry, insulation, air barrier, cladding, glazing, roofing and others as dictated by the envelop design.

(6) Testing of building envelope components, on the building mock up, shall be completed with acceptable results prior to installation of said components.

a. The general contractor and subcontractors responsible for the installation of the components shall attend the functional testing
b. The BECxA shall review deficiencies and possible causes of failed tests with each subcontractor prior to leaving the site on the day of the test(s).

(7) At a minimum the Commissioning Agent shall attend, in person or via a conference call, OAC meetings on a month basis.

(8) A building systems commissioning kick off meeting shall be coordinated by the general contractor and CxA.

H. Substantial Completion and Project Closeout

(1) The CxA shall coordinate with the agency Energy Manager to set up the project for benchmarking in EPA ENERGY STAR Portfolio Manager.
a. The agency Energy Manger shall report the ECI, EUI, GHG emissions and water used per EPA ENERGY STAR Portfolio Manager in its annual energy report to DFCM.

(2) The CxA, Owner, and General Contractor shall conduct a Four Month Walk Through Performance Walk Through meeting.

(3) The CxA shall finalize the incentive and rebates per section 5.14

(4) The O&M manuals and As-Built documents must include, but is not limited to, the OPR, BOD, HPBS Worksheet, Energy Modeling Spreadsheet, Life Cycle Cost Worksheet, and Controls As-Builts.

5.2 Context Sensitive Design

A. Site Design

(1) The Design Team shall conduct a review of the local and regional planning documents pertinent to the project. These documents may include, but are not limited to:
a. Municipal Master Plan or Land Use Plan
b. Applicable Open Space Plans, including trail and recreation plans, municipal open space plans...
c. Municipal, Regional or State Transportation Plan
d. Local or Regional Stormwater Plans or Guidelines
e. Applicable environmental regulations that may apply to the site

(2) The project design shall reflect the community vision for the site. The building site, open space design and access points shall reflect the goals of the regional and municipal planning documents.

B. Building Design

(1) The building shall be sited and oriented to reflect the community development patterns and vision, while responding to the site, solar access, and other climate considerations.

(2) The building design shall reflect the community vision and vernacular design patterns.

C. The façade design shall reflect the solar access and orientation of the site through the integration of shading devices, window location, and scale. Window to wall ratios that are appropriate based on building energy performance, orientation, and interior programming shall be integrated into the design.

D. Access

(1) Provide enhanced access from the project entry to the identified pedestrian and transit access points at the perimeter of the site.
a. Ensure pedestrian paths are safe, accessible and maintainable by facility staff

(2) Separate pedestrian paths from vehicular paths with landscaped barriers to the extent feasible.

(3) Identify key paths on a Sustainable Site Plan drawing submitted at the Schematic, Design Development, and Construction Document phases.

5.3 Transportation Management

A. Identify transportation management goals for the project to help reduce single rider vehicle impacts. This goal may be an overall percentage reduction in single-vehicle ridership, an increase in transit usage or the implementation of a carpooling program. Record this goal in the OPR.

B. Incentivize transit use through a reduction in parking stalls provided. This reduction should be based on a 10% reduction in comparison to municipal requirements or a 25% reduction based on the 4th Edition Parking Generation Guide by the Institute of Transportation Engineers.

C. Define clear, safe paths of access for pedestrians and cyclists from the public right-of-way to the building entry. Locate shower and changing rooms – as applicable – near these locations.

D. Provide a minimum of 10 secure bicycle storage locations.
(1) After the course of one year Facility Operators shall assess the need to for additional bicycle storage racks and provide as necessary.
(2) If the project cannot or should not meet the above requirements, provide a written justification in the OPR.

E. Provide a minimum of two reserved parking stalls for carpool vehicles and fuel-efficient, low emitting vehicles on each project.

F. Implement three of the following strategies to reduce single vehicle ridership to and from the project.
(1) Identify transit and alternative transportation options for the users and site. Identify strategies to encourage transit ridership, such as reduced or free pass offerings.
(2) Incentivize transit use through increased parking fees or paid parking lots.
(3) Provide telecommuting and / or reduced work week programs to minimize single vehicle ridership to the building.
(4) Provide shower and changing room(s) for cyclists and those who exercise mid-day.
(5) Designate 5% or more of the total parking provided as parking stalls for low emitting/fuel efficient - locate these stalls in preferred parking locations.
(6) Provide alternative fuel stations as applicable for the project.
(7) Designate 5% or more of the total parking provided as parking for carpool vehicles- locate these stalls in preferred parking locations.
(8) Demonstrate single-vehicle ridership or vehicle impact reductions through an alternative method.

G. The three strategies shall be identified in the OPR and included in to the Education and Outreach program for the building users and visitors.

5.4 Site Design

A. Open Space Design
(1) Create an open space plan that defines the usable site areas, designates open space, and identifies the landscape and hardscape areas. These specific areas shall be shown on the Sustainable Site Plan drawing, include a brief description of the anticipated level of use of each of the areas, and submit with each design review phase.

(2) Necessary pedestrian open spaces such as sidewalks, paths, and passive and active recreation areas, shall be designated. Include transportation management areas as indicated in section 5.3
   a. Define active hardscape areas that will be used for pedestrian traffic or regular pedestrian or visitor use.
   b. Define active landscape areas that will be used by building users and visitors regularly. Identify intended uses that may occur within this landscaped area.
   c. Turf shall only be used at active landscape areas that are a minimum of fifteen feet in any direction and a minimum of 200 square feet. Exceptions to this shall be justified by local landscape and/or zoning standards. Any alternate use must be reviewed and approved by the DFCM Energy Program Director.
   d. Define aesthetic and native or natural open-space areas, as applicable
   e. Define active pedestrian hardscape areas that are used for emergency or non-active uses

(3) The Landscape Architect shall provide an estimated maintenance schedule for the landscaped areas, with an emphasis on the reduced maintenance and reduced water consumption of the native and adapted landscaped areas.
   a. This maintenance schedule shall be included in the Operation and Maintenance Manuals for the project.

B. Landscape Water Consumption

(1) Create a site irrigation water use budget based on your location and site conditions, per the EPA Water Sense criteria.
   a. Use the EPA WaterSense Tool[1] to identify the water allowance for the site after landscaped areas have been defined. A summary of the water allowance shall be included in the Operations and Maintenance Manuals for the project.

(2) Landscape water consumption shall be at or below what is identified as the monthly water allowance for the site by the EPA WaterSense Tool. Justification for exceeding monthly water reviewed and approved by the DFCM Energy Program Director. Design and implement landscape materials and features that respond to the allocated water budget identified in section 5.4.B.1 and meet the native and adapted landscape material requirements.

(3) Landscape features shall align with the anticipated use areas defined in the in section 5.4.A Integrate an EPA WaterSense Labeled irrigation controller into the irrigation system.

C. Storm Water Design

(1) Design, construct, and maintain storm water BMPs that manage rainfall on site and prevent the off-site discharge of precipitation from the first one inch of rainfall from a 24-hour storm preceded by 48-hours of no measureable precipitation.

(2) Implement at least two BMPs from the Best Management Practices for Storm Water[2]
   a. Provide two BMP Information Sheets from the Guidance Document and a description of how the specific BMPs are implemented in the project.
   b. Identify and describe the selected strategies in the OPR, and submit with the Design Development submission.
   c. Implement one additional site performance standard as identified in items 2 through 5 on page 7-4 of the Storm Water Management Guidance Document.

[1] http://www.epa.gov/WaterSense/water_budget/
[2] Salt Lake County Engineering and Flood Control – Guidance Document for Storm Water Management – January 2012; Chapter 7. http://www.pweng.slco.org/stormwater/pdf/longswplan.pdf

D. Heat-Island Effect

(1) Plan exterior hardscape materials to reduce the urban heat island effect. Use materials with an SRI of 35 or greater for all pedestrian oriented paved surfaces and reduce the overall use of asphalt as feasible.

a. Reduce the dimensions of 25% of parking stalls to meet compact stall requirements of 8'-6" in width and 16'-0" in length. Provide either signage or striping to indicate the compact vehicles stalls on the site.

b. Indicate the compact parking on the Sustainable Site Plan drawing.

c. Use concrete at all pedestrian oriented hardscape areas. Colored concrete shall not have an SRI of less than 29.

(2) Use reflective roofing to reduce the urban heat-island effect at the building. Install a reflective roof with an SRI of 78 or greater over 75% of the low slope roof areas (slopes below or equal to 2:12) for all buildings in Climate Zones three and five.

a. Consider a tan colored, planted or ballasted roof at roofs that are visible from inside the building to reduce glare and increase occupant comfort.

b. Darker roofs shall be considered in climate zone 6, where heat absorption may be beneficial to the overall energy use of the building.

c. Install roofing with an SRI of 29 or greater at steep-sloped areas (slopes above 2:12)

d. SRI values for roofing and hardscape must be included in the Sustainable Site Plan.

E. Light Pollution Reduction

(1) Use fixtures that as low in height as feasible, to ensure light is at the appropriate location for pedestrian safety and functionality..

(2) All exterior lamps shall be LED.

(3) Lighting values greater than 0.01 fc shall not extend beyond twenty feet over the defined site boundary, except as required by the municipality for pedestrian safety.

(4) Exterior lighting shall be controlled by a photocell sensor.

(5) All interior lighting systems shall be designed and controlled to shield interior light from the exterior of the building, or include a 50% reduction in lighting output between the hours of 11:00 pm and 5:00 am.

5.5 Energy

A. Energy Performance

(1) All state agencies and institutions shall design new construction and major renovation, commercial and multi-family high-rise buildings (Proposed design) to achieve, if life-cycle cost-effective, an energy cost performance 20% below the energy cost performance of the corresponding Baseline design as determined by a DFCM hired Energy Engineer.

a. For the purpose of calculating the energy cost savings, include all fuel costs incurred for all systems normally specified as part of the Proposed design scope, regardless of specifying entity (interior & exterior), including receptacle and process load energy costs.

b. Energy costs for both the Baseline and Proposed designs shall be determined by using the Performance Rating Method as defined by Appendix G of *ANSI/ASHRAE/IESNA Standard 90.1-2010, Energy Standard for Buildings Except Low-Rise Residential Buildings* (with errata, without addenda).

c. The building/project Performance Rating percentage improvement shall be determined by use of the formula in paragraph G1.2 of *Standard 90.1-2010*, in terms of total energy cost, as follows.

$$\%\ Improvement = 100 \times \frac{(Baseline\ Utility\ Cost - Proposed\ Utility\ Cost)}{Baseline\ Utility\ Cost}$$

d. Buildings or projects with a conditioned floor area less than 30,000 FT^2, or less than $5,000,000 total project budget, or a projected EUI of less than 20 kbtu/FT^2/yr may, by discretion of the DFCM Energy Program Director, be exempt from section 5.5.A.1.

e. Projects exempted from section 5.5.A.1 by the DFCM Energy Program Director are required to incorporate qualitative design assist from a state hired Energy Engineer.

f. For Design Build Competitions, each shortlisted team may engage an Energy Engineer, at their own discretion and expense, to provide design assistance during the design competition phase, to demonstrate compliance with the HPBS. The winning team's life cycle cost analysis and subsequent energy efficiency strategies will be subject to review and approval by a DFCM hired third party reviewer and DFCM Energy Program Director. At any time during the competitive proposal phase, design teams may access DFCM's third party reviewer to answer questions concerning the LCCA and adherence to the energy modeling protocol set forth in the HPBS. Contact information will be provided.

