

UTA: *FrontRunner* and Beyond

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FrontLines: 70 Miles of Track in 7 Years

Background

The Wasatch Front is experiencing rapid population growth which is burdening the transportation infrastructure and threatening the region's economy and quality of life. According to Utah Governor Huntsman in his recent State of the State address, "As the third fastest growing state in the country, we are adding an astonishing ten people an hour to our population of 2.7 million."

The 125-mile long narrow corridor is one of the fastest growing in the nation, in terms of population and travel. The Wasatch Front population increased 30 percent from 1990 to 2000, 2.5 times faster than the nation as a whole. In the same period vehicle miles traveled increased 66 percent while highway capacity increased by only 12 percent.

Utah Transit Authority (UTA) opened its first 17-mile light rail line less than ten years ago.

We have since opened two more light rail lines and our first commuter rail line, tripling our rail network in less than ten years. We are proud to be one of the most cost efficient systems in the country. But it's not enough: we are on an aggressive path to double our rail system again by 2015, and our local leaders are already talking about the need for more transit.

Utah has recognized that we are facing a transportation crisis, the ramifications of which go beyond mobility and threaten our economic vitality. The business community in Utah, led by the Salt Lake Chamber, supported the 2006 transit referendum in Salt Lake and Utah Counties, recognizing the transportation crisis and its connection to our economic development and quality of life. Although we are investing over \$7 billion in

highway and transit projects - probably the largest local transportation investment in the country - we are only one-third of the way to meeting our \$23 billion in needs.

More than 80 percent of the state's residents live within Utah's primary urbanized area, called the Wasatch Front, and are serviced by UTA. With Salt Lake City located in the center, the Wasatch Front is geographically constrained by a large mountain range to the east and either the Great Salt Lake or other mountain ranges to the west. This geography has produced a natural linear transportation corridor that spans 120 miles in length and ranges from 2 to 15 miles wide.

During the 2002 Winter Olympics, UTA carried more than 4 million riders in 17 days and was heralded as the best ever transportation system for the Winter Games. Not only did the games give us a unique perspective on public transit, more importantly, it taught us that our transportation issues were solvable by intense cooperation between local and federal agencies.

Development of our rail system has created more than \$4 billion in transit oriented development. Utah is experiencing a transit renaissance.

The rapid growth in our system has been financed by a combination of local and federal funds. UTA has approximately tripled its local revenues in the past 7 years through two locally approved referenda. We have secured four Full Funding Grant Agreements from the Federal Transit Administration (FTA).

The transportation needs in Utah are real and significant. To put off this investment would only exacerbate the state's mobility problems, congestion and constraining impact on economic development. Every dollar raised can be spent on legitimate and useful purposes.

Strong Local and Federal Support

UTA has successfully built all four New Starts rail projects ahead of schedule and under budget. Just over a month ago, with help from FTA, we opened our first commuter rail line, running 40 miles Ogden to downtown Salt Lake City. We completed the project six months ahead of schedule and on budget, and ridership is above projections and growing.

This has happened by a focus on fiscal constraints and an excellent relationship with our metropolitan planning organizations, the Utah Department of Transportation, our congressional delegation, the FTA, the business community, contractors and their associations, labor unions, the disabled community and all stakeholders.

These partnerships, fostered over the last five years, have led to an aggressive *FrontLines 2015* program to complete 70 additional miles of rail in the next seven years. This accelerated program is possible due to the local support we received with the passage of our 2006 referendum, and the support of FTA Administrator Simpson and the innovative Memorandum of Understanding we have signed with FTA to expedite the federal funding.

Picture 1. FrontRunner Commuter Rail



The “FrontLines 2015” program includes four light rail lines, comprising 28 new miles of light rail, more than doubling the current system. The plan will also add 45 miles of *FrontRunner* Commuter Rail south into Utah County to complement the *FrontRunner* north which was completed for revenue service on April 26, 2008.

