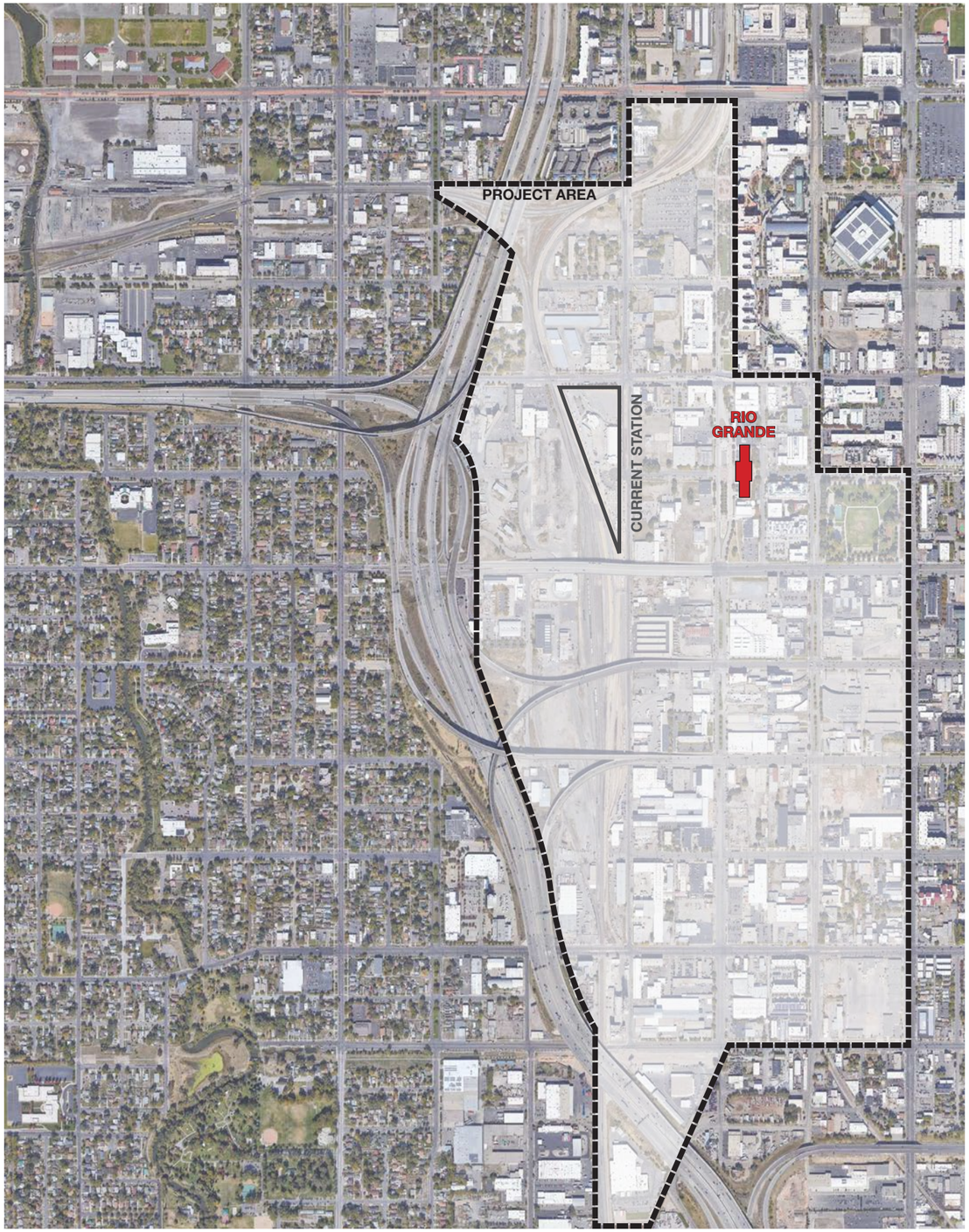
RIO GRANDE PLAN

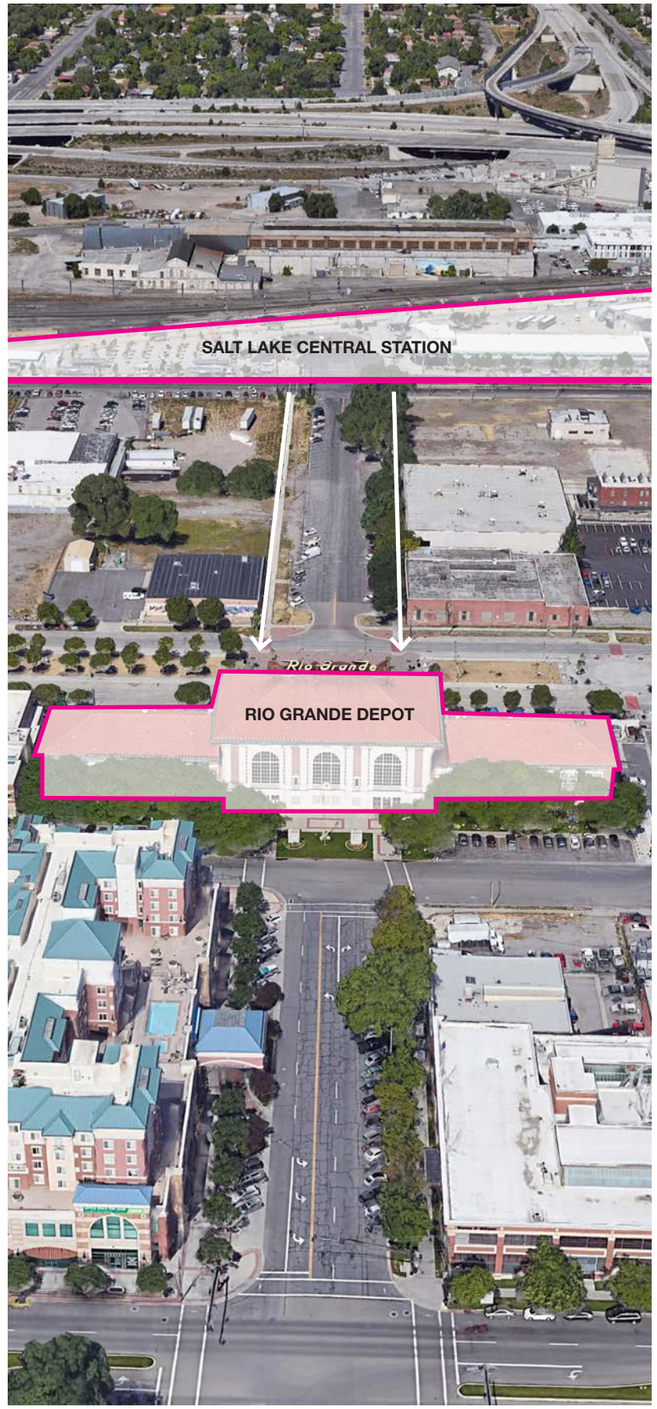
REDEVELOPMENT PROPOSAL BASED ON THE RESTORATION
OF RAIL SERVICE TO THE RIO GRANDE DEPOT

Drone Image by Anthony Manzione

DEVELOPED BY CHRISTIAN LENHART AND CAMERON BLAKELY

INTRODUCTION





PROJECT BACKGROUND“

A visitor’s first impressions of downtown Salt Lake City are shaped by crossing a landscape of freight yards, freeway overpasses, railroad crossings, and industrial decay. This crossroads of bridges and train tracks creates a maze of dead-ends and one-way streets that is **confusing, uninviting, and which has stifled new developments** in a city that is otherwise bursting with growth. In the middle of this labyrinth is UTA’s **Salt Lake Central Station**, which, despite its name, is merely an open-air transit plaza that is separated from the rest of downtown by what was once a grand passenger station – the beautiful Rio Grande Depot.