(2) If no life-cycle cost effective package of measures can be found that meets the required energy cost savings, (cost effectiveness shall be measured in aggregate at the project level, rather than each measure individually), and then the life-cycle cost effective package that comes closest to achieving the required energy cost savings may be substituted.

a. Life-cycle cost-effectiveness shall be determined using the FEMP procedure as described in 10 CFR 436 – *Subpart A – Methodology and Procedures for Life-Cycle Cost Analysis* and NIST Handbook 135 – *Life-Cycle Costing Manual for the Federal Energy Management Program - Dept. of Energy - Energy Life Cycle Cost Model – BLCC 5.*

b. Utility incentives must be included in the life-cycle cost analysis where applicable.

c. Life-cycle cost-effectiveness may be demonstrated by using one of the following methods consistently throughout the project.
   i. Life-Cycle Costs
   ii. Net Savings
   iii. Savings-to-Investment Ratio

d. At the discretion of the DFCM Energy Program Director, the life cycle cost analysis and subsequent Energy Efficiency Measures strategy will be subjected to review and approval by an appropriate third-party reviewer, selected by the DFCM Energy Program Director.

e. All life cycle costing estimations must be provided with supporting documentation including but not limited to unit pricing, source of pricing, and labor wages.

(3) Documentation demonstrating compliance with section 5.5.A.1 must be submitted through the DFCM Energy Program Director for review and acceptance by an appropriate Submittal Reviewer, selected by the DFCM Energy (or Energy Program) Director.

a. Appeals regarding extenuating circumstances related to demonstrating compliance with section 5.5.A.1 may be submitted to the DFCM Energy Program Director, for consideration on a project/building specific basis. Appeals can only be considered if made prior to the Construction Document design phase.

b. Minimum documentation requirements for demonstration of compliance with section 5.5.A.1 are as follows, and must be based upon the drawings and specifications referenced in the final construction document bid set, including the completion of value engineering, bid alternates, and addenda.

i. All relevant project information as required by *Standard 90.1-2010-G1.4* (Reference Appendix B – Project Energy Performance Statement (link to electronic copies)

ii. All energy model input values not specified by *Standard 90.1-2010-G1.4*. Examples include, but are not limited to thermostatic settings and occupancy & equipment schedules. Software output reports may be used to demonstrate compliance with this section.

c. Coordination regarding interpretation of Appendix G methodology and protocol can be discussed between the Energy Engineer and Submittal Reviewer on an as needed basis.

d. The Submittal Reviewer shall review and discuss the energy modeling submittal with the Energy Engineer. Results of the discussion including clarifications and revisions shall be documented by the Submittal Reviewer with comments. Revisions to the energy model and revised documentation shall be provided in response. A meeting will be held with the Energy Engineer, Submittal Reviewer, and DFCM Energy Program Director, as necessary, to reconcile any outstanding issues. Final acceptance will be granted by the DFCM Energy Program Director.

e. Projects seeking credit for Energy Efficiency Measures not addressed specifically by Appendix G, at the discretion of the DFCM Energy Program Director, may do so by demonstrating savings relative to a Baseline determined through collaboration between the Energy Engineer and Submittal Reviewer.

B. Appliances and Equipment

(1) As available, provide appliances, equipment, products, and/or furnishings that meet one of the following criteria[3].

a. ENERGY STAR Qualified.

b. EPACT Registered

c. Products that meet or exceed the US Department of Energy's FEMP Energy Efficiency Recommendations

d. Rocky Mountain Power incentive, Questar Gas rebate program, or local utility company incentive/rebate approved equipment.

(2) Credit for plug & process (unregulated) loads that are associated with products complying with section 5.5.B.1 may be given credit in the Proposed design energy model by following the exceptional calculation method described in *Standard 90.1-2010, G2.5*, or through use of the procedures described in section 6.4.5 of COMNET's *Commercial Buildings Energy Modeling Guidelines and Procedures*[4].

C. Minimum requirements for new construction

(1) The building envelope requirements in *Standard 90.1-2010 Tables 5.5.1-8* or code minimum, whichever is more stringent, are mandatory.

(2) Minimum efficiency requirements of *Standard 90.1-2010 section 6.8 and section 7.8* or code minimum, whichever is more stringent, are mandatory for all new equipment covered under the standard.

(3) The building envelope requirements of *IECC C402.3.1* are mandatory regardless if the project is complying with *ASHRAE 90.1* or *IECC*.

(4) During design development the Electrical Engineer will provide a room-by-room count of installed and space-by-space allowed lighting power per *Standard 90.1-2010 Table 9.6.1*, as well as any lighting power exceptions taken per *Standard 90.1-2010 section 9.2.2.3*.

[3] www.gsa.gov
[4] www.ibpsa.us/sites/default/files/publications/COMNET-IBPSA-USA-Response.docx.

5.6 Water Efficiency

A. Meet the EPA WaterSense[5] requirements for high efficiency plumbing fixtures and appliances within the building.

B. Once-through process water systems are not permitted.

C. Identify water efficiency goals and system expectations into the OPR and BOD submitted at Design Development and Construction Documents phases.

5.7 Materials and Resources

A. Provide recycling containers and implement a recycling program in all new buildings.
   (1) Recycling contains shall be collocated with the garbage bins.
   (2) If co-mingled recycling is not permitted, bins must be clearly marked.
   (3) At a minimum, mixed papers, cardboard, mixed plastics, and mixed metals shall be recycled.

B. Integrate water bottle filling stations at a minimum of one drinking fountain in the building.

C. Implement a construction waste management plan to divert a minimum of 75% of construction waste, by volume, from the landfill.
   (1) Provide a narrative for exceptions to compliance with section 5.7.C. Narrative shall define the feasible diversion rate, by volume, and is subject to review and approval by DFCM Energy Program Director.
   (2) Contractor shall track recycled content, per the HBPS Worksheet, and provide a summary of construction waste at project construction meetings to be reviewed for compliance by the Architect.

D. Sustainable Material Sourcing

   (1) Identify and specify building materials that are both extracted and manufactured within 500 miles of the project site.
      a. Only the value associated with the regional content, by percentage, shall contribute to the sustainable value of the product.
      b. Key materials include concrete, concrete masonry, brick, stone, gypsum board, steel joists, and regionally manufactured misc. metals.
   (2) Identify and specify building materials that contain recycled materials.
      a. Recycled content shall be tracked as both pre-consumer and post-consumer recycled content. Only 50% of the value of the pre-consumer recycled content shall contribute toward the sustainable value of the product.
      b. Only the value associated with the recycled content shall contribute to the sustainable value of the product.
      c. Key materials containing recycled content include concrete, all metal containing materials, plastic containing materials, carpet, and suspended ceiling systems.
   (3) 35% of building materials, by value, shall meet one or more of the above sustainable materials strategies.

[5] http://www.epa.gov/WaterSense/water_budget/

a. Provide the appropriate specification sections and documentation requirements in the construction document set to ensure the contractor understands the sustainable material requirements and expectations.
b. Contractor shall track sustainable material sourcing values and product purchase verification, per the HPBS spreadsheet. The Architect shall review summary values for compliance at the project construction meetings.

(4) Only use low mercury or LED lamps in new construction projects.

5.8 Indoor Environment Quality

A. Implement an indoor air quality management plan during construction. This plan shall meet the SMACNA IAQ Guidelines for Occupied Buildings Under Construction, 2nd edition ANSI/SMACNA 008–2008.
(1) The Contractor shall submit an Indoor Air Quality Plan to the CxA, outlining the implementation strategies to achieve the SMACNA requirements.
(2) Implementation of this plan shall be tracked on the weekly Construction Meeting Minutes.

B. Implement a pre-occupancy air quality plan.
(1) At the end of construction, prior to occupancy, conduct an air quality test per USGBC LEED v4 Construction Indoor Air Quality Assessment requirements.
(2) The Test and Balance sub-contractor shall provide documentation to the Commissioning Agent demonstrating the dates and air flows achieved during the building flush.

C. All interior paints and coatings shall meet the low emitting materials standards set forth by the South Coast Air Quality Management District Rule 1113, as adopted in January 2012.

D. All interior adhesives and sealants shall meet the low emitting materials standards set forth by the South Coast Air Quality Management District Rule 1168, as adopted in January 2005.

E. All flooring systems shall be low emitting, and meet the Green Label Plus program, FloorScore, Greenguard, or the Greenguard low emitting requirements.

F. All janitor's closets, print and copy rooms, and chemical storage spaces shall be directly exhausted and constructed with a hard ceiling or walls constructed and sealed to deck.

G. Provide permanently installed entryway systems, regularly maintained walk-off mats, or a combination of the two systems. All entry carpets shall be at least 10' in length at primary entryways.

H. Office environments shall be designed with task lighting at each individual workstation.

I. 65% of all regularly occupied spaces shall either have direct access to daylight and views or indirect access through shared glazing systems at interior partitions.
(1) Complete the HPBS Sustainability Worksheet to demonstrate compliance with Section 5.8.I.
(2) Daylighting and view strategies must be included in the OPR.

5.9 Education and Outreach Program

A. Develop and implement a Building Education and Outreach Program to inform the building users of the sustainable design strategies. This program shall include a minimum of two of the following:

(1) Digital or fixed signage describing the sustainable goals and strategies as well as behavior modifications to complement the sustainable design and construction efforts.
(2) A brochure or pamphlet on the sustainable strategies. This shall highlight the location of specific strategies and provide resources for additional information.
(3) Information on the building or department website highlighting the sustainable goals, strategies, and behavior modifications to compliment the sustainable efforts.
(4) Enhanced building training to ensure the building operators and users understand the systems and sustainable design strategies. This includes providing enhanced Operation and Maintenance information on the building systems and control strategies.

B. The outreach program shall address the following sustainable strategies:
(1) Context Sensitive Design
(2) Transportation Demand Management Plan and Programs
(3) Sustainable Site Design
(4) Energy Efficiency
(5) Water Efficiency
(6) Indoor Environment Quality
(7) Recycling and Material Management

C. Energy Star Tracking
(1) The Facilities Operator or Commissioning Authority shall register the building under the Energy Star Portfolio program and input and monitor energy and water consumption of the building.

5.10 Metering

A. Metering System Scope
(1) All state agencies and institutions shall incorporate the utility metering requirements of this section into new construction and major renovation projects. The scope of metering shall include at minimum:
a. Meters on each utility connected to the building, including but not limited to power, natural gas/propane, domestic water, irrigation water, chilled water, steam or condensate, and heating water, shall be provided as part of the construction project and shall be connected to an energy metering monitor network. If meters provided by utility companies can be connected to this network, these meters can serve to meet this requirement. Otherwise, separate meters will be required as part of the construction project that can connect to the meter monitoring network.
i. Irrigation metering is only required on projects where irrigation system feeds from a building or is a standalone system as part of the project.
b. Monitoring network for utility meters shall be connected to each meter and submeter in the building. This network shall connect to the building controls network via a dedicated automation engine device such as a JACE, NAE, or equivalent as approved by DFCM. Communication protocol on the monitoring network shall be BACnet, LON, and/or Modbus RTU and shall be coordinated with the building automation network. All devices connecting to this network shall use the selected communication protocol as their standard means of communication and shall make all data points readily available for monitoring through the network. A schematic of the monitoring network shall be included in the construction drawings.
c. Meter the entire building electrical load at the main service entrance switchboard. For projects with budgets exceeding $5,000,000, or as directed by DFCM, provide submetering of electrical loads to HVAC systems, lighting, and plug loads. For Medium Voltage switchboards at 4160 volt or higher, provide

metering at each branch circuit. Multi-relays that gather metering data may be used in place of a standalone meter on branch circuits of large switchboards. Provide additional submeters for large renewable energy projects that interconnect to the building electrical panels.