Current non-rail portions of the plan include Bus Rapid Transit in Salt Lake and Utah counties, fixed guideway transit improvements in Weber and Davis Counties, Intermodal Centers in Salt Lake City and West Valley City, rebuilding a major rail bridge, as well as bus/rail integration improvements as the lines come into revenue service. Future 2015 non-rail projects in the

planning stage include transit for the Mountain View Corridor, Intermodal Centers for Provo and Orem and an additional light rail maintenance facility.

Picture 2. TRAX Light Rail.



UTA Management

The UTA staff management expects to deliver a program on time and within budget that meets the UTA Board objectives and the community’s broader goals. Management has created efficient internal and external processes and mechanisms to make decisions in a timely manner. We also are implementing a communication program developed and refined over past projects, to inform the community and project stakeholders concerning project progress and to facilitate decisions affecting delivery of the work.

While building a safe, bare bones, no-frills project, management will also work together to create mechanisms that develop a collaborative atmosphere throughout the project team, stakeholders and UTA as a whole. The schedule goals include the opening of the full 70 miles of rail for revenue service by 2015.

The UTA management strategy encourages decisions being made at the lowest possible level through effective delegation of authority. Our solution-oriented staff of co-housed UTA employees and contractors form a partnership with UTA set goals at the focus. The qualified and experienced staff is organized by project line and, along with support staff, is housed at centrally located Frontlines Headquarters in downtown Salt Lake City.

While adhering to the Project Management Plan, staff also relies on the Integrated Project Control System (IPCS) to measure their progress toward budget and schedule goals.

Co-Locating Employees and Contract Staff

Co-housing UTA staff and various consultants and contractors and even stakeholders is an idea initiated in the first 15-mile TRAX project and proven in every rail project since. UTA is so committed to this plan that a very large office was purchased and rehabilitated to house the expected 400 plus employees working on the *Frontlines 2015* project. We have become convinced of the value of minimizing coordination difficulties within this group by minimizing the physical distance between the entities involved in the project. We have found such action will create simplified lines of communication, foster team spirit, breakdown perceived barriers between the entities, accelerate resolution of issues and result in more efficient project execution.

It has been our experience that problems at all levels are generally addressed in scheduled and face to face impromptu meetings that result in accelerated resolution. The causal interactions over lunch or planned partnering activities such as our annual ski day play an important role in the day to day function of the project organization.

This co-location has proven to be more effective and cost efficient than traditional arrangements in which project participants are located in physically separate facilities making communications more difficult, allowing the potential loss of project focus and contributing to a significant loss of effectiveness and proficiency.

