

Lessons Learned From the Utah Transit Authority System Expansion



Acknowledgements

On June 20, 2012, The Eno Center for Transportation joined the Utah Transit Authority to present the day-long seminar *Lessons Learned from the Utah Transit Authority System Expansion* to more than 50 attendees from across the country hoping to learn and implement ideas into their own large infrastructure project. This paper includes a detailed account of the day's proceedings.

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And finally, we want to thank the University of Utah for hosting the event as well as former UTA Chief Executive Officer John English. This event was possible because he had the idea that this was a success story worth highlighting.

Joshua Schank
President, Eno Center for Transportation



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Introduction & Overview of the UTA System Expansion

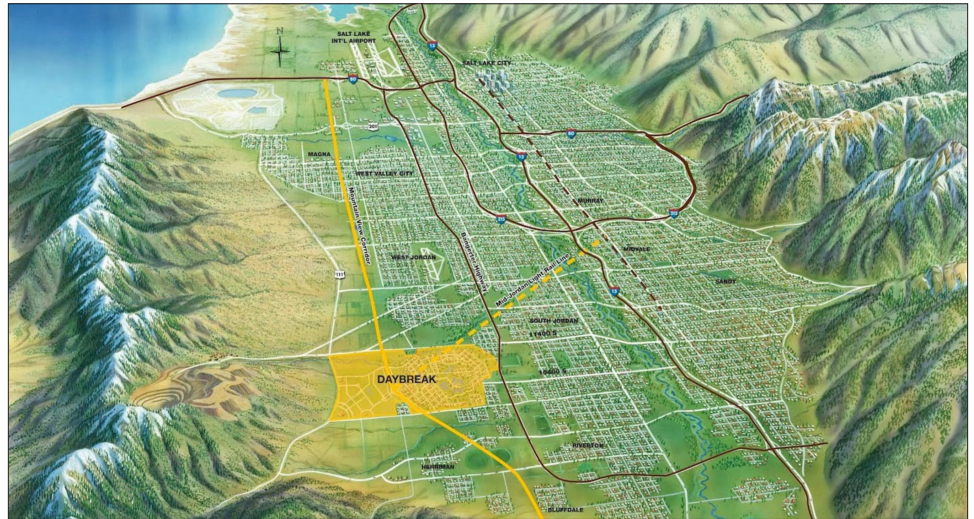


Figure 1: Map of the Salt Lake City Region (Image courtesy of the State of Utah)

Since 1999 the Utah Transit Authority (UTA), Salt Lake City's regional transit provider, has added more than 140 miles of new light rail, commuter rail, and bus rapid transit lines.¹ While at a national level the United States is experiencing strong anti-tax sentiments, Utahns have voted to raise taxes to support their infrastructure. While it has become the norm across the country for infrastructure projects to exceed their budgets and schedules, UTA has consistently completed their transit projects on time and under budget. UTA's recent success in transit development demonstrates that effective, efficient, and sizeable investments can be made in transportation even in this challenging political and fiscal era.

To understand this success and to learn from the program, the Eno Center for Transportation held a daylong conference in Salt Lake City, attracting elected officials, community organizers, UTA leaders, and other transportation experts involved in the UTA expansion. These individuals discussed the challenges, obstacles, and innovations that those involved encountered, overcame, and employed over the past 20 years to make the expansion a reality. This report breaks down the UTA story into its key elements and discusses the potential lessons learned for other cities, regions, and states.

UTA System Expansion: An Overview

UTA serves the Salt Lake City region, providing service to the counties of Salt Lake, Weber, Davis, and Utah, with selective service in the counties of Box Elder and Tooele.² UTA's service region represents the largest portion of the

State of Utah's population, offering service to 79 percent of Utah residents.³ The region of 1.1 million residents has experienced growth over recent decades. Figure 1 shows a map of the Salt Lake City area with Salt Lake City at the center.

In 1999, UTA opened its first light rail transit line, TRAX. As of August 2013, 140 miles of rail operation provides a means of transportation for a growing number of Utah residents.⁴ A map of the existing system can be seen in Figure 2.

The success of UTA's transit investment is reflected in its substantial growth in regional transit ridership, the increasing attractiveness of transit-oriented developments (TOD) near stations, and the accelerated timeline of each of the projects. Each of the rail lines and their extensions has been completed, or will be completed, ahead of schedule and under budget.

Since the first line began operation in 1999, transit ridership within the UTA system has increased 77.6 percent, from 24.1 million trips in 1999 to 42.8 million trips in 2012, as seen in Figure 3.⁵ This ridership growth has impacted transportation throughout the region. At the University of Utah, the TRAX system has bolstered the transit access mode split from only 5 percent before TRAX, to above 35 percent after the line opened.⁶ The University of Utah credits TRAX with resolving parking issues on campus.