There is a better way forward. Instead of being a barrier to development, the Rio Grande Depot can become one of Salt Lake City’s, and Utah’s, greatest assets. Today, a once-in-a-generation opportunity exists to **reroute** the tracks, **reclaim** the railyards, and **reconnect** our communities.

The Rio Grande Plan is a vision for Salt Lake City that would improve the **safety and efficiency** of transportation across the city, open **70 acres of industrial land to new development**, reconnect the east and west sides of the city, and create a premier, **high-capacity transportation hub** centered on a fully restored Rio Grande Depot.

PROJECT COMPONENTS

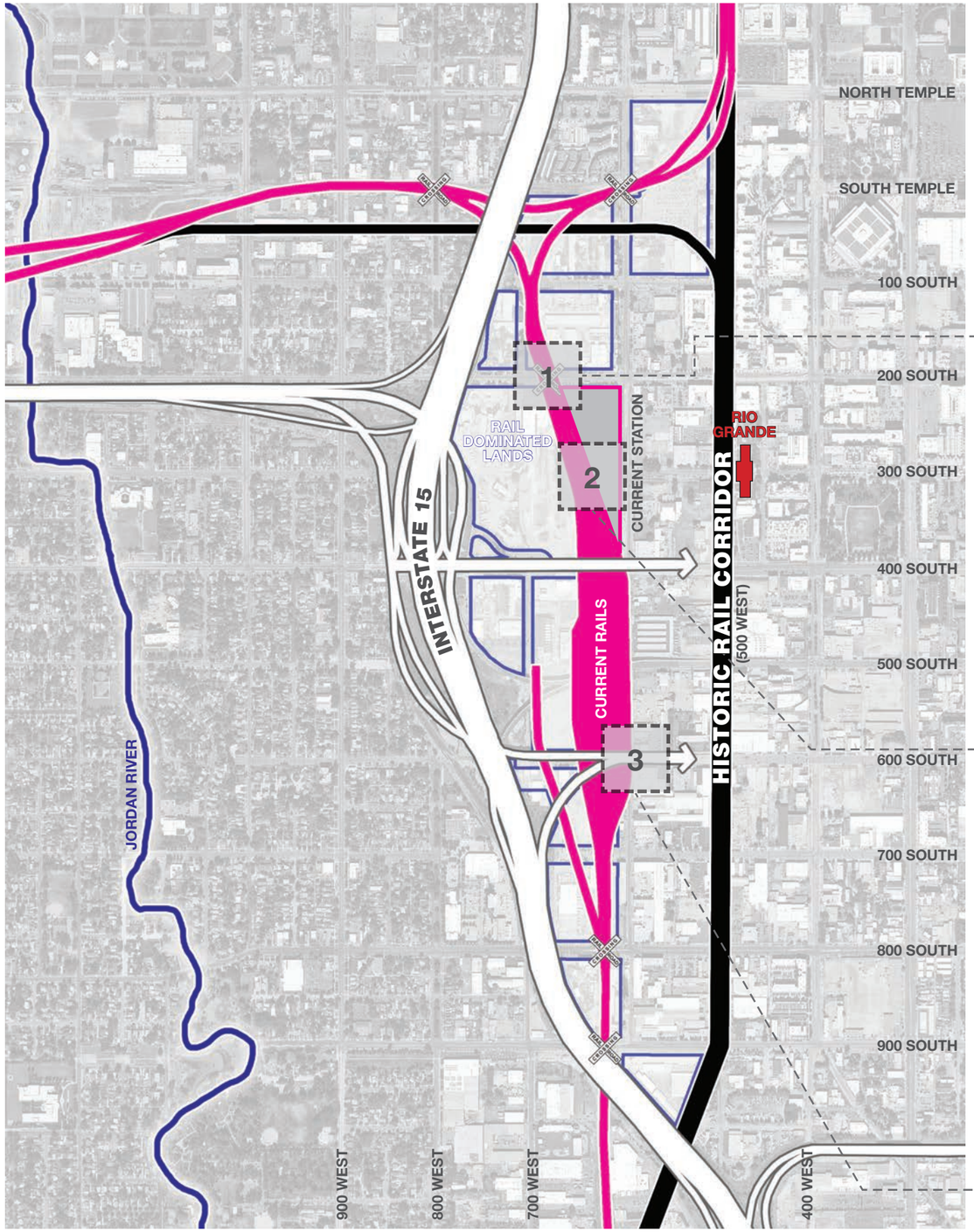
Relocate all north-south train tracks between 900 South and 100 South into a below-grade structure called a ‘train box.’