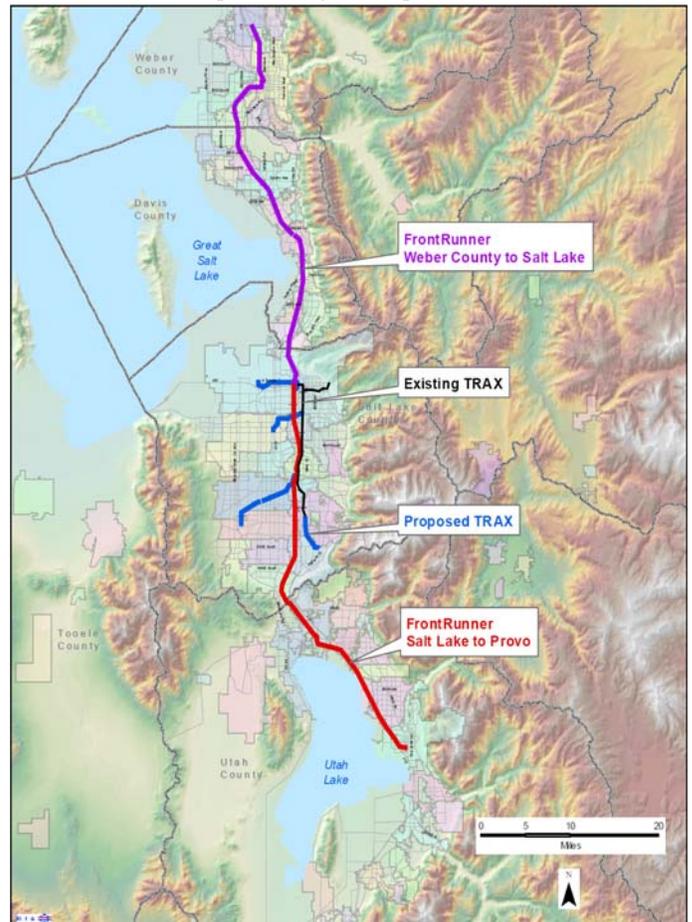
FTA Memorandum of Understanding

The building of 30 years of transit projects in seven years takes a lot of innovative cooperation on several fronts.

First, Utah Transit Authority had to deliver. We won over skeptics by delivering a popular project on time and within budget with our first North South TRAX line. The majority of our public stakeholders approved of what we had built and trusted our plans for the future so they demonstrated their confidence at the polls in 2006 with a transit sales tax referendum that won by 69% in one county and 63% in the other.

With that vote the public directed UTA and its partners to pursue the additional Federal funding to allow for the *Frontlines 2015* program to be built.

Map 1. Existing and Proposed Rail



It was important to UTA that the public thought of the five lines as a single project that would benefit the community as a whole instead of thinking by county or individual community. Hand in hand with that, was approaching the FTA with a plan that considered the rail program in its entirety while allowing for certain aspects of the project to receive specific Full Funding Grant Agreements. This required innovative planning on the part of UTA executive management and a FTA

administration that was open to new concepts in New Starts development.

With a stunningly unique financial plan in his pocket, John English, General Manager of UTA, and staff members from the capital development department scheduled a meeting with James Simpson, FTA Administrator and his staff. It is important to note that the financial plan for the *FrontLines 2015 Program* did not follow the traditional approach used by project sponsors requesting New Starts funding.

In August 2006, at FTA office in Washington, DC, the presentation was made. The proposal was that a New Starts Grant be approved between UTA and FTA on the *Frontlines 2015* project as a whole, with FFGAs on two of the light rail lines, Mid-Jordan and Draper, which would make the total federal commitment 20% of the project. By securing funding on the entire project, UTA estimates that accelerating these rail projects will save at least \$900 million in construction costs.

We left the office hoping for a response within six months, we got our answer in six hours. FTA and Utah have signed an historic Memorandum of Understanding (MOU) on August 14, 2007, that covers UTA's plans to build 70 miles of light and commuter rail by 2015. This program of projects will cost \$2.85 billion, of which the FTA would provide \$570 million.

Typically, project sponsors requesting FTA New Starts funds submit a financial plan for one project. However, based on the MOU, UTA is submitting a financial plan that documents the agency's capacity to implement the five project program. Funding for these projects as defined by the MOU would reflect:

- UTA using local funds and non-federal funds pays 80 percent of project costs.
- FTA providing New Starts funding at up to 20 percent of the total program costs.

Administrator Simpson recently related the details of this agreement at the APTA Annual Conference in Charlotte, North Carolina, saying, "Now, I tell you this because I think it signals a shift for FTA away from focusing just on public transportation facilities and services, to focusing on our customers like John English and the UTA staff. The lesson here: **'Don't think mode, think people.'** That's become our motto."

Details of the document include UTA's commitment to scope, schedule and budget,

- Expedited review process

- Mid-Jordan Letter of No Prejudice (LONP)
- Mid-Jordan Access Plan Approval
- Authorization for Final Design (January 08)
- Full Funding Grant Agreement (June 08)

- Comparison of Federal and Local Projects

The Total Financial Plan

The FTA MOU is just the cornerstone of the complete *Frontlines 2015* financial plan which funds capital and operations projected expenses, including bus capital and operations costs, through 2030, was approved by the UTA Board. In addition to FTA funding, UTA has been successful in two referenda efforts in 2000 and 2006 to meet local obligations, as well as support from public and private stakeholders.