Additionally, UTA has benefited from TOD around stations and continues to promote increased development.⁸ Planners designed the rail system so that private investment could take advantage of the new transit accessibility. Since 1999, more than \$7 billion in investments have occurred near transit stations, increasing the density of destinations around stations and helping to increase ridership.⁹ Most new businesses that have located in the Salt Lake City region have chosen to be on one of the rail lines, demonstrating that they value transportation options for their employees.¹⁰

One of the more impressive aspects of the transit system expansion in Utah has been UTA's ability to complete projects in an expedient and fiscally responsible fashion. Construction of the TRAX system began in the mid-1990s and since 2008 has been accelerated under the FrontLines 2015 plan, an ambitious program bolstered by a tax referendum that set the goal of constructing five new lines consisting of 70 miles of rail in a seven-year time frame. UTA projects and their completion dates are shown in Table 1.

From visioning in the late 1980s, to taking action in the 1990s, to the successful system that currently exists and is expanding across the Salt Lake City region, UTA set a high standard for transportation expansion programs. With unconventional planning processes and fortuitous partnerships, UTA was able to transcend public skepticism of light rail and transit expansion, modeling a new approach for transit providers.

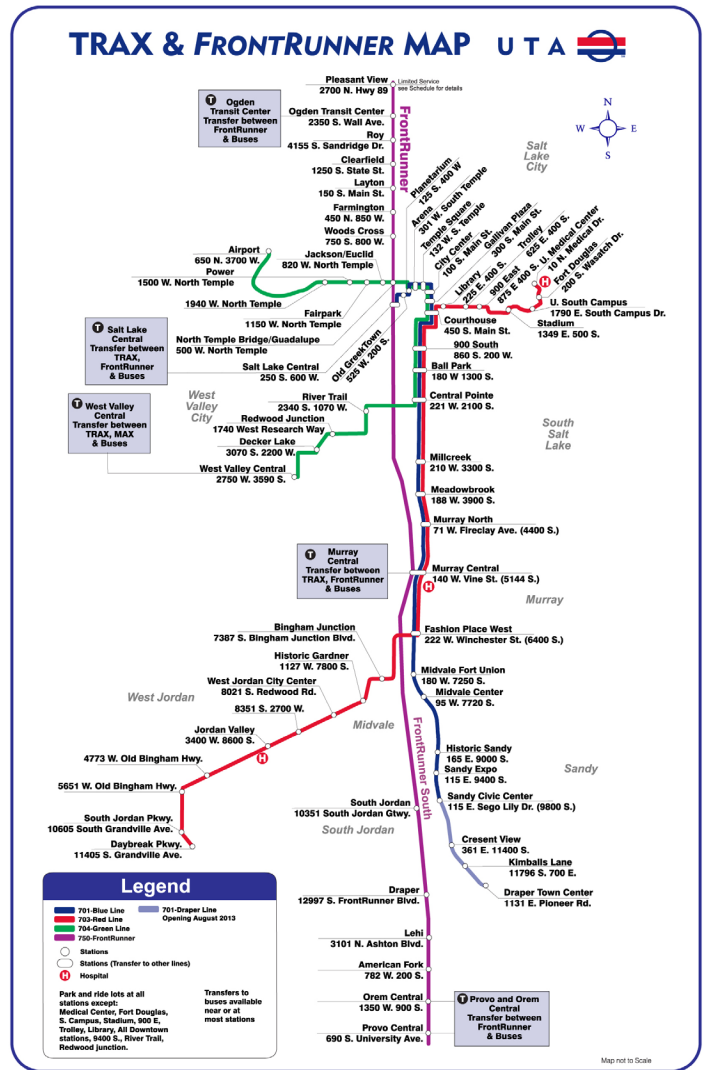
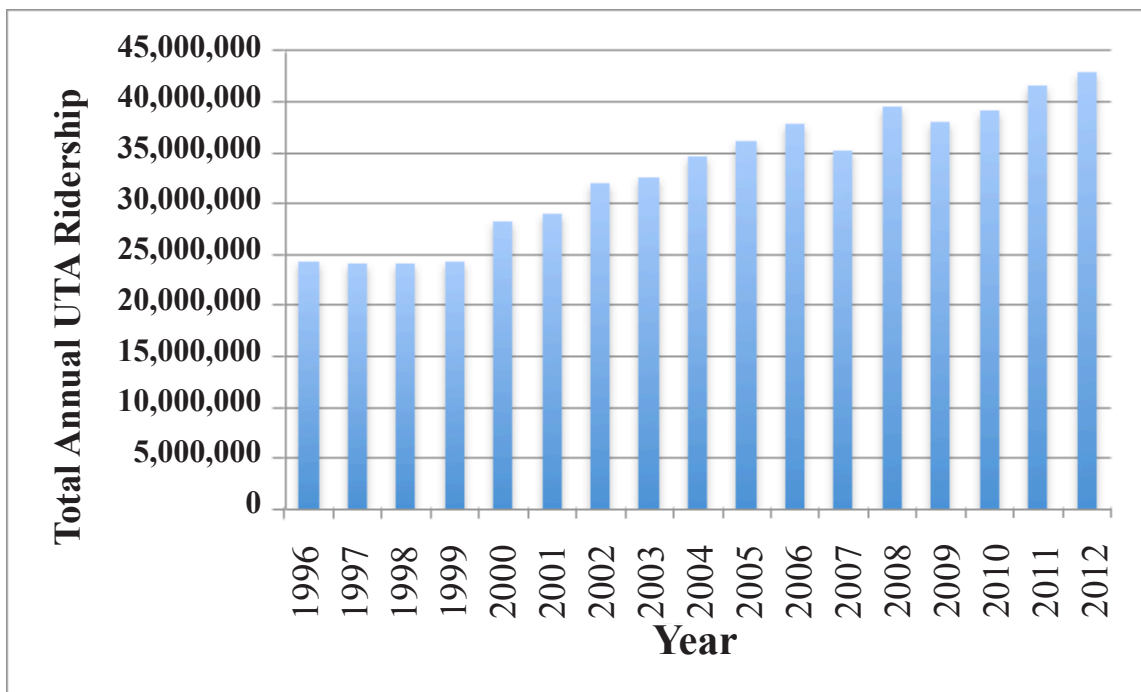