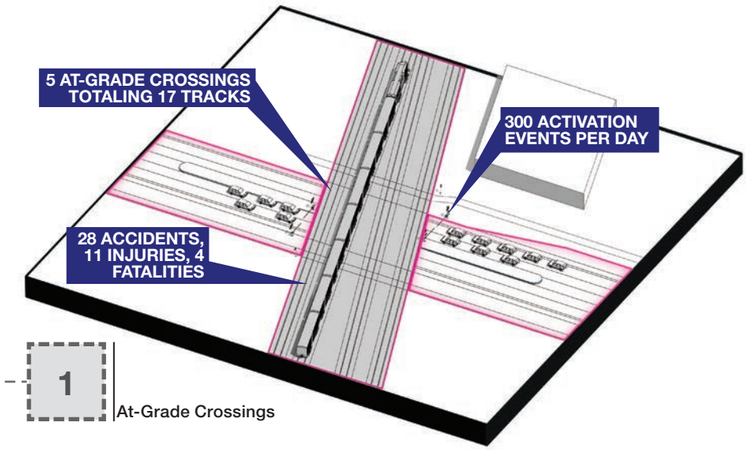
Relocate all transit services from the current Salt Lake Central Station to the historic Rio Grande Depot.

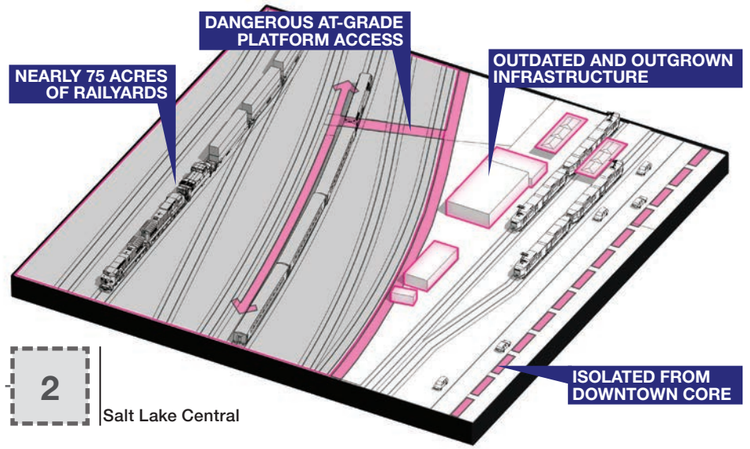
Close five at-grade railroad crossings, and replace the highway viaducts on 400, 500 and 600 South with at-grade streets.