i. Submeters shall connect to the monitoring network. Connection to the monitoring network shall be through one connection point through a dedicated Building Automation node. Do not mix HVAC monitoring and Electrical metering on the same BAS node. Allow the HVAC monitoring and control to continue during maintenance on the metering side

d. Provide additional submetering for any equipment or systems exceeding the following thresholds:
   i. Electrical load exceeding 100 kW
   ii. Natural gas/propane load exceeding 1,500,000 Btu/h
   iii. Cooling tower fill and drain for cooling towers on systems with over 150 tons cooling capacity. If this information is available from chemical treatment or other systems, these systems can be included in the metering network in lieu of separate meters.
   iv. Evaporative cooling system fill and drain for evaporative cooling systems sized for 50,000 CFM or more.
   v. If individual pieces of equipment do not cross these thresholds, but they are part of systems (e.g. chiller or boiler plant) that have demands above the threshold level, provide submetering for the entire system.
   vi. Verify with agency whether any additional submetering requirements exist (billable tenants, etc.)

e. If individual pieces of equipment have internal metering capabilities that meet the requirements of this section, these points can be mapped into the meter monitoring network in lieu of external submeters.

f. Where the project is part of a campus of other buildings, coordinate with campus personnel and design standard supplements for additional metering requirements. This may include matching existing head end equipment protocol, particular standards related to specifications of equipment, and requirements for programming on the head-end system to receive the new metering signals.

g. The meter monitoring network shall be provided with graphics pages available over the web and through the building controls head end system (if provided). The graphics page shall provide a summary of the instantaneous readings of each meter, provide hourly and daily peak kW trend graphics, as well as the monthly and annual peak kW and total kW-hr readings of each meter. Provide data to allow comparisons of each month and year of the building's operation. Trends shall collect data at 15 minute intervals coincident for each meter on the network.

h. The meter monitoring network shall be provided with export capabilities of a minimum of one year of data at hourly intervals, for all metered points, with trend data required, to either CSV or SQL format.

i. Construction documents shall include schedules and locations of meters, and require submittals of meters for review by the design team, DFCM, and commissioning agent. Commissioning agent will review installation, calibration, and operation of meter system.

B. Utility Meter Requirements

(1) Electric Power Meters

a. Provide digital power meters on all buildings. If there is more than one building on the project, provide separate metering for each structure.

b. Provide power meter output in the communication protocol selected for the meter monitoring network.

c. For monitoring the submeters, connect all back to a central location for interface with the Building Automation system node. Provide riser, plans, and details of wiring and conduit connections. Carefully consider how meter wiring can be routed and connected through switchboards. Consider how meters and wiring can be serviced in live switchboards. An acceptable alternate to switchboard mounting is a separate bank of meters adjacent to the switchboard.

d. Meters shall meet the ANSI standard for billable type meters. Provide meters to monitor with true RMS metering, with 0.2% accuracy.

e. Power meters shall have on board clock with date and time, and be able to record the day and time of any maximum demands or other events.

f. Monitor shall include instantaneous demand for kW, kWh, power factor PF, and shall also include maximum demand kW and total kWh.

g. Power meters shall have an on board digital display that reports measured voltage, amperage, kW, kWh, and power factor. The digital display shall be programmed and calibrated against a portable meter. Verification and commissioning is required for the monitoring network and the on unit digital display.

h. For large switchboards exceeding 2000 amp, or for medium voltage exceeding 4160 volt, provide test blocks on the face of the switchboard for testing the CT's and PT's. For medium voltage application, provide three PT's, 3 phase 4 wire system, and multiple tap CT's.

i. For main service meters, additional meter functions may be considered at the main service such as Total Harmonic Distortion, waveform capture, high speed event capture, and power analysis data. Do not provide these features for submetering unless requested by the agency or user group.

j. Where application calls for net metering, provide this function.

k. Metering and submetering data shall be coincident, with trending available independently for each individual metering point.

(2) Natural Gas/Propane Meters

a. Provide diaphragm type flow meters for sizes up to 1,000,000 Btu/h. Provide rotary type flow meters for sizes above 1,000,000 Btu/h. Accuracy on diaphragm meters shall be +/- 3% over the published flow range of the meter. Accuracy of the rotary meter shall be +/- 2% over the published flow range of the meter. Verify that maximum and minimum flow requirements for the project are suitable for the meter selected. Include requirement in the contract documents to correct meter multiplier for project gas pressure.

b. Provide a strainer upstream of all meters. Provide a bypass around meters. If meter is installed outside, route output wiring to local display inside building mechanical room. Orient pipe horizontally where meter is installed. Meter installation shall be in accordance with manufacturer's specifications. Show straight pipe requirements on contract drawings (12 pipe diameters upstream and 7 pipe diameters downstream, unless more is required by manufacturer). Strainers and bypass fittings are not to be included in the straight pipe length.

c. If the meter is provided with a dry-contact pulse output, a 4-20 mA output, or a proprietary protocol, require a controller/convertor be provided to convert the signal to the communication protocol used in the meter monitoring network.

d. Meter output to the monitoring network shall provide instantaneous flow rate as well as totalized flow rate. A local display shall be provided that shows these flow rates at the meter. Units shall be in CFH for instantaneous flow rate and 100's of cubic feet (CF) for the totalized flow rate.

(3) Domestic/Irrigation Water Meters

a. Provide positive displacement type flow meters for sizes up to 2" and direct coupled turbine type flow meters for sizes up to 20". Insertion turbine type flow

meters are acceptable in sizes from 2 1/2" to 8". Accuracy on all meters shall be +/- 2% over the published flow range of the meter. Verify that maximum and minimum flow requirements for the project are suitable for the meter selected.

b. Provide a strainer upstream of all meters. Provide a bypass around meters that are installed inline. Bypasses are not required for insertion turbine meters that can be removed from the pipeline for maintenance without interrupting flow. Provide a test port downstream of meters.

c. Install meter in well-lit and easily accessible area (irrigation meters may be installed in underground meter boxes, but display shall be located inside adjacent buildings). Orient pipe horizontally where meter is installed. Meter installation shall be in accordance with manufacturer's specifications. Show straight pipe requirements on contract drawings (12 pipe diameters upstream and 7 pipe diameters downstream, unless more is required by manufacturer). Strainers and bypass fittings are not to be included in the straight pipe length.

d. If the meter is provided with a dry-contact pulse output, a 4-20 mA output, or a proprietary protocol, require a controller/convertor be provided to convert the signal to the communication protocol used in the meter monitoring network.

e. Meter output to the monitoring network shall provide instantaneous flow rate as well as totalized flow rate. A local display shall be provided that shows these flow rates at the meter. Units shall be in GPM for instantaneous flow rate and Gallons, or 10's of Gallons, or 100's of gallons for the totalized flow rate as applicable to the project size.

(4) Steam Meters

a. Provide a vortex type mass flow meter with integral density compensation. Accuracy to be +/-2% over the published range of the meter. Verify that maximum and minimum flow requirements for the project are suitable for the meter selected.

b. Provide a strainer and drip leg upstream of all meters. Provide a bypass around meters.

c. Install meter in well-lit and easily accessible area. Orient pipe horizontally where meter is installed. Meter installation shall be in accordance with manufacturer's specifications. Show straight pipe requirements on contract drawings (12 pipe diameters upstream and 7 pipe diameters downstream, unless more is required by manufacturer). Strainers and bypass fittings are not to be included in the straight pipe length.

d. If the meter is provided with a dry-contact pulse output, a 4-20 mA output, or a proprietary protocol, require a controller/convertor be provided to convert the signal to the communication protocol used in the meter monitoring network.

e. Meter output to the monitoring network shall provide instantaneous flow rate as well as totalized flow rate. A local display shall be provided that shows these flow rates at the meter. Units shall be in lb/hr for instantaneous flow rate and 1000's of lb for the totalized flow rate.

(5) Condensate Meters

a. Provide positive displacement type flow meters for sizes up to 2" and direct coupled turbine type flow meters for sizes up to 20". All condensate meters shall be rated for operation with fluids up to 230°F. Accuracy on all meters shall be +/- 2% over the published flow range of the meter. Verify that maximum and minimum flow requirements for the project are suitable for the meter selected.

b. Provide a strainer upstream of all meters. Provide a bypass around meters that are installed inline. Require that meter be installed in a low point in the piping system to ensure the pipe remains full of water. Provide a test port downstream of meters.

c. Install meter in well-lit and easily accessible area. Orient pipe horizontally where meter is installed. Meter installation shall be in accordance with manufacturer's specifications. Show straight pipe requirements on contract drawings (12 pipe diameters upstream and 7 pipe diameters downstream, unless more is required by manufacturer). Strainers and bypass fittings are not to be included in the straight pipe length.

d. If the meter is provided with a dry-contact pulse output, a 4-20 mA output, or a proprietary protocol, require a controller/convertor be provided to convert the signal to the communication protocol used in the meter monitoring network.

e. Meter output to the monitoring network shall provide instantaneous flow rate as well as totalized flow rate. A local display shall be provided that shows these flow rates at the meter. Units shall be in GPM for instantaneous flow rate and Gallons, or 10's of Gallons, or 100's of gallons for the totalized flow rate as applicable to the project size.

(6) Chilled Water or Heating Water (Below 200°F)

a. On buildings that receive chilled water or heating water from a remote plant, provide a BTU meter that consists of flow meter, supply and return temperature sensors (matched pair of RTDs), and local display that calculates GPM, Btu/h, and totalizes Btu readings. The flow meter shall be an insertion turbine meter for pipe sizes from 2 ½" to 8". For sizes larger than 8", the flow meter shall be an electromagnetic or ultrasonic flow meter. Accuracy to be +/-2% over the published range of the meter. Verify that maximum and minimum flow requirements for the project are suitable for the meter selected.

b. Provide a strainer upstream of all meters. Provide a bypass around meters that are installed inline. Bypasses are not required for insertion turbine meters or ultrasonic flow meters that can be removed from the pipeline for maintenance without interrupting flow. Provide a test port downstream of meters.

c. Install meter in well-lit and easily accessible area. Orient pipe horizontally where meter is installed. Meter installation shall be in accordance with manufacturer's specifications. Show straight pipe requirements on contract drawings (12 pipe diameters upstream and 7 pipe diameters downstream, unless more is required by manufacturer). Strainers and bypass fittings are not to be included in the straight pipe length.

d. Meter output to the monitoring network shall provide instantaneous flow rate, supply and return temperatures, instantaneous energy transfer rate as well as totalized flow and totalized energy transfer. A local display shall be provided that shows these values at the meter. Units shall be in GPM for instantaneous flow rate, Btu/h for instantaneous energy transfer rate, and 1,000,000's of Btu for the totalized energy transfer. If room temperature will exceed 85°F, move display to adjacent cooler room.

(7) High Temperature Heating Water (Above 200°F)

a. On buildings that receive high temperature heating water from a remote plant, provide a BTU meter that consists of flow meter, supply and return temperature sensors (matched pair of RTDs), and local display that calculates GPM, Btu/h, and totalizes Btu readings. The flow meter shall be an ultrasonic or flange to flange insertion type flow meter. Verify with DFCM or agency for each project. All components in this system shall be rated for temperatures up to 750°F. Accuracy to be +/-2% over the published range of the meter. Verify that maximum and minimum flow requirements for the project are suitable for the meter selected.

b. Provide a bypass around meters that are installed inline. Bypasses are not required for ultrasonic flow meters that can be removed from the pipeline for maintenance without interrupting flow.

c. Install meter in well-lit and easily accessible area. Orient pipe horizontally where meter is installed. Locate flow meter on return line. Meter installation shall be in accordance with manufacturer's specifications. Show straight pipe requirements on contract drawings (12 pipe diameters upstream and 7 pipe diameters downstream, unless more is required by manufacturer). Strainers and bypass fittings are not to be included in the straight pipe length.

d. Meter output to the monitoring network shall provide instantaneous flow rate, supply and return temperatures, instantaneous energy transfer rate as well as totalized flow and totalized energy transfer. A local display shall be provided that shows these values at the meter. Units shall be in GPM for instantaneous flow rate, Btu/h for instantaneous energy transfer rate, and 1,000,000's of Btu for the totalized energy transfer. If room temperature will exceed 85°F, move display to adjacent cooler room.