The long-range finance plan also includes bonding to coordinate with the cash flow needs of rail construction as well as expanded bus service. The first bonds were issued in early 2008 with periodic offerings scheduled through the next seven years.

Program Oversight

The combining of rail lines governed by federal funding requirements with lines that are wholly funded locally into one program offers some interesting challenges and opportunities. Not the least of these opportunities came in the form of program oversight.

On federally funded projects the oversight is very clearly defined by FTA in the form of a Project Management Oversight Consultant (PMOC). UTA believes that the PMOC program is valuable to a project in many ways and wanted to make sure that the locally funded parts of the program enjoyed those same benefits.

The idea for a System Management Oversight Consultant (SMOC) was born. The contract would cover the entire program (all five rail projects) and would provide oversight and review elements of all aspects of the design and construction. There are also management peer review aspects of the contract, as well as a local/federal project comparison every step of the way.

This will also give us a unique opportunity to simultaneously compare the project delivery processes for Federal vs Non-Federal projects and make specific recommendations on how to expedite our programs.

The SMOC holds regular partnering meetings with management staff in addition to the PMOC quarterly meetings.

Project Status (as of June 2008)

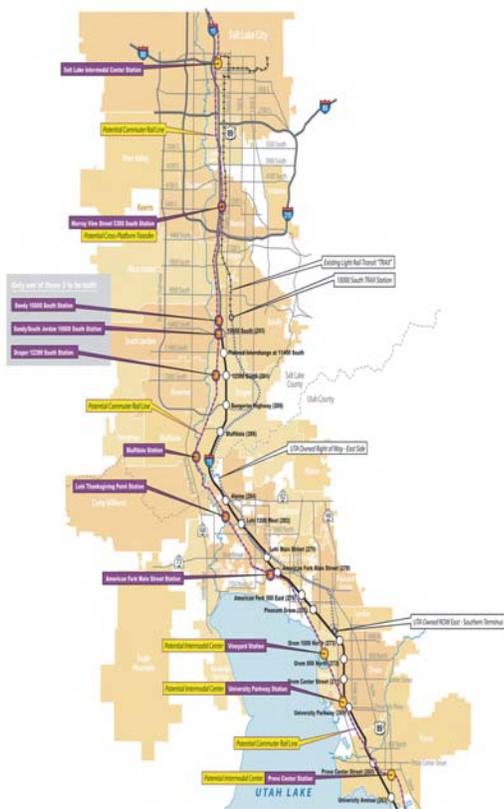
FrontRunner South

Construction has begun this spring on FrontRunner South, 44 miles of additional commuter rail from Salt Lake City south to Provo, built along UTA owned right-of-way purchased from Union Pacific Railroad. The line includes eight proposed station sites.

The environmental study has been completed for this project and the design contract has been awarded to Parsons Transportation Group. The construction management/general contractor (CM/GC) contract was won by Commuter Rail Constructors, who are also completing the first segment of commuter rail north.

Vehicles, rail and ties have already been procured for the project.