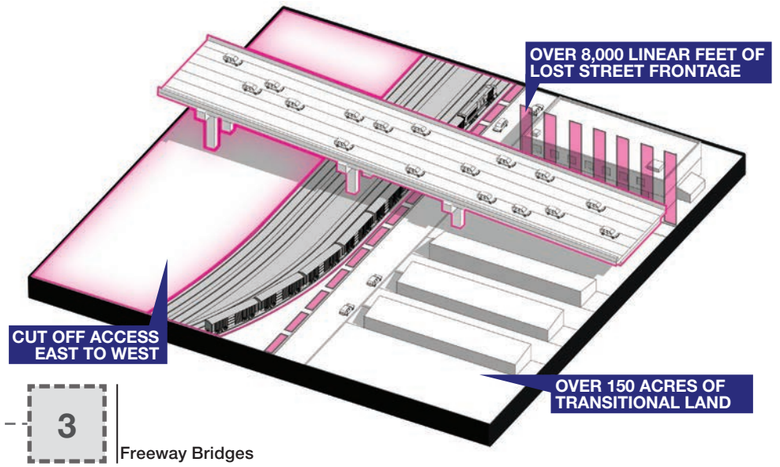
Open the land formerly occupied by the railroad yards between 600 West and I-15 to new development, amounting to over 75 acres of new urban space.

THE ISSUES









AT-GRADE CROSSINGS

The five at-grade railroad crossings west of downtown pose significant hazards, both directly and indirectly. Since 1976, **28 incidents have been recorded between people and trains, resulting in 11 major injuries and 4 fatalities**. However, the damage goes far beyond these individual tragedies. Each time the gates go down, students cannot get to their schools, workers cannot get to their jobs, essential deliveries cannot be made, and police and rescuers cannot get to emergencies. Between these five crossings, the gates activate over **300 times per day** – often for many minutes at a time – and this number will only get higher as train frequencies increase.