5.11 Data Points

A. Definitions

(1) The input/outputs points list as defined in Appendix A have the following definitions:

a. Digital Input: This term is defined as binary data flow into a controller or control function. These values are "on/off", alarm or normal, 0 or 1, etc.

b. Digital Output: This term is defined as binary data flow out of a controller or control function. These values are on/off, start/stop, open/close, etc. These values are typically shown as 0 or 1, True or False, On and Off, etc.

c. Analog Input: This term is defined as analog data flow into a controller or control function. These values are associated with thermostats, thermo wells, transducers, CO2 sensors, humidity sensors, flow sensors etc. These values are typically shown in incremental values.

d. Analog Output: This term is defined as analog data flow out of a controller or control function. These values are associated with speed, position, damper actuators, valve actuators, etc. These values are typically shown as 0-100%.

e. Hardwire Interlock: This term refers to physical wiring between two devices which prevents one device from operating until the other device confirms ability to operate. These types of interlock are typically associated with a damper confirming open before a fan may start, a valve confirming open until a pump may start, etc. This does not refer to any software interlock but an actual physical connection.

f. BAS Communication: This term refers to values sent from or sent to devices which communicate over a software communication protocol such as LonWorks, BACnet, Modbus, or other software communications. These are not physical points directly wired to controllers but are typically sent over a communications protocol.

(2) The graphics points list as defined in Appendix A have the following definitions:

a. Dynamic Flow Diagrams: This refers to graphics which have animation showing digital inputs operation. These are animations are typically fan status as shown as a moving fan, pump status as shown as a moving impeller on a pump graphic, a coil status as shown as a color change in the coil color, etc.

b. Start/Stop: This refers to a digital output value as shown in textual format. These values show open/close, start/stop, as physically shown on the graphic

c. Display Status: This refers to a digital input value as shown in textural format. These values show on/off, open close, as physically shown on the graphic.

d. Display Value: This refers to both analog inputs and outputs as shown in textural format. These values show percentage open, speed, gpm, cfm, etc.

e. Adjust Value: This refers to any value that can be manipulated though the BMS system. These values can be adjusted as an override from the BMS or an adjusted set point. All controlling set points will be shown on the graphic.

(3) The other points list as defined in Appendix A have the following definitions:

a. Alarm Local: This refers to an alarm that is shown only locally on the BMS and an alarm that does not require immediate attention by staff or an alarm that is generally not detrimental to the system if it does not function correctly. Different priorities will be defined in the project requirements.

b. Alarm Email: This alarm is reserved for failures in the system which could create a great monetary expenditure to resolve if not addressed immediately. The intent is to alarm offsite personnel during unstaffed time periods to immediately come to the site to resolve the issue before further damage could be done.

c. Trend 15 Minutes: This refers to trending that needs to be setup in the system to trend every 15 minutes. The cache for these trends needs to be at least 8 weeks in storage for review by the DFCM or user groups. Trend charts shall be setup by the contractor in direction of the Cx, Engineer, or User group. It is not the intent that all points listed in the "trend 15 min" be all shown on a single chart but be separated in relation to the control of the system and the command of the system . An example is an pumping system where the lead/lag or duty/standby is shown compared to the differential pressure in the system.

B. Implementation

(1) The points list shall only be implemented in buildings that require a BMS. If a BMS system is not required or requested by DFCM then the points list will not apply in its entirety.

a. This requirement is not to alleviate Design/Build applications from providing a BMS unless it is specifically stated in the program documents that it is not required.

b. If the program documents do not addressed a BMS then it will be inferred that a BMS is required in compliance with this section.

(2) Trending will be implemented for all pieces of equipment as defined in the points list. Individual charts shall be created at direction of the Cx, Engineer, or DFCM representative. These trend charts shall be able to be access through a web interface and a single point click. The intent is not to have these charts created each time an individual logs into the system. The intent is to have these charts access through a single click.

(3) Implementation of this section is not to be applied wholly to each individual building. The intent is only individual systems as applied to the project only be followed per the stated section.

(4) Any system that is not listed in the points list shall not alleviate the design or construction team from implementing a defined points list. In the event that a system is not defined a list shall be provided to DFCM to show which points shall be implemented. The points list shall be delivered to the DFCM, user groups, and Cx by the design team before 50% CDs are created in a Design-Bid-Build or CM/GC delivery system. The points list shall be delivered to the DFCM, user groups, and Cx by the design team before DDs are created in a Design/Build delivery system. A narrative shall be submitted to DFCM in the event compliance with section 5.11 is too stringent or costly for a given project that requires a BMS. Any waiver shall be approved by the DFCM and the user group. The waiver shall be accompanied by a descriptive reason on why the standards are too stringent or costly for the project.

a. The waiver shall not be approved when finances are not in place, only when the implementation does not prove to have a reasonable use.

5.12 Commissioning

A. The following industry standards provide a minimum level commissioning in to determine the scope for capital development projects.
   (1) American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) ASHRAE Standard 202, Commissioning Process for Building and Systems
   (2) National Environmental Balancing Bureau (NEBB) - Procedural Standards for Whole Building Systems Technical Commissioning
   (3) Building Commissioning Association (BCxA) - New Construction Building Commissioning Best Practice
   (4) AABC Commissioning Group Guidelines (ACG) – ACG Commissioning Guideline

B. DFCM shall determine the systems and assemblies to be commissioned, per the OPR, in the project's team's scope. The following systems must be commissioned as a minimum.
   (1) Cooling systems
   (2) Heating systems
   (3) Steam systems
   (4) Air handling systems
   (5) Smoke controls systems including fans ductwork and interconnected air handling/supply systems
   (6) Plumbing systems
   (7) Emergency power systems
   (8) On-site renewable energy systems
   (9) Electrical systems
   (10) Building Automation Systems (BAS), including verification of correctly installed data points and meters

C. The below following duties only pertain to mandatory systems to be commissioned. Other systems that may be commissioned shall be defined per individual project. The following duties shall be performed by the commissioning project manager and not any other individual commissioning team member:
   (1) Review OPR at each design phase
   (2) Review BOD at each design phase
   (3) Review each design phase (Programming, SD, DD, CD) submittal for compliance to HBPS Sections
   (4) Attend Design Meetings as necessary, including design phase review meetings, systems meetings and HPBS Workshops
   (5) Conduct Commissioning Kick-off Meeting, attendees per Section 5.1
   (6) Review the Commissioning Plan (prepared by other commissioning team members)
   (7) Review submittals for main pieces of equipment and issue a report written by the project manager (main pieces of equipment include Boilers, Chillers, Cooling Towers, Heat Pumps, Air Handling Units (larger than 5,00 CFM), Pumps, VFDs, Lighting Controls, Building Management System, Roof Top Units, VRF, Chilled Beams, VAV, FCU)
   (8) Attend Construction Meetings (at least monthly at first install of MEP rough in)
   (9) Review first installed or mock-up items
   (10) Review Final Sequence of Operations as installed to ensure compliance with documentation.
   (11) Review Functional Acceptance Test final test records(as performed by other commissioning team members)
   (12) Review Test and Balance Report
   (13) Review Commissioning Report
   (14) Review Systems Manual
   (15) Review Trending data (at least four weeks) for major pieces of equipment and lighting controls

(16) Follow up on the project at 3,6,9,11 months to ensure the system is performing as intended.

D. The following duties shall be performed by the commissioning agent or may be performed by the commissioning project manager and not any other individual commissioning team member:
(1) Review SD drawings
(2) Prepare the commissioning plan
(3) Review minor submittals (minor submittals include piping, valves, plumbing equipment, other electrical equipment not defined in project managers duties, and other pieces of equipment not defined in the project manager duties)
(4) Conduct construction meetings
(5) Verify Equipment on site matches items submitted
(6) Prepare and execute PFAT checklist
(7) Prepare and execute FAT checklist
(8) Execute PT-PT checks on 100% of all of the points on the building management system
(9) Calibrate all (100%) points on PT-PT checks on the building management system, occupancy sensors, and day lighting controls.
(10) Attend Startup of major pieces of equipment and review startup reports from contractors.
(11) Review issues logs.
(12) Review Training Agendas
(13) Prepare the Commissioning Report
(14) Prepare the Systems Manual

E. The following duties shall be performed by the commissioning technicians or may be performed by the commissioning agents or may be performed by the commissioning project manager and not any other individual commissioning team member:
(1) Review all installed pieces of equipment, piping, insulation, conductors, receptacles, switches, transformers, switchgear, panel boards, switchboards, MCC, VAV, VRF, Chilled beams, FCU, Exhaust Fans, Relief Fans, etc. that they meet OPR, CD, and Manufacturer recommended instructions
(2) Assist in execution of PFAT checklist
(3) Assist in execution of FAT checklist
(4) Perform all other duties not defined in the commissioning project manager and commissioning agents responsibilities but defined in the Standards and Guidelines as defined in the Standards and Guidelines section.
(5) Prepare issues logs.

5.13 Envelope Commissioning

A. High performance building shall be commissioned in general compliance with ASTM E2813-12 *Standard Practice for Building Enclosure Commissioning*. Where conflicts arise between ASTM E2813 and this Standard, this Standard shall supersede.

B. Standard performance buildings shall be commissioned through the design phase in general compliance with ASTM E2813-12,
(1) Project budget will dictate commissioning activities beyond the design phase.

C. Building Components Included in Building Envelope Commissioning
(1) Below-grade construction including foundations, basements, and slab-on-grade that functions as part of the exterior enclosure system with utilization of waterproofing and drainage systems, but excluding structural and fireproofing systems and components
(2) Superstructure floor and roof construction that functions as part of the exterior enclosure system.

(3) Exterior enclosure construction, above grade, including exterior opaque walls and claddings, fenestration, sheathing, framing, insulation, air barriers, vapor barriers, drainage control layers (or Water Resistive Barriers –WRB's), RF shielding materials, and additional components of the assembly that may impact the long term performance of the enclosure.

(4) Roofing, including roofing system, roofing insulation, air barriers, vapor barriers, roofing membranes, skylights, hatches, and other roof openings/penetrations.

D. Building Envelope Commissioning – Phases and Tasks – Design-Bid-Build

E. The overall BECx process and scope of services shall be in general accordance with the following industry standards, but with emphasis placed on ASTM E2813:

(1) NIBS Guideline 3-2012 Building Enclosure Commissioning Process
(2) ASTM E2813 Standard Practice for Building Enclosure Commissioning
(3) CSA Z320-11 – Building Commissioning Standard & Check Sheets

F. The following tasks shall be included in the BECx scope of work

(1) Pre-Design Phase

a. The Building envelope commissioning agent (BECxA) must be engaged during or prior to the pre-design phase for all High Performance projects and during the design phase for all Standard Performance Projects.

b. The OPR, relative to the building envelope components selected for commissioning, is documented in order to establish a baseline of performance expectations to which the actual installed performance is compared. The BECxA, with the assistance of the Owner, discusses the BOD Summary that documents the OPR for those building systems selected for commissioning. The BOD Summary reflects the underlying assumptions and requirements that become represented in the construction documents. The OPR is developed by the Owner and documented by the BECxA. Project schedule, design life, and project delivery method should all be included in the OPR. For Standard Performance projects, this task is complete in the design phase.

c. Review of the design narratives to attain an understanding of the BOD. The Basis of Design (BOD) Document records the concepts, calculations, decisions, and product selections used in the design to meet the OPR and to satisfy applicable regulatory requirements, standards, and guidelines. The document generally includes both narrative descriptions and lists of individual items that support the design process. The BOD Document is developed by the Architect/Engineer of Record (A/E) through a series of design narratives. The BECxA reviews the BOD statement and design narrative documentation and provides written commentary to the A/E and other members of the Commissioning Team as required.

d. Identify the scope of the BECx process. A BECx Scope Meeting will be conducted. Topics to be covered during the BECx Scope meeting include, but are not limited to, the BECx process, communication protocols, and development of OPR and BOD. The step is often accomplished with a conference call.

e. Development of the initial BECx plan. The BECxA will develop the initial BECx plan, which can either be its own entity (common) or a part of the Master Commissioning Plan (uncommon). The plan shall include key elements including, but not limited to, project schedule inclusive of BECx tasks and milestones, systems to be commissioned, roles and responsibilities of commissioning team members, means of communication and reporting of conditions and progress throughout the BECx process, and the level of documentation expected throughout the BECx process. The plan is updated

periodically throughout the BECx process to reflect changing project conditions or requirements until the end of the project, when it then becomes the Project Commissioning Record.