Figure 2: UTA Rail System Map as of August 2013 (Map courtesy of the Utah Transit Authority)

Figure 3: UTA Annual Transit Ridership by year⁷



At the Roots: Recognizing the Problem and Taking Action



View of Salt Lake City's Main Street in 1868, only 21 years after the Valley was settled by members of the Church of Jesus Christ of Latter-day Saints (Photo courtesy of the Daughters of the Utah Pioneers).

Since its founding in 1847 by members of the Church of Jesus Christ of Latter-day Saints, the Salt Lake City region has fostered a culture of long range planning. Brigham Young—Church President and first territorial Governor of Utah—sought to employ a city planning methodology of a street grid design containing bounding ten-acre blocks, with enough street space for a wagon to turn around.¹²

As the automobile became prominent in American culture, Utah's regional planning and transportation network focused on accommodating it. This served the region well, but as growth projections grew, community leaders began to realize there was only so much traffic that expanded highways could handle before congestion grew worse. These leaders looked to public transportation options to help supple-

ment the area's transportation capacity and accommodate growth without the need for additional highways or parking structures. The original design and layout of Salt Lake City provided enough space for planners to consider running a rail network on wide city streets.

Creating a plan of action for transit proved to be difficult. During the initial development phases of the project, planners learned that 80 percent of the population had ready access to a car, suggesting that significant growth in transit ridership would have to come from riders who chose to take transit rather than those who were dependent on the system at that time.¹³ To address this challenge, UTA researched methods and modes of transportation that would be best suited for the region. After extensive studies, UTA deter-



Brigham Young, President of the LDS Church (1847-1877) and first territorial Governor of Utah.

mined that a light rail system would provide the best possible service.¹⁴

While the region's planners now had the beginnings of a plan for transit expansion, UTA had not yet acquired the two crucial things necessary for any major transportation project: funding and broad public support. In 1992, regionally elected officials supported a referendum seeking funding for transit. Included in the referendum was an increase in the sales tax to fund projects that would expand bus service and build a light rail line. Public sentiment regarding the light rail project and its high cost, however, ultimately resulted in the referendum failing.

Undaunted, leaders pursued alternative funding methods that would reduce the local subsidy required. Looking to the federal government, local leaders found their solution. In 1997, UTA was approved for a U.S. Department of Transportation (USDOT) grant to cover 80 percent of the costs of the first light rail line through the Federal Transit Administration's (FTA) New Starts program. UTA was able to fund the remaining 20 percent of the project using rainy day savings acquired through a committed transportation sales tax and fare box revenues.

Concurrently, Envision Utah, a local non-partisan think tank founded and led by Robert Grow, placed Utah's regional growth as its leading concern. Born in the late 1980's to combat fallout from the recession, the organization discovered that the positive growth rate Utah was experiencing in the 1990s had the potential to negatively impact Utahns' quality of life without proper planning.¹⁵ Prompted by this realization, Envision Utah sought to create a plan for regional growth that would look to the future and genuinely represent the interests of the region's constituents.

UTA and Envision Utah became natural partners in their mutual desire to prepare for the future of the Salt Lake City region. UTA continued to push to bring light rail to the region, while Envision Utah reached out to the community for involvement, consensus building, and support for transit expansion and funding.

As Brenda Scheer of the University of Utah noted, the opportunity for various groups and stakeholders to come together and discuss what they wanted and needed in transportation into the future was a unique occasion. This bond played a major role in the success of both organizations and their ability to reach their goals.

Stakeholders: Dealing With Opposition



In 1992, regionally elected officials supported a referendum seeking funding for transit. Included in the referendum was an increase in the sales tax to fund projects that would expand bus service and build a light rail line.