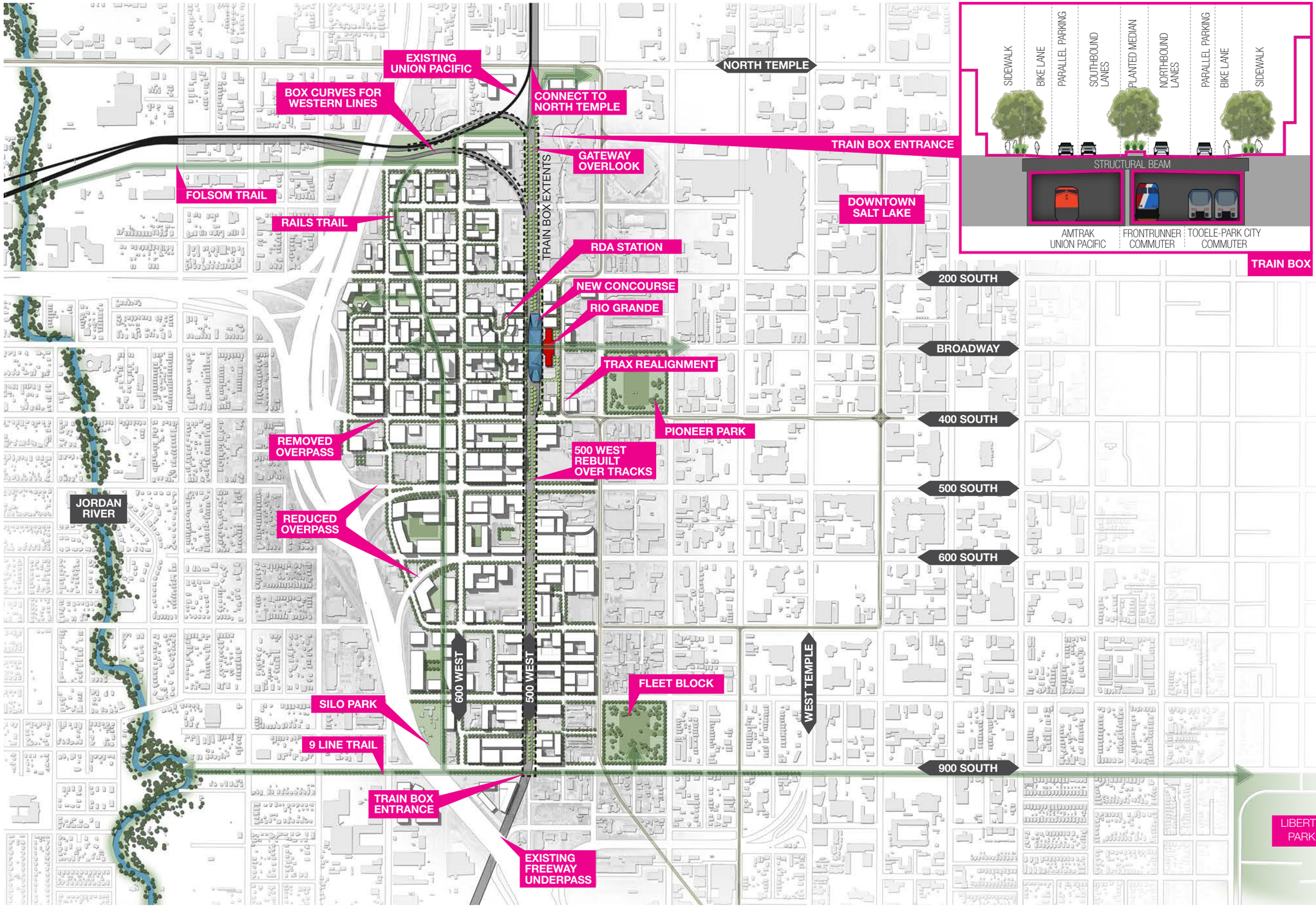
SALT LAKE CENTRAL

Salt Lake Central Station was built as a temporary solution in 1999, but was never upgraded. Passengers are forced to cross active railroad tracks in order to reach their trains, and amenities such as water fountains and restrooms are non-existent. Amtrak passengers have access to a waiting room in a temporary trailer building, while transit riders must wait outside in the elements. Worst of all, the station is **located a mile from the downtown core**, making it difficult for pedestrians and drivers to access. As passenger numbers continue to rise, major upgrades will be required to prevent overcrowding, including bridges, escalators, indoor waiting areas, and basic passenger amenities. Not only will these upgrades be expensive, but they will ultimately fail to solve the station's main problem: **it is located in the wrong place.**

FREEWAY BRIDGES

The effect of the road overpasses at 400, 500, and 600 South cannot be overstated. By disrupting the street grid, drivers and pedestrians are required to navigate a maze of one-way streets, blocked roads, and dead ends. The space beneath the bridges has become synonymous with crime and vagrancy, dissuading visitors and development. Furthermore, the complete loss of street frontage along the bridges creates several **blocks of isolated parcels unsuited for urban development.**