(2) Design Phase

a. The BECxA shall review the relevant project documents to assist with the development of a building envelope that provides environmental separation. The design concepts will be evaluated against the OPR and BOD. The review will include verification that all systems to be commissioned are addressed in the BOD and fulfill the OPR such that the systems are coordinated with each other. The review shall occur a minimum of two times, including a back-check of subsequent issuances. Deliverables typically consist of written mark-ups of the architectural drawings and project specifications to be shared and discussed with the project team. The A/E provides a written response to the BECA and Owner as to how the comments will be reflected in the final bid documents. On a typical high performance project, there will be at least three in person meetings between the A/E and the BECxA

b. The BECx requirements are incorporated into the construction documents via a BECx specification sections provided by the BECxA and submitted to the A/E for review and approval. The functional performance testing requirements (including both mock-up and field testing) will be incorporated into the construction documents via a functional performance testing specification section. Both specification sections are created by the BECxA based on the requirements outlined in the OPR and BOD and submitted to the A/E for review and approval.

(3) Pre-Construction Phase

a. The A/E or Contractor shall provide all sub-contractor submittals, including material submittals, shop drawings, applicable substitution requests, and quality control documentation to the BECxA prior to commencement of building envelope construction. The BECxA will review all contractor exterior envelope submittals for compliance to the BOD, design documents, performance, and constructability, with concentration on transition details, sequencing concerns, and quality control contractual requirements. All concerns shall be forwarded, in writing, to the A/E for their review and formal response to the Contractor. All submittal and shop drawing reviews by the BECxA will occur prior to review by the A/E, when possible. When applicable, the BECxA will provide written mark-ups of the shop drawings to the A/E. Air barrier shop drawings are required on all projects.

b. In general, the Contractor will complete CCs for all assemblies and systems prior to formal performance testing of equipment or subsystems of the given system. These checklists will be reviewed by and as needed commented on by the BECxA.

c. The Contractor will arrange and schedule a Pre-Construction Trade Orientation Meeting, prior to the commencement of the building envelope mock-up or building envelope construction, to be chaired by the BECxA. Topics covered during the meeting would include, but not necessarily be limited to, inspection and testing procedures, review of plans and specifications, review of shop drawings, construction schedule and sequencing, material selection and compatibility, and other installation concerns. This meeting may also serve as the building envelope commissioning kick-off meeting or they may be separate meetings.

d. Mock-ups of the critical envelope components shall be constructed and tested prior to the commencement of building envelope construction in order to verify the performance of the systems and to set construction standards and material

selection for the duration of the project. Components required in the mock-ups will be as identified in the relevant sections of the Project Specifications and Architectural Drawings. Construction of the mock-up is to be observed and documented by the BECxA. Once completed, the Contractor will provide confirmation of completion to the BECxA and A/E. The completed mock-up will then be reviewed by the BECxA and A/E for compliance to the Contract Documents. Once the mock-up has been visually observed for compliance to the Contract Documents, the mock-up will be tested to ensure adherence to the performance requirements set forth in the Contract Documents. The testing protocol will be as identified in the Contract Documents in the Functional Performance Test Specification developed by the BECxA and approved by the A/E during the Design Phase. Should failures occur during mock-up testing, the Contractor shall investigate the source of the failure and propose a remediation strategy for review and comment by the BECxA and A/E, and install the approved repair work. The mock-up shall be retested until passing results are achieved, prior to full scale construction at the project site. Any repairs or remedial work performed on the mock-up must be documented by the BECxA.

(4) Construction Phase

a. The BECxA will participate in pertinent envelope performance/installation meetings and commissioning meetings as required.

b. The BECxA will participate, in person or via conference call, at least one OAC meeting per month.

c. Upon commencement of building envelope construction and continuing throughout the construction process, on-site inspections will be conducted by the BECxA to review the Work for compliance to Contract Documents and industry standards. Deficiency logs will be generated by the BECxA and repairs tracked with the goal of having a zero punch list project.

d. The BECxA will observe or perform functional performance testing of the building envelope. The field testing protocol will be as identified in the Contract Documents in the Functional Performance Test Specification developed by the BECxA and approved by the A/E during the Design Phase. Failed tests should be retested until satisfactory results are achieved. Additional testing may be performed as determined by the Owner, BECxA, and A/E as outlined in the functional performance test specification. Envelope components and systems shall not be installed on the building or beyond the in situ mock location until testing has demonstrated satisfactory results.

e. The BECx plan will be updated as needed, as this is a living document and may reflect new and/or reduced requirements as directed by the Owner.

f. The BECxA may participate in dispute resolution regarding exterior envelope components/systems and associated performance. The BECxA and the A/E may be relied upon during construction to evaluate compliance with the OPR; to provide and vet out alternative solutions; and to evaluate the associated risks.

(5) Post-Occupancy Phase

a. The BECxA will finalize the BECx plan and the final commissioning report with respect to the building envelope.

b. The BECxA provides appropriate training to the building maintenance personnel with respect to building envelope maintenance.

c. The BECxA will provide a site review and follow-up meeting 10 months post-occupancy. A written post-occupancy site visit report will be incorporated into the Building Envelope Commissioning Record.

G. Guidelines for performance criteria and associated functional performance testing commissioned systems/assemblies are as follows below. The BECxA may deviate from the general

recommendations below to suit project needs. Section 5.16 lists Referenced Standards and Codes which can be applied to the building envelope functional performance testing plan.

(1) Water

a. In general, water testing on a façade surface shall be in accordance with ASTM E 1105 or AAMA 501.1. Project test pressures will be based on the wind load calculations per ASCE 7 in conjunction with the rated performance of specified products per AAMA 101 with a minimum 6.24 psf differential pressure. Water leakage shall be defined as any water that is interior to the primary plane of air tightness (whether visible or not from the interior) that is not positively drained to the exterior. Detailed water penetration resistance requirements are outlined in Appendix G.

(2) Vapor

a. A continuous vapor barrier (or vapor retarder) must be provided to all exterior opaque walls, roofing, below grade foundation walls and slabs, and slab-on-grade conditions as determined by appropriate hydrothermal analysis. This vapor barrier shall be sealed at all interfaces, fenestrations, penetrations, etc. A vapor barrier (or vapor retarder) is defined as materials with vapor permeability below 1.0 perm per ASTM E96 desiccant or dry cup method (Class I or Class II per 2012 IBC).

b. Testing is not required, but visual inspections of installed work are required. High Performance structures require vapor barriers to be included in the performance mock-up.

(3) Air

a. In general, air testing is performed in accordance with ASTM E 1186, ASTM E 783, and ASTM E 779. Detailed performance criteria are identified in Appendix G

5.14 Incentives and Rebates

A. Utility sponsored incentive and rebate programs when properly leveraged offer project additional cause to implement energy efficient strategies into the State's facilities. It is the intent of DFCM to obtain, in a timely manner, all possible gas and electric utility incentives and rebates for the *prescriptive or typical* measures included in their new building projects.

(1) *Prescriptive* energy efficiency measures are defined as those that propose equipment/systems that exceed existing building energy code and have incentives or rebates paid based on the type, size, and quantities of high efficiency equipment installed.

B. This section of the HPBS and its supporting appendices provide information about the incentive and rebate process as well as guidance to project teams on how to best navigate both Rocky Mountain Power (RMP) and Questar Gas Company's (QG) programs.

(1) As of July 1st, 2014 only RMP and QG are the only utility providers in Utah who offer whole building program incentives and rebates. Therefore this section is oriented towards the programs that they currently offer. If, at a later time, local municipal utility companies offer incentive and rebate programs, the DFCM will utilize those programs, when possible, to further energy efficiency in State's facilities.

C. Incentive and rebate opportunities shall be properly identified in the design phase of each project.

D. Possible incentive and rebate values for specific energy efficiency strategies shall be incorporated as a separate line item in the LCCA required in section 5.5.

E. In the case where the incentive and rebate program conflicts with the sections within the HPBS that conflict shall be made know to the DFCM Energy Program Director, who will then discuss the conflict with the project team.

F. The architect is ultimately responsible for the design team performing their assigned tasks and obtaining all utility incentives and rebates.

G. Custom energy efficiency measures (EEMs), are to be identified and handled by the design team by reporting them, as soon as they are identified, to the DFCM Energy Program Director who will coordinate with the proper utility.

H. Appendix H, and Appendix I provides a road map for how the project's prescriptive measure incentives are to be obtained. Deviations from the process outlined in this appendix must be approved by DFCMs Energy Program Director.

5.15 Owner's Project Requirements

A. A concise OPR must be developed by the design team and owner during the project programming phase, or by the midpoint of schematic design, for projects without a programming phase.
   (1) For projects with a programming phase, the OPR is required to be complete and included in the project program.
   (2) For projects without a programming phase the, the OPR is required to be complete and included in the schematic design review set.

B. Once the initial OPR and BOD are developed by the design team and the Commissioning Agent (CxA) has been integrated into the project, it is to be reviewed by the CxA at the SD, DD and CD submittal.

C. Changes to the OPR and BOD, from one design phase to the next, must be documented by the design team.

D. Sections that must be included in the OPR are detailed in Appendix F. Coordination with DFCM's Design Requirements[6] is required.