From the outset, many area residents held the opinion that light rail—or transit expansion in general—was not the best choice for the region, and some even vehemently opposed it. Concerns arose from the community about the cost-effectiveness of rail, its impact on congestion, neighborhood impacts, and issues with trains sharing the same road as automobiles.

UTA recognized this disparity and sought to mitigate some of the community apprehensions, such as the concern that trains would increase street congestion. In September 1990, UTA conducted a simulation to determine how the addition of light rail to the area would impact traffic, temporarily blocking intersections during rush hour as a train would.¹⁶ Contrary to public expectation, traffic flowed normally after the simulated train passed, demonstrating the minimal

adverse impact the proposed system would have on traffic congestion. Opposition, however, remained vocal.

Lack of full constituent support was highlighted with the rejection of the 1992 referendum to provide funding for the project. While this first referendum failed, UTA found itself in a unique situation. They had already negotiated the purchase of 25 miles of railroad right of way for \$25 million dollars. While light rail did not have strong support at this time, they decided that they should purchase the right of way anyway, as it could, and did, play a key role in the expansion of any mode of transportation.¹⁷ By 1994, the UTA board was forced to take a vote on a resolution allowing continued work on the light rail project. While a number of board members opposed the project, the resolution passed, allowing the light rail project to continue.¹⁸

When Envision Utah entered the conversation in 1995, it also contributed to the process of shifting public sentiment. Through education, community engagement, and tactful efforts to gain community buy-in, Envision Utah played a pivotal role in gaining support for light rail. Envision Utah effectively garnered community approval and unanimous backing from the council of mayors. The plan was presented not as a transit expansion plan, but rather a transportation plan involving several different modes, demographics, and solutions to expected challenges facing the region.

In order to provide the highest level of transportation infrastructure and to meet the needs of its constituents, UTA relied on internal studies to better understand what was needed to provide the best mobility possible to the region’s residents. After reaching the decision to pursue light rail, UTA embarked on the long process of building public support. Through the support of the board, the state legislature, local leaders, and Envision Utah, UTA was able to collect a critical mass of support by opening day of the first TRAX line.

Project System	Line	Operational Year
TRAX	North South	1999
TRAX	University Line	2001
TRAX	Medical Center	2003
FrontRunner	Weber County to SLC	2008
MAXBRT	Salt Lake Intermodal Extension	2008
TRAX	3500 South Street	2011
TRAX	Mid Jordan	2011
TRAX	West Valley	2011
TRAX	Provo to SLC	2011
FrontRunner	Airport Extension	2011
TRAX	Draper Extension	2013
TRAX	Sugarhouse	2013

Table 1: Projects Completed or Under Constructions by UTA¹¹

Speakers & Panelists

Lane Beattie

President and Chief Executive Officer
Salt Lake Chamber of Commerce

Robert Bennett

Former U.S. Senator (R-UT)

Robert Grow

Founder
Envision Utah

Teri Newell

Director, Mountain View Corridor Project
Utah Department of Transportation

Steve Meyer

Chief Capital Development Officer
Utah Transit Authority

JoAnn Seghini

Mayor
City of Midvale

Michael Robertson

Managing Owner
MLRobertson

Joshua Schank

President and CEO
Eno Center for Transportation

Brenda Scheer

Dean
College of Architecture and Planning
University of Utah

Phil Washington

General Manager
Regional Transportation District (Denver)

Envision Utah: Consensus Building



Downtown Salt Lake City.

While UTA moved forward with the light rail project, many unanswered questions and a lack of understanding of how UTA's light rail project fit into the overall plan and future of the Salt Lake City region still characterized much of the community discussions. Envision Utah sought to engage the community in an open and honest discussion of what the community hoped to be in the future. In order to do this, they created a planning strategy, shown in Figure 4. Envision Utah's approach to understanding the community values and vision began with dozens of public workshops and meetings. In these meetings, organizers described the region's expected growth based on four scenarios relating to transportation, land use, and the environment. The scenarios included the following:²⁰

- **Scenario A:** Development of dispersed single-family homes on large lots; transportation expansion would continue to be auto-centric.
- **Scenario B:** Slightly less dispersed than Scenario A, with slightly smaller lots; transportation would focus on the automobile with some transit improvements.
- **Scenario C:** A new focus on walkability; focus a portion of growth in already urbanized areas to maintain agricultural land and open spaces; significant expansion of transit options.
- **Scenario D:** Take Scenario D one step further, focusing

more growth on already urbanized areas; aggressive rail transit investment, giving 1 million people access to transit within 1,000 steps.

These scenarios were analyzed in terms of land consumed, agricultural impacts, costs, emissions, vehicle-miles-traveled, housing opportunities, and other key factors. The results of the scenario analysis were used to inform a public engagement campaign led by Envision Utah. Included in this campaign was a survey appraising the public's opinion on the four scenarios analyzed. In total, about 17,500 residents participated.²¹ It was determined the general public perceived Scenario C to be the best option.²²

These scenarios, however, did not discuss a specific mode of high capacity transit. Yet, given that the light rail system was already under construction, it was clear in the minds of public officials that light rail was the preferred mode of transit, in part due to ample street space for rail. The need to attract choice riders with what those participating in the public saw as a preferred alternative to buses helped to reinforce this preference. Their method of offering stakeholders different options for the future of their community led the stakeholders to reach the same conclusion UTA already had. Envision Utah was able to gain this support to help promote the expansion of the TRAX network.