Map 2. FrontRunner South



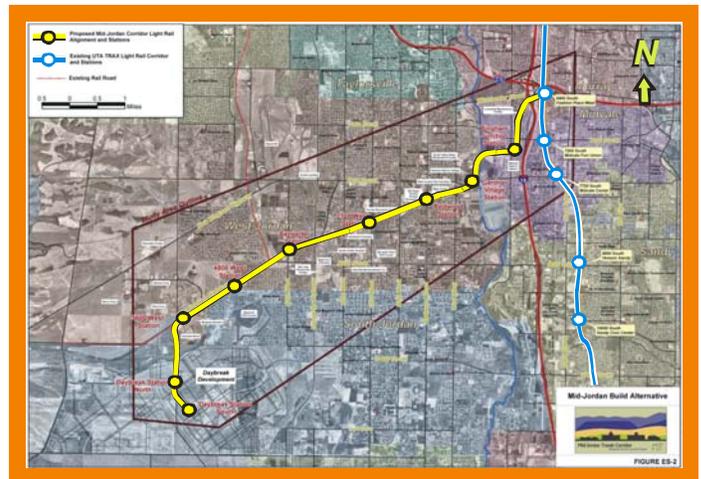
Mid-Jordan TRAX Line

The Mid-Jordan TRAX line portion of the program is a 10.6 mile line with a total of nine stations including a terminus station within a subdivision.

In a unique shareholder agreement with Kennecott Land Development, approximately one mile of the track and the terminus station will be constructed within the existing Daybreak community. Kennecott has heavily advertised this feature in the sale of the homes in this well planned, walkable, transit friendly community.

The Environmental Impact Statement has been completed for this project and a Record of Decision has been received from FTA. This project is being realized through a Design/Build contract with a team comprised of Kiewitt/Herzog/Parsons. The design is currently over 80% complete with construction activities begun in May, 2008.

Map 3. Mid-Jordan TRAX Line



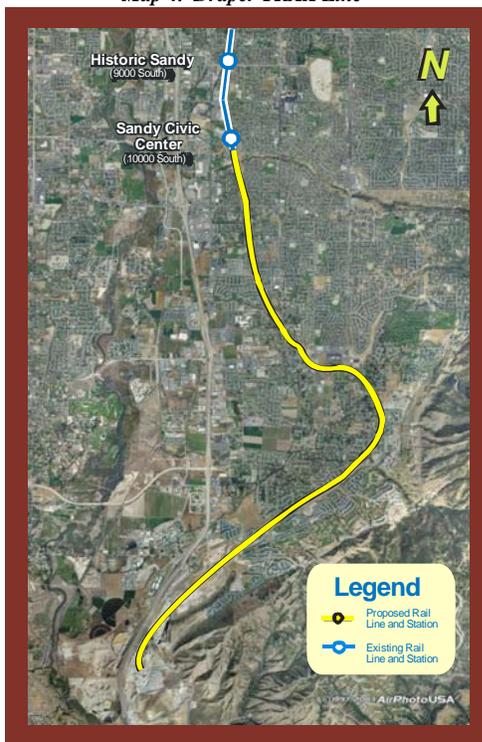
This project falls under the federally funded portion of the FTA/UTA Memorandum of Understanding. As such it has enjoyed the expedited review process and has received the FTA Letter of No Prejudice as well as access plan approval. The line has also received federal authorization for final design and we expect a Full Funding Grant Agreement by approximately June, 2008.

Draper TRAX Line

The Draper TRAX line will ultimately be 8.5 miles long, but will begin with a *Frontlines 2015* offering of 3.7 miles. The locally preferred alignment has been determined, but the stations have not, as yet.

The Draft Environmental Impact Statement is underway for this federally funded project, with DMJM winning that contract. The design/build contract was packaged with the Mid-Jordan TRAX line and Kiewitt/Herzog/Parsons will be providing this service as well.

Map 4. Draper TRAX Line



Concept Only

West Valley TRAX

The West Valley TRAX line will include five miles of track and four proposed stations. The engineering contract was awarded to Wilbur Smith and is currently 90% completed. This will be a Construction Management/General Contractor contracted job (packaged with the Airport line) and that contract has been awarded to the team of Stacy Witbeck/Kiewit. Construction is scheduled to begin during the summer of 2008.



Map 5. West Valley Line

Airport TRAX Line

The Airport TRAX Line is a six mile line with five proposed stations. Since this line was originally part of the current University TRAX Line (originally called the West/East Line) and an Environmental Impact Statement (EIS) was completed which included the Airport portion of the line in 1999. We have contracted with Carter Burgess to update the EIS for the Airport TRAX Line.