5.16 Referenced Standards

A. American Architectural Manufacturers Association
   (1) AAMA 101-2011 North American Fenestration Standard/Specification for Windows, Doors, and Skylights
   (2) AAMA 511-08 Voluntary Guideline for Forensic Water Penetration Testing of Fenestration Products
   (3) AAMA 501.1-05 Standard Test Method for Water Penetration of Windows, Curtain Walls and Doors Using Dynamic Pressure

B. American Society of Civil Engineers
   (1) ASCE 7 Minimum Design Loads for. Buildings and Other Structures

C. American Society of Heating, Refrigerating and Air-Conditioning Engineers
   (1) ASHRAE Standard 90.1-2010 -- Energy Standard for Buildings Except Low-Rise Residential Buildings

[6] dfcm.utah.gov/wp-content/uploads/design_requirements.pdf

D. ASTM International
(1) ASTM C90-14 Standard Specification for Loadbearing Concrete Masonry Units
(2) ASTM C91/C91M-12 Standard Specification for Masonry Cement
(3) ASTM C144-11 Standard Specification for Aggregate for Masonry Mortar
(4) ASTM C150/C150M-12 Standard Specification for Portland Cement
(5) ASTM C207-06(2011) Standard Specification for Hydrated Lime for Masonry Purposes
(6) ASTM C270-12a Standard Specification for Mortar for Unit Masonry
(7) ASTM C370-12 Standard Test Method for Moisture Expansion of Fired Whiteware Products
(8) ASTM C595/C595M-13 Standard Specification for Blended Hydraulic Cements
(9) ASTM C794 Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants
(10) ASTM C1060 Practice for Thermographic Inspection of Insulation Installations in Envelope Cavities of Frame Buildings
(11) ASTM C1153 Practice for Location of Wet Insulation in Roofing Systems Using Infrared Imaging
(12) ASTM C1157/C1157M-11 Standard Performance Specification for Hydraulic Cement
(13) ASTM C1193 Guide for Use of Joint Sealants
(14) ASTM C1258 Test Method for Elevated Temperature and Humidity Resistance of Vapor Retarders for Insulation
(15) ASTM C1329/C1329M-12 Standard Specification for Mortar Cement
(16) ASTM C1384-12a Standard Specification for Admixtures for Masonry Mortars
(17) ASTM C1400-11 Standard Guide for Reduction of Efflorescence Potential in New Masonry Walls
(18) ASTM C1498-04a(2010)e1 Standard Test Method for Hygroscopic Sorption Isotherms of Building Materials
(19) ASTM C1715 Standard Test Method for Evaluation of Water Leakage Performance of Masonry Wall Drainage System
(20) ASTM D5957-98(2013) Standard Guide for Flood Testing Horizontal Waterproofing Installations
(21) ASTM E783-02(2010) Standard Test Method for Field Measurement of Air Leakage Through Installed Exterior Windows and Doors
(22) ASTM E1105-00(2008) Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Walls, by Uniform or Cyclic Static Air Pressure Difference
(23) ASTM E1186-03(2009) Standard Practices for Air Leakage Site Detection in Building Envelopes and Air Barrier Systems
(24) ASTM E2357-11 Standard Test Method for Determining Air Leakage of Air Barrier Assemblies
(25) ASTM E2112-07 Standard Practice for Installation of Exterior Windows, Doors and Skylights
(26) ASTM E2178-13 Standard Test Method for Air Permeance of Building Materials
(27) ASTM E779-10 Standard Test Method for Determining Air Leakage Rate by Fan Pressurization
(28) ASTM E2813 Standard Practice for Building Enclosure Commissioning

E. Canadian Standards Association
(1) CSA Z320-11 – Building Commissioning Standard & Check Sheets

F. Institute of Transportation Engineers
(1) 4th Edition Parking Generation Guide

G. International Code Council
(1) AC38-2013 Acceptance Criteria for Water-Resistive Barriers

(2) 2012 International Building Code
(3) 2012 International Energy Conservation Code

H. National Institute for Building Sciences
(1) NIBS Guideline 3-2012 Building Enclosure Commissioning Process

5.17 Definitions

Baseline – The performance level used for comparison to the above standard design.

Basis of Design – Formal documentation of the primary decision-making process and assumptions behind design decisions made to meet the OPR.

Building Analytics – Software programs that utilize data provided by building management systems (BMS) to deliver automated fault detection, diagnosis and real-time performance monitoring. Applications include building commissioning, equipment fault detection, energy analysis, load profiling, facility benchmarking, asset performance tracking, and carbon and greenhouse gas reporting.

Building Commissioning - A systematic and documented process of ensuring that the owner's operational needs and performance requirements are met. Additionally the process ensures that building systems perform efficiently and building operators are properly trained. Then intent of the process is to set the stage for facility operators to operate the building as intended in the building design. A Commissioning Agent (CxA) is generally responsible for implementing the building commissioning process.

Building Envelop Commissioning - Building Envelop Commissioning (BECx) is a process involving evaluation, verification, and documentation that a building's design and construction meet defined performance expectations. BECx begins at the project inception and continues through the start of the Operations and Maintenance Phase. A Building Envelop Commissioning Agent (BECxA) is generally responsible for implementing the building commissioning process.

Cost Estimator – Consultant responsible for providing a forecast of construction cost prepared on the basis of a detailed analysis of materials and labor for all items of work. Note that this is different from preliminary estimates of construction costs based on area, volume or other conceptual estimating techniques often provided by the owner or architect.

Design Build – Design build is defined as the selection of the qualified design build entity through a competitive process which may require evaluation of the concept design and project cost, along with other criteria. The procurement of architect-engineer services and construction services by the use of a single contract with the design build provider.

Design Team – Consultants providing design services to the project, including but not limited to, Architects, Mechanical Engineers, Electrical Engineers, Civil Engineers, Landscape Architects, Acoustical Engineers, Kitchen Designers.

Direct/Site Emissions - Emissions from fuel that is directly burned at the building for heating, electricity generation or other facility operations.

General Contractor – Contractor providing construction management, cost estimating and general contracting services, including and not limited to supporting subcontractors.

High Performance Building Standard (HPBS) – The requirements and process outlined within DFCM's Design Requirements, section 5.0, that require State buildings to be designed and built in such a manner to optimize energy efficiency, durability, life-cycle performance, water efficiency, material resources, occupant comfort and productivity.

High Performance Building Standard Workshop – Formal collaboration and coordination meetings in which various goals and strategies related to the HPBS are identified and evaluated in the context of the project. See Appendix? – HPBS Workshop Suggested Agenda.

Indirect/Source Emissions - Emissions associated with energy purchased from a utility, such as emissions generated from the generation of electricity at a coal fueled power plant.

Life Cycle Cost Analysis - Life-cycle cost analysis (LCCA) is a method for assessing the total cost of facility ownership. It takes into account all costs of acquiring, owning, and disposing of a building or building system. LCCA is useful when project alternatives that fulfill the same functional requirements, but differ with respect to initial costs, operating costs and performance, have to be compared in order to select the one that maximizes net savings.

Owner – One or more of the following, DFCM Project Manager, Facility Operator, Facility Manager, DFCM Energy Program Director, Agency Energy Manager, DFCM, State Institution, State Agency, or other governmental entity for which DFCM is providing project management services.

Owner's Project Requirements (OPR) – A formal document created in the programming phase that provides a basis for the project's functional and performance requirements. This document is intended to provide an explanation of ideas, concepts and requirements that are important to the owner. It is to be initially completed by the Architect with input from the owner and other parties as necessary. See Section 5.15 – Owner's Project Requirements.

State Agency - Any state agency, board, commission, department, or division

State Institution –Institutions referring to the University of Utah, Utah State University, Southern Utah University, Weber State University, Snow College, Dixie State University, College of Eastern Utah, Utah Valley University, Salt Lake Community College, Utah College of Applied Technology, and any other university or college which may be established and maintained by the state.

5.18 Appendices

A. Data Points List – Section 5.11

B. Energy Modeling Spreadsheet – Section 5.5

C. Life Cycle Cost Worksheet – Section 5.5

D. HPBS Sustainability Worksheet – Section 5.6, 5.7, 5.8, 5.

E. HPBS Workshop Suggested Agenda – Section 5.1

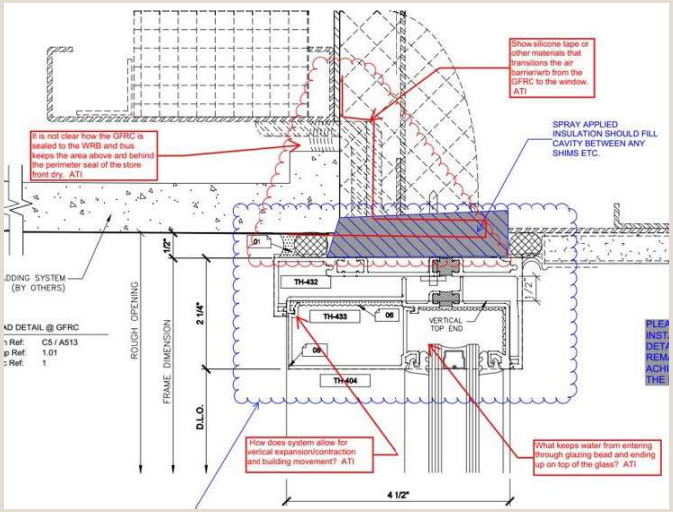
F. OPR Required Sections – Section 5.15

G. Envelope Commissioning Matrix – Section 5.13

H. Incentives and Rebates Process Guidelines – Section 5.14

I. Incentives and Rebates Responsibility Matrix – Section 5.14

DFCM's High Performance Building Standard presented by Sarah Boll



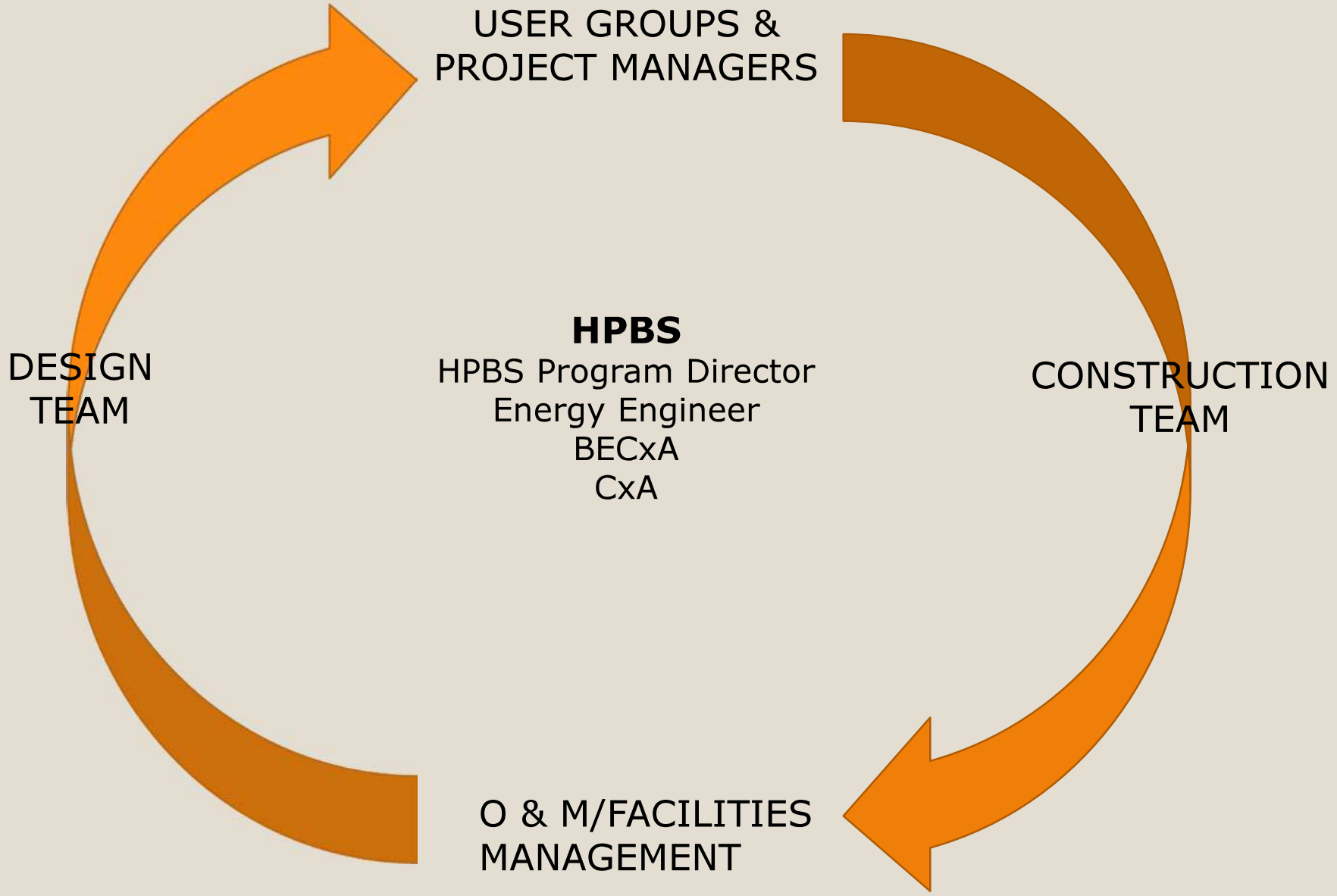
DFCM's High performance building standard (HPBS)

- Integrated Design & Design Process Expectations
- Context Sensitive Design
- Transportation Management
- Site Design
- Energy Performance
- Water Efficiency
- Materials and

Specific performance criteria for energy and envelop performance.