Values ⇨ Vision ⇨ Strategy ⇨ Planning ⇨ Funding ⇨ Construction

Figure 4: Envision Utah Planning Strategy¹⁹

Planning, Planning, Planning



Eno President and CEO Joshua Schank, Lane Beattie, President and CEO of the Salt Lake City Chamber of Commerce, Midvale City Mayor JoAnn Seghini and Robert Grow, Founder of Envision Utah, discuss cooperative efforts during the June 20, 2012 forum.

Planners knew that securing right of way was a vital element in making a transit network vision a reality. In an unconventional move, UTA officials began acquiring portions of unused or lightly used rail corridors prior to actually determining the preferred alignments. These existing rights of way had the potential to give the light rail, commuter rail, and future corridors a direct and inexpensive way to access communities in the region. Michael Robertson, Managing Owner of MLRobertson, noted at the Eno conference, “Completing the negotiations with the railroad before we really had everything in place was sort of unique. Most entities figure out exactly what they are going to build then go to the railroad and talk about how they are going to buy that.”²³ Mr. Robertson, among others, saw that purchasing before planning had the potential to greatly simplify the future transit planning process.

Some of the rail corridors purchased included the entire right of way of an abandoned rail line while others were portions of existing busy freight corridors that traverse the region. One of the most complex and important rail cor-

ridor purchases was on the Union Pacific (UP) line that runs north and south through the region. This corridor is a highly traveled freight line with little existing capacity to run commuter trains. Planners knew, however, that commuter rail options would be much easier for UTA if they owned the line and could manage the operations instead of operating on privately held tracks. UTA began negotiations with the railroad to purchase an unused portion of their wide right of way corridor. During this process UTA leaders were careful to take the time to understand the nature of the rail business by meeting every six weeks at UP’s headquarters in Omaha, Nebraska, in order to reach an agreement.

Maintaining strong controls over expenditures was an important part of establishing trust in UTA’s stewardship with public funds. Before the initial TRAX roll out, UTA purchased used rail cars, saving millions of dollars. UTA converted an unused warehouse into a maintenance facility instead of constructing a new building. Further, UTA was aggressive in applying for and securing federal grants to reduce the cost for local taxpayers.

The World Comes to Utah: The Role of the 2002 Winter Olympic Games

The “Light the Fire Within” theme was expressed in 250,000 square feet of stylized athlete images towering across the downtown skyline and spanned the bleachers of all the outdoor venues during the Salt Lake 2002 Winter Olympic Games

(Photo courtesy of designarchives.aiga.org).



Salt Lake City’s selection in 1995 to host the 2002 Winter Olympic Games played a role in accelerating the transit system’s construction and expansion program. The Olympic Games were used as a justification to push a number of projects, including improving Interstate 15 and regional bridges, and building the initial TRAX line. The Olympics were used to rally support for securing federal grants in a manner that would allow the first lines to open before the start of the Games. Although they were used to provide a sense of urgency, the Olympics played a relatively minor role in the overall support and funding to build the system.²⁴ At the Eno conference, former Senator Bob Bennett (R-Utah) noted, “the Olympics are not what got us the FFGA [Full Funding Grant Agreement with the FTA]; we got it on the excellence of the work done by UTA.” While the Olympics did not seal the deal on the success of the first TRAX line, they did help nudge the process forward.

The Success of the First Line

The first TRAX line opened on December 4, 1999.²⁵ Prior to opening there were concerns in the community that riders might not come, but approximately 45,000-50,000 people,

twice the amount of projected riders, rode the TRAX line on opening day.²⁶ Over the next year, the ridership continued to grow beyond expectations. In part due to the success of the first line, voters approved a tax hike in November 2000 for increased funding for public transit.²⁷ From the regional animosity surrounding light rail in the Salt Lake City region in the 1990s, Utah entered the 21st century with overwhelming transit support. UTA Board member Monta Rae Jeppson told *The Deseret News* in 2000, “Our first commitment over anything else should be our commitment on the extensions of light rail and commuter rail and the bus service because this is what the people want.”²⁸ Public transit appeared to be in Utah to stay.

The success of the first TRAX line led to immediate plans to expand the existing service. Instead of voicing concerns and opposition, cities and neighborhoods began requesting that lines and stops be constructed in their area. With each constructed project, federal funding diminished and local funding increased. Funding and the public’s desire to grow the network continue as projects continue to be constructed.

Money From Above: The Role of the Federal Government



“Facts can do wonderful things. Sound presentation and analysis can accomplish a lot,” said former Senator Bob Bennett (R-Utah) during lunch at the June 20, 2012, forum in Salt Lake City.