Coordination meetings with the Airport and Salt Lake City continue in an effort to ensure that the project meets all stakeholders' expectations.

The final design contract has been awarded to Wilbur Smith Associates and the combined West Valley/ Airport lines CM/GC contractor is Stacy Witbeck/Kiewit.

Vehicles

Siemens was selected as supplier for 77 low-floor, light rail vehicles. The low-floor vehicles have no stairs at the middle doors of the cars, which provides easier access for ADA and wheelchair loading directly from the platform. This eliminates the need for the "high-block" loading areas. The delivery schedule will have the first vehicles arriving in July 2010, with the final vehicle being delivered in 2012.

The MOU between UTA and FTA provides for procurement of all the vehicles required for the entire *Frontlines 2015* project by the year 2030, under one contract. Consequently, some vehicles will be delivered before they are needed. The Mid-Jordan and West Valley lines will open using only low-floor vehicles. In 2014,

UTA will transition to a mixed-fleet service on all lines, except the existing University line. The plan assumes that the mixed fleet concept will remain in place until 2030.

UTA also used great foresight in purchasing some used light rail vehicles from San Jose Regional Transit in anticipation of ridership above projections. The 29 Urban Transit Development Corporation vehicles, 15 of which have been refurbished so far, have proven invaluable on our University Line. This line can run standing loads at almost any hour of the day and extra trains are required on University football game nights. These cars are an important part of UTA's plan to increase core capacity as rising fuel prices put more and more of a strain on our core system.

Picture 3. UTDC Vehicle Before Repaint



Picture 4. UTDC Vehicle After Repaint

A total of 10 locomotives and 18 bi-level passenger cars are being procured for the FrontRunner South line. The 10 locomotives were procured by exercising an option in October 2007 with the manufacturer, Motive Power, who provided the locomotives for the Weber County to Salt Lake line. In addition, 10 Comet cars are being refurbished to support the project. Bombardier was selected to provide the 18 passenger cars (10 coach and 8 cab cars) for the line.

Picture 5. Comet Car Getting Wrapped



Maintain Current Infrastructure

In addition to expanding our system, UTA recognizes the need to maintain its current infrastructure.

For example, UTA needs to replace approximately 70 buses each year, with a replacement cost of alternative fuel vehicles close to \$35 million. Additionally, we already need to perform standard rehabilitation of much of our rail fleet.

The Federal Fixed Guideway Modernization Program, in its current form, is heavily skewed towards the "Tier 1" systems, or older rail cities. UTA recognizes that these systems, built 50-100 years ago, have significant maintenance needs.

However, we also recognize that the transit world has changed dramatically since the rail modernization program was created. Like UTA, a significant – and growing – number of rail systems have been built in just the past 10-20 years. These newer rail systems are beginning to face significant maintenance challenges as well. As such, we believe the rail modernization program should be updated to reflect this new reality and the changes in the transit industry.

Summary

The combination of political will and innovative engineering prowess can be intimidating. Sometimes we need to be reminded that the United States put a man on the moon over twenty-five years before it occurred to us to put wheels on suitcases! President Kennedy said “Jump”, some NASA engineer said “how high?” and the rest is in the history books.

While UTA specializes in adherence to budget through the use of off-the-shelf, proven technology, I need to stress that there is plenty of room for innovation in program packaging, funding plans and the development of construction contracts. It is UTA’s opinion that a taxpayer funded, public transit authority is not the place to test pilot new technology.

We have always stressed, in our conservative state, off-the-shelf, proven technology. However, within that framework we certainly want the most modern, ADA friendly, environmentally aware, tested transit systems that we can afford.

It has often been said that “Nothing succeeds like success” and in Utah we have proven that successful public transit ideas bring forth the opportunity for more public transit. The first, most important step in rail success, as far as the public is concerned, is bringing the projects in on time and within budget.