Standard outlines a process for success.

TYPICAL CAPITAL DEVELOPMENT PROJECT



Notable Elements of the HPBS Process

- All team members are a resource, especially the owner hired consultants
- Flexibility
- HPBS Workshops at each phase, more as necessary
- Systems Selection Meetings
- Controls Meetings
- Transparency in the Review Process
- Project Long Involvement from the Energy Engineer
- Project Long Involvement from the Envelope Cx
- Project Long Involvement from the Systems Cx
- Concurrent Submittal Reviews by BECxA, CxA, EE
- Decisions are made upon data provided by team members, typically life cycle costs
- FACILITIES MANAGEMENT INVOLVEMENT
- Testing and Inspections are a Tool for Success
- Post Substantial Completion Performance Follow Up through 1st year of occupation

Integrated Design – The Process is Key

Owner - **Owner to hire the Energy Engineer, CxA, BECxA during the programming stage – All performance consultants to be directly contracted by the owner.**

Provide design review comments at the end of each phase and be actively engaged in the development of the Owner's Project Requirements (OPR).

The OPR is no longer a LEED formality, but a driver of the design and required to be current a derivative of the HPBS Workshops and other performance based requirements

Design Team – **Author the of the Owners Project Requirements - OPR**

Facilitate HPBS Workshops, coordinate design reviews and be actively engaged with the Energy Engineer, Commissioning Agent, and Building Envelope Commissioning Agent.

Contractor – Assist in LCCA (if present during design), meeting performance requirements including those for BECx and Cx. **Coordinate with CxA and BECxA for testing and inspections. Participate in first year of occupancy on-going commissioning.**

Energy Performance

- **20% energy cost savings (ASHRAE 90.1 2010)**
  - **Determined through an Energy Model**
- **Based On all Life Cycle Cost effective measures**
  - **Determined with an LCCA model**
- **Utility meter structure is part of the standard so performance can be verified.**

Water Efficiency

- **EPA WaterSense fixtures required**
- Prohibit once through process water systems

Materials

- Recycling within the building
- **Construction Waste Management Plan @ 75% of Volume. Line item tracked in the OAC meeting minutes**
- **35% of building materials must be either regional, recycled or a combination of both. To be tracked and reported on HPBS Worksheet**

Indoor Environmental Quality

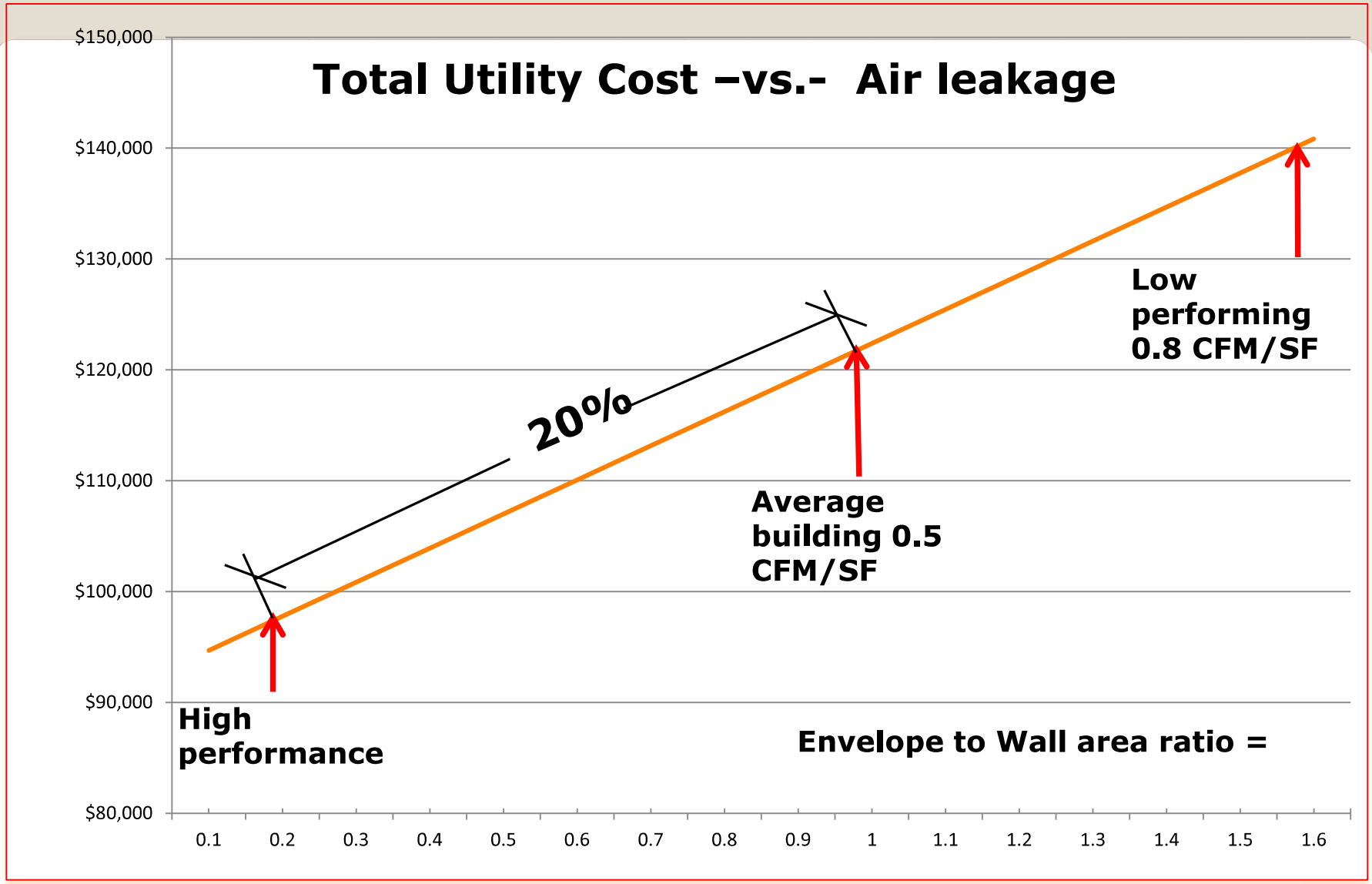
- Construction IAQ Plan per SMACNA 2008
- **Building flush prior to occupancy per LEED V4**
- **Low VOCs for materials and paints per South Coast**
- **Walk off mats**
- Task lighting, Daylighting and Views

Metering and Points

- Focus on O&M data for FM and BMS systems
- Tiered metering requirements
- Project specific points requirements per building type

Building Envelope

- **.1 cfm leakage rate tested by a whole building air test**
- BECx to review concurrently envelope submittals
- BECx Kick Off best timed during submittals & shops
- Series of sight visits and testing during construction


Total Utility Cost –vs.- Air leakage
$150,000
$140,000
$130,000
$120,000
$110,000
$100,000
$90,000
$80,000
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
1.1
1.2
1.3
1.4
1.5
1.6
20%
Low performing 0.8 CFM/SF
Average building 0.5 CFM/SF
High performance
Envelope to Wall area ratio =

Systems Cx

- **Equivalent to Enhanced Commissioning from LEED program**
- Focus on end user/owner (FM involvement)
- **Controls and Sequences Meeting required in CD phase**
- HVAC Systems Meetings required in SDs/DDs as attended by all parties
- 1 year of ongoing commissioning after occupation

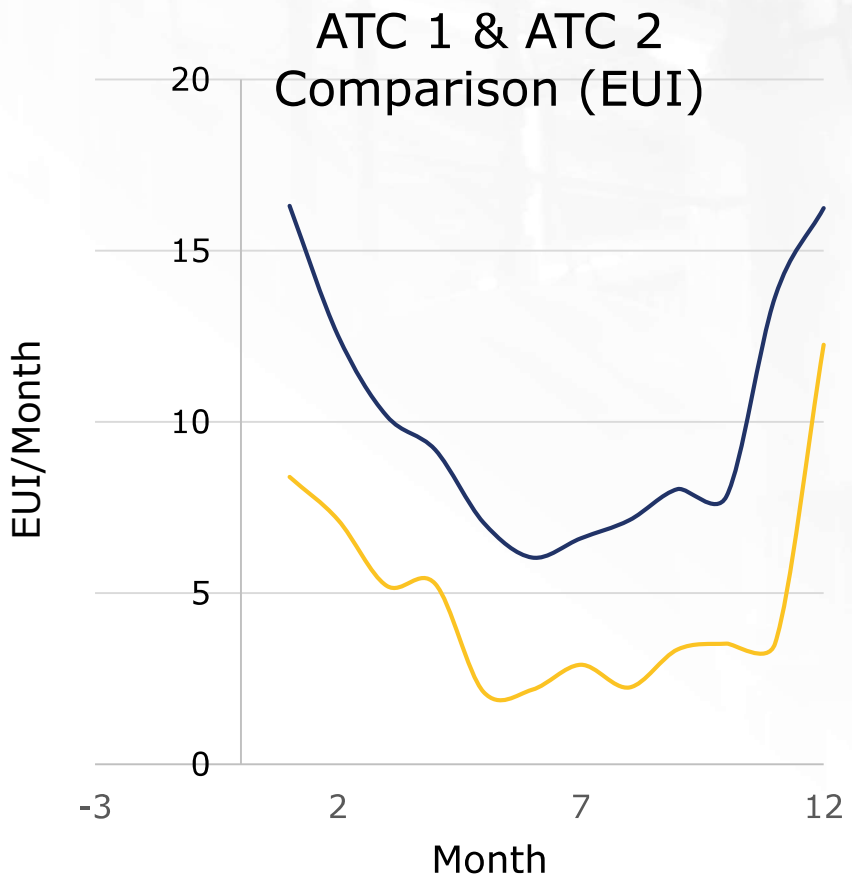
Bidding and Value Engineering

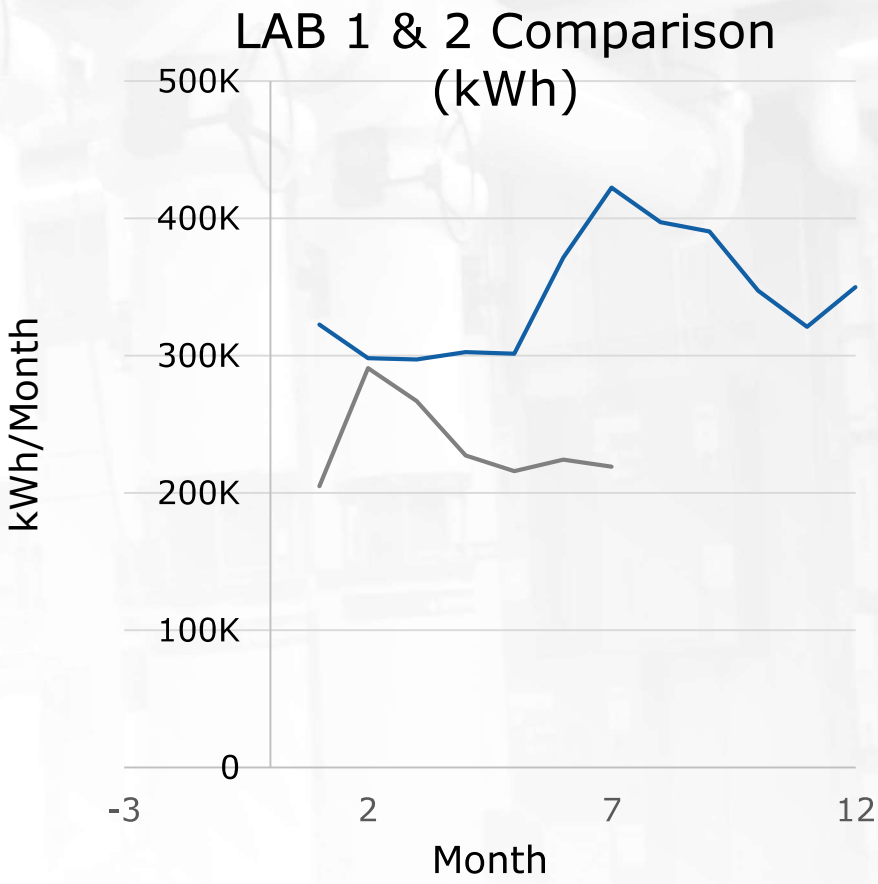
- **EE, CxA, and BECxA must be included in the process**
- Energy Performance requirements must be kept. Alternative methods can and should be discussed but the performance criteria must be met