The federal government and the use of the FTA New Starts discretionary grant program played a major role in completing the UTA system expansion. For the transit expansion projects prior to the 2008 Frontlines 2015 program tax revenues, UTA was able to raise \$1.1 billion in federal grants, accounting for a combined 78 percent of the total funding for these projects. For Frontlines 2015, UTA received \$2.3 billion in federal funding, which accounted for 24 percent of the total project cost.²⁹

During his first campaign in 1991, Senator Bennett met with UTA General Manager John Pingree who laid out the long-term vision of UTA and the problems that the region was going to face with the increased population growth. Senator Bennett was skeptical and insisted that “in order for [mass transit] to work, you need to have the mass that needs to be transited.” Through this encounter and subsequent

meetings, informed by multiple analyses, UTA successfully demonstrated to Senator Bennett how mass transit was an important piece of the puzzle necessary to accommodate future growth. At the Eno conference, Senator Bennett noted, “The first thing that John Pingree did was convince me the mass was there. And indeed the mass was there in a sufficient point A to point B kind of thing.” From that moment on, Senator Bennett was an important champion for the rail projects.

Equipped with supporting information, Senator Bennett focused on navigating the federal waters to find funding to complete the local initiative. While multiple transit opponents approached him to stop the project, he told them that as the federal representative he was not in a position to oppose the locally approved project. Senator Bennett and his colleagues were helpful in pressing the need and convinc-



The federal government funded 80 percent of the first rail line, with diminishing federal share for each additional project. Future lines were completed with significantly less federal funding and increased local funding, showing this initial federal investment was needed to leverage the local funds for the remainder of the construction.

ing federal lawmakers and the United States Department of Transportation to provide funding for the project.

A number of circumstances facilitated UTA's ability to successfully secure federal dollars. UTA provided sound analysis that supported the investment, and convinced conservative senators and representatives that the project made sense. Additionally, the State of Utah published a Unified Transportation Plan, a coordinated effort that contained transportation planning information for the entire state in one document.³⁰ This unified plan was helpful in securing grants at the FTA, and other federal agencies gained confidence that Utah was united in what it was doing.

Federal dollars often make or break a project as they are able to push a project toward completion, especially in the case of

a new, untested system. Though securing federal grants can be a complicated, multi-year process, they were essential to building the first UTA TRAX line. Envision Utah President and CEO, Robert Grow, commented, "We are happy to get their [federal] money and work within that system."

The federal government funded 80 percent of the first rail line, with diminishing federal share for each additional project. Future lines were completed with significantly less federal funding and increased local funding, showing this initial federal investment was needed to leverage the local funds for the remainder of the construction. In part due to Senator Bennett's leadership, among others, UTA was able to successfully take advantage of federal transportation grants, without which the project likely never could have been completed.

Frontlines 2015: Alternative Contracting and Land Development



Lane Beattie, President and CEO of the Salt Lake City Chamber of Commerce, answers attendee questions about his organization's role in the UTA expansion.

The largest hurdle of the first 70 miles of TRAX was overcoming the political barriers. For the Frontlines 2015, the second 70 miles of rail, UTA was tasked with maintaining its strong record for delivery. Both innovative contracting and private land development have led to money savings and spurred mutual benefits that have helped make this expansion exceed expectations.

The bottom line for UTA was delivering the projects by 2015; this was non-negotiable. In order to reach this ambitious deadline, UTA leaders applied lessons learned from the construction of the first 70 miles of rail. The key lesson was to obtain the pieces of the project up front: the rail right of way, the rail cars, and the materials. By gathering these materials ahead of time, UTA was able to take advantage of lower prices and avoid future delays. Another key component of Frontlines 2015 was treating it as one project rather than five individual projects. This allowed UTA to take a bird's eye

view of all of the moving pieces of the projects and effectively capitalize on their capacity and resources.³¹

Frontlines 2015 used two types of contracting; the more traditional method was used for the portions funded through federal grants, and an innovative method was developed for the remaining projects.³² For these portions, UTA planners completed the design and planning while independent contractors performed the actual construction. This alternative method helped to boost performance for the contractor and for UTA. Within the contracts, UTA placed specific incentives aimed at ensuring that both sides did well. Under this scheme, contractors received feedback directly from UTA as well as the community and other entities, including the Union Pacific Railroad.

This feedback, as designated by the contract, determined how much bonus compensation the contractors received.



Effective use of private-public-partnerships helped to keep UTA ahead of schedule and under budget, and enabled transit oriented development.

These performance-contracting measures played a crucial role in expediting the project delivery and reducing overall costs.

The performance contracting also went the other way as UTA was tied to specific performance measures. For various projects UTA was able to secure over 1,000 parcels of land without using eminent domain powers, which greatly expedited the process and was very helpful to the contractors. Because of this, the contractors gave back \$1 million to UTA as a reward for above expected performance. In the end, this process saved UTA \$10 million and was essential in keeping costs of the projects low. The cost of building the Front Runner system was only \$13 million per mile on the north line and \$20 million per mile on the southern line, both below the national average.³³ This price tag and the methods of sharing and incentivizing risk employed proved to be competitive with projects around the country.

As part of the planning process, the contractors and organizations involved jointly managed the project's risks. Performance contracting helped to improve the dynamic of this management and greatly reduced the risk of costly litigation. Incentives and risks were given to the respective party that had the most control over the issue. Performance contracting also allowed for flexibility when contingencies arose. During the Eno conference Steve Meyer, UTA's Chief Capital Development Officer, said, "You are never going to have a no-risk

project." Even when all foreseeable cautions are taken, things come up. This became tangible during transit construction when UTA workers unearthed a Native American village site, which resultantly took nine months to preserve and move. During this time the project was able to concentrate on another section and later return to the delayed portion. Because of the flexibility provided in the planning and contracting of the project, UTA was able to efficiently move forward with their project despite this unforeseen discovery.

The private sector also played a crucial role in the investment and land development around stations. Planners recognized the link between transportation and land use, and designed a system to encourage private investment to take advantage of the new transit accessibility. Since 1999, there has been over \$7 billion in investment near transit stations, increasing the density of destinations around stations, helping to increase ridership.³⁴ Many new businesses that have located in the Salt Lake City region have chosen to be near one of the new or existing rail lines, demonstrating that they value transportation options for their employees.³⁵

Effective use of private-public-partnerships helped to keep UTA ahead of schedule and under budget, and enabled transit oriented development. These relationships have added to the effectiveness of UTA as well as the utility of the fixed stations.

Another Perspective: Denver

A similar and successful transit expansion is also happening right next door to Utah. Denver, Colorado's Regional Transportation District (RTD) has also demonstrated success in local transportation initiatives through constructing 122 miles of new commuter and light rail, expanding an existing 50-mile system. RTD has emphasized TOD and has been able to receive partial private sector financing to expand the light rail lines faster than originally planned. According to RTD General Manager Phil Washington, the current expansion and rebuilding of the infrastructure is not simply a transportation plan but also a restructuring of the city's economy.

To finance their expansion, titled the Eagle 3 FasTracks project, Denver employed a "three-legged financing stool" that relies on local

sales tax, federal grants, and private sector investment. The private component was used as a financing tool, where companies made the investment up front on the expectation that future revenue from fares and taxes would pay off their debt. This has been the first project in the country of this kind.

Additionally, new station development associated with the project sparked debate over the merits of TOD versus commuter parking lots. Planners pushed to look at value beyond passengers and their revenue, to the value of new development

at stations and its contribution to the future of the transit agency. Washington remarked that the current period in Denver is transformational. Like Utah, Denver has gone beyond the standard framework and has sought to uncover new ways to fund and think about local transit expansion.

Something is really happening in this country in terms of infrastructure build-out
- Phil Washington



The success of the first TRAX line led to immediate plans to expand the existing service. Instead of voicing concerns and opposition, cities and neighborhoods began requesting that lines and stops be constructed in their area.

Lessons Learned



Utah Transit Authority Michael Allegra presents the UTA story to attendees on June 20, 2012, in Salt Lake City.

Successful transit expansion is the result of calculated planning, political atmosphere, and deliberate execution. A number of abstract factors may have contributed to Utah's expansion including a rapidly-growing population and the 2002 Winter Olympics. While these influences may not be easily replicated in every region in the country, much can be learned from the concrete elements of the transit expansion program in Utah. The following are lessons from the experience that can be applied to other regions hoping to make successful investments in transportation.

Be persistent in implementing a plan that is backed with strong analysis

In the late 1980s, UTA identified a problem and sought to

develop a solution. After extensive research and analysis, they determined light rail was the best possible way to provide for the population growth and future transportation needs of the Salt Lake City region. However, at the time light rail was politically unfeasible due to its high cost, perceived safety concerns, and its potential adverse impact on traffic. Acknowledging this challenge, UTA was not discouraged. They spent more than a decade telling and retelling the story of the future of Utah and how and why light rail was an integral part of that vision. Slowly UTA was able to gain public buy-in and were able to construct a transportation system that meets the needs of those who use it. Sound analysis coupled with an effective public campaign can bring the public and elected officials around to a good investment idea.



After the first line opened, Utah taxpayers were able to see the value of the transportation project and how it fit into the future of their region.

Be Proactive in Securing Federal Funding

A barrier to expediting the project, especially the first rail line, was lack of funding. UTA initially sought to fund the project through a referendum for a tax hike. This referendum failed and left UTA without the capital to execute the project. Through efforts spearheaded by Senator Bennett, in 1997 UTA received a New Starts grant for 80 percent of their first rail line. This grant was the key to the construction of the first line as it required no tax hikes for a local match. After the first line opened, Utah taxpayers were able to see the value of the transportation project and how it fit into the future of their region. Federal funds have also been granted for each subsequent rail expansion, but with new local taxes covering the majority of costs. Federal funding for new projects can help to shift some of the risk away from the localities, enabling bold new ideas that might not otherwise move forward.