- Initial Design – 61% Glazing (SB60)
  - $20,700 Annual Utility Cost "Hit" vs. Baseline
  - Equates To 7.4% Of Total Annual Energy Cost
  - $1.68 Million Life-Cylce Cost Increase (40 Years)
- Final Design – 39% Glazing (SB72 & SB60)
  - $12,800 Annual Utility Cost Savings vs. Baseline
  - $1.04 Million Life-Cycle Cost Decrease (40 Years)
  - Increased Thermal Comfort
  - Decreased HVAC Equipment Sizes & First Cost
  - Energy modeling demonstrated that reduction of glass area by twenty percent **would reduce utility costs by slightly over $1.7 million over the first 50 years of operation.**

Case Study - Classroom Building Glazing Impact On Energy Performance

Actual Comparisons





$100,000 annual savings
$5M over 50 yrs

MURRAY
CITY COUNCIL

New Business Item #1

MURRAY

Fire Department
Jon Harris

Permanent Fireworks Restrictions

Council Action Request

Council Meeting

Meeting Date: April 2, 2019

Department Director
Jon Harris

Phone #
801-264-2744

Presenters
Mike Dykman

Required Time for Presentation

Is This Time Sensitive
Yes

Mayor's Approval

Date
January 14, 2019

Purpose of Proposal

Adopt Murray City Ordinance Putting Permanent Fireworks Restrictions in Place for Hazardous Areas in Murray City.

Action Requested

Adoption of Murray City Ordinance.

Attachments

Proposed fireworks ordinance and restrictions map

Budget Impact

None

Description of this Item

With the 2018 adoption of Utah House Bill 38, municipalities are authorized to permanently prohibit the discharge of fireworks in specific areas where existing or historically hazardous environmental conditions exist.

Under the guidelines established and defined by Title 53 Chapter 7 of the Utah Code, a proposed map has been created (please take a look at the copy provided) establishing areas for permanent fireworks restrictions in areas determined by the Fire Marshal and approved by the Fire Chief to be hazardous.

ORDINANCE NO. _____

AN ORDINANCE RENAMING CHAPTER 9.18 AND ENACTING SECTION 9.18.020 OF THE MURRAY CITY MUNICIPAL CODE RELATING TO THE PROHIBITED DISCHARGE OF FIREWORKS

WHEREAS, the 2018 Utah Legislature adopted House Bill 38, which authorizes municipalities to prohibit the discharge of fireworks in specific areas where existing or historically hazardous environmental conditions exist; and

WHEREAS, the City's Fire Marshal has determined that such existing hazardous environment conditions exist within certain areas of the City meeting the statutory descriptions; and

WHEREAS, on the 5th day of March, 2019, the Murray City Municipal Council (the "Council") heard evidence from the Fire Marshal concerning the hazardous environmental conditions within the City and approved a map depicting area of the City where the discharge of fireworks should be prohibited; and

WHEREAS, the Council has determined the discharge of fireworks in these areas presents a significant risk of igniting fires, which necessitates control over the discharge of fireworks within, into and over such areas; and

WHEREAS, the Council has previously defined areas presenting particular fire ignition hazards; and

WHEREAS, the Council wants to update and define areas where the discharge of fireworks presents a significant hazard and to prohibit the discharge of fireworks within, into, and over such areas as described in the following City Ordinance and also as depicted on the map presented to the Council; and

WHEREAS, in accordance with sections 10-8-47, 15A-5-202.5 and 53-7-225 of the Utah Code, the City has authority to regulate the discharge of fireworks;

NOW THEREFORE, BE IT ENACTED BY THE MURRAY CITY MUNICIPAL COUNCIL:

Section 1. Purpose. The purpose of this ordinance is to rename chapter 9.18 and to enact section 9.18.020 of the Murray City Municipal Code relating to the discharge of fireworks.

Section 2. Map. The map depicting prohibited areas for the discharge of fireworks within the City, which is attached as Exhibit "A" and incorporated in this ordinance, is approved and adopted.

Section 3. Renaming chapter 9.18 and enactment of section 9.18.020. Chapter 9.18 shall be renamed, and section 9.18.020 of the Murray City Municipal Code shall be enacted, to read as follows:

CHAPTER 9.18 FIREARMS AND FIREWORKS

. . .

9.18.020: PROHIBITED DISCHARGE OF FIREWORKS:

A. Due to the presence of existing and historical hazardous environmental conditions, the discharge of fireworks (as defined in Title 53 Chapter 7 of the Utah Code) and other ignition sources are hereby prohibited within, into or over the following areas:

1. Mountainous, brush-covered, forest-covered, or dry grass-covered areas;

2. Within 200 feet of waterways, trails, canyons, washes, ravines, vacant lots, or similar areas where natural or unmaintained vegetation is present;

3. Within 200 feet of the wildland urban interface area, which means the line, area or zone where structures or other human development meet or intermingle with undeveloped wildland or land being used for an agricultural purpose;

4. Those areas specifically described as prohibited as such areas are depicted on the map approved by the Council, a copy of which is on file for public review in the City Recorder's Office, including:

a. The Murray Parkway Trail;

b. Within 200 feet of the Murray Parkway Trail;

c. Murray Park; and

d. Wheeler Farm

B. Notwithstanding subsection A, a fireworks permit and a special events permit may be obtained for public and private fireworks displays within City parks when conducted by a licensed pyrotechnics company and in compliance with, and subject to the conditions and restrictions of Section 12.24.050(A) and Chapter 5.40 (Special Events) of the Murray City Municipal Code.

C. Regardless of date or location of discharge, it is unlawful for any person to negligently discharge class C common state approved explosives within the City.

D. A violation of subsection A is an infraction, punishable by a fine of up to $1,000.00. A violation of subsection C is a class B misdemeanor.

Section 4. Severability. The provisions of this ordinance shall be severable; and if any provision thereof, or the application of such provision under any circumstance is held invalid or unconstitutional by a court of competent jurisdiction, it shall not affect any other provision of this ordinance, or the application in a different circumstance.

Section 5. Effective Date. This Ordinance shall take effect upon first publication.

PASSED, APPROVED AND ADOPTED by the Murray City Municipal Council on this 19th day of March, 2019.

MURRAY CITY MUNICIPAL COUNCIL

_____
Dave Nicponski, Chair

ATTEST:

_____
Jennifer Kennedy, City Recorder

MAYOR'S ACTION: Approved

DATED this ____ day of _____, 2018

_____
D. Blair Camp, Mayor

ATTEST:

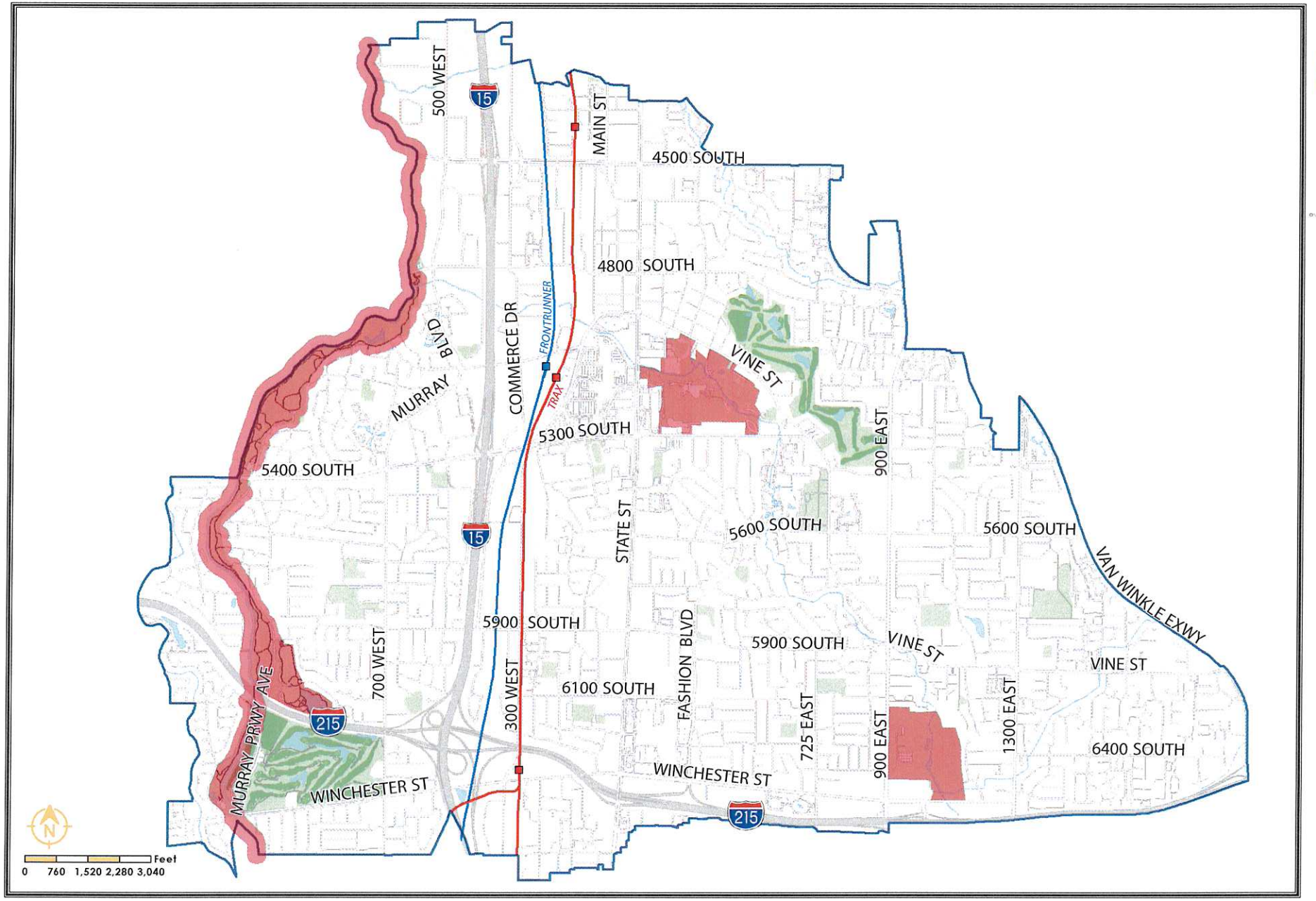
_____
Jennifer Kennedy, City Recorder

CERTIFICATE OF PUBLICATION

I hereby certify that this Ordinance or a summary hereof was published according to law on the _____ day of _____, 2018.

_____
Jennifer Kennedy, City Recorder

EXHIBIT "A"



MURRAY

Murray City
GIS Division
4646 South 500 West
Murray, Utah 84123
www.murray.utah.gov

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Map Disclaimer:
The data and information within this map is
guaranteed to have been derived from
sources deemed reliable.

Proposed Fireworks Restriction Zones

MURRAY
CITY COUNCIL

Mayor's Report
And Questions

MURRAY
CITY COUNCIL

Adjournment