Create Strategic Partnerships

UTA would not have been able to accomplish this comprehensive transit overhaul without the support of outside entities. From the beginning, UTA worked diligently to gain support from elected officials. Once the support was earned, these elected officials championed UTA's project to their shared constituents. Through identifying agenda crossover with Envision Utah, UTA and the high level officials created

an on-the-ground partnership. Each supporter worked in a different capacity to raise funds, gather support, and strategically plan the execution of the light rail project.

Employ Innovative Project Delivery Methods Such As Performance-Based Contracting and Risk Sharing

UTA used innovative contracting and risk sharing agreement that helped both UTA and its contractors to find ways to speed project delivery and cut costs. With a negotiated set of financial incentives, all involved parties were motivated to find ways to save money and cooperate, cutting millions of dollars and many months off of the project's budgets and timelines. This helped to maintain public confidence in UTA and provide more funding for future expansions.

Develop a Plan That Allows For Flexibility Under Unforeseen Setbacks

Because of the flexibility provided in the planning and contracting of the project, UTA was able to efficiently move forward with other aspects of the project when various setbacks occurred. In many cases, lawsuits, miscalculations, or other unforeseen obstacles can halt work and cause delays. Creative planning methods can, in many cases, allow work to continue on other aspects of the project, helping to keep the project within its timeline.

Conclusions

“We’ve gone from zero rail transit in 1999 to close to 140 miles come next year,” Michael Allegra, General Manager of the Utah Transit Authority, told forum attendees.³⁶



The challenges the State of Utah faced in the 1990s are not unique. Cities across the country have been working to strengthen downtown areas and address congested transportation systems. Media has put a voice to transportation project problems, often highlighting investments that are expensive, politically charged, and that result in a cost that is millions more than originally projected. Yet, in the midst of this challenge, some regional transportation entities have stepped up and demonstrated that it is possible for public authorities to make wise, sustained, and effective investments in public transit. Among these is the Salt Lake City region, an area that has beaten the odds by successfully developing and maintaining a new transportation system despite numerous fiscal and political challenges.

UTA’s approach to these challenges is unique. Instead of taking the path of least resistance, UTA chose the path with the best possible outcomes for the residents across the Salt Lake City region. Through UTA’s persistence, the use of fed-

eral funding, strategic partnerships, and performance based contracting and risk sharing, UTA was able to construct and open and transportation that was completed ahead of schedule and under budget.

Joshua Schank, Eno’s President and CEO, closed the Eno conference by reminding attendees, “States and regions around the country are realizing that they are going to have to act and they are realizing that they want to determine their own fate and their own future.”³⁷ UTA successfully worked within the existing funding and project delivery framework to develop a transit system that addressed the local needs and fit within the standards of the community. The Frontlines 2015 program was designed to complete the five remaining transit expansion projects by 2015. By August of 2013, the program was completed and all projects were in full operations. This remarkable feat provides a template for transit providers across the country to learn from.

End Notes

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About Eno

The Eno Center for Transportation is a neutral, non-partisan think-tank that promotes policy innovation and leads professional development in the transportation industry. As part of its mission, Eno seeks continuous improvement in transportation and its public and private leadership in order to increase the system's mobility, safety and sustainability.

The leader in its field for nearly a century, Eno provides government and industry leaders with timely research and a neutral voice on policy issues. Eno's Center for Transportation Policy (CTP) publishes rigorous, objective analyses on the problems facing transportation and provides ideas for and a clear path toward possible solutions. CTP also publishes a monthly transportation newsletter that reaches 2,000 individuals directly plus another 40,000 through the Transportation Research Board. CTP's policy forums bring together industry leaders to discuss pressing issues and hear from top researchers in the field. Through its professional development programs, the Center for Transportation Leadership (CTL), Eno cultivates creative and visionary leadership by giving public and private transportation leaders the tools and training the need to succeed together. CTL's leadership Development Conference brings the nation's top transportation students to Washington, DC, each year to meet with top practitioners in the field, while other CTL programs give transportation executives the tools they need to be successful as leaders. Since its inception, CTL has instructed over 3,000 transportation professionals.

Eno was founded in 1921 by Williams Phelps Eno (1859 - 1945), who pioneered the field of traffic management in the United States and Europe. Mr. Eno sought to promote safe mobility by ensuring that traffic control became an accepted role of government and traffic engineering a recognized professional discipline. His "Rules of the Road", adopted by the City of New York in 1909, became the world's first city traffic plan. He also wrote the first-ever manual of police traffic regulations. In 1921 he chartered and endowed the Eno Center for Transportation to attract transportation experts and specialists, and to provide a forum for unbiased discussions that would lead to improvements in the movement of people and goods.

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Eno Center for Transportation
1710 Rhode Island Avenue, NW, Suite 500
Washington, DC 20036
www.enotrans.org