THE VISION



MASTER PLAN

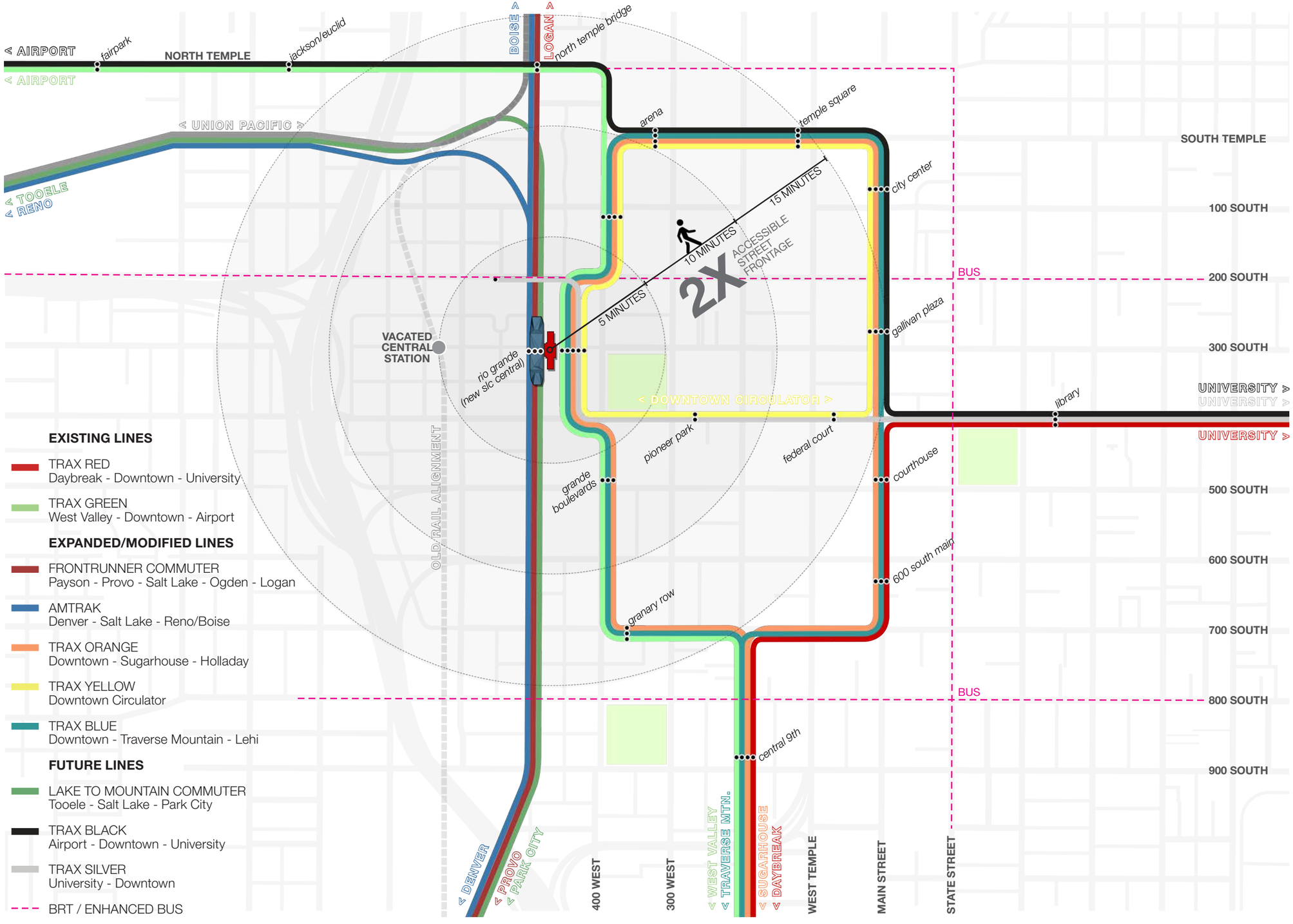
The Rio Grande Plan proposes relocating all railroad tracks to a new underground structure called a **'train box.'** With the necessary tracks moved underground, 75 acres of industrial land will be opened for development. The railroad crossings, bridges, and freight yards that prevented growth will be replaced by **seven new city blocks** where thousands of new residents can live and work, all centered around the **restored Rio Grande Depot**.

For nearly a century, the Rio Grande Depot was a center of activity on Salt Lake City's west side. From 1986 to 1999, the depot served as the city's main train station, hosting 3 Amtrak routes to Denver, San Francisco, Los Angeles, and Seattle. Tracks to the station ran in the median of 500 West from 900 South to South Temple, but were removed in 1999 to make way for shorter freeway ramps, in preparation for the 2002 Winter Olympics. Because the rail infrastructure was removed only 20 years ago, the right-of-way is still intact, and **no major relocations or acquisitions of property will be necessary** to restore rail service to the depot.

The 'train box,' which will be built below 500 West, will be similar to rail projects in Reno, NV, and Los Angeles, CA. Structurally, it will be comparable to an underground parking garage with a road surface on top, making it **substantially cheaper than conventional tunnels**. City residents on the street above will be unware of the trains traveling below their feet.

When the tracks are removed, the bridge at 400 South can be replaced with a surface street, and the freeway overpasses at 500 and 600 South can be cut back. These reductions will **open up 11 blocks of new street frontage**, restoring vibrancy to the community and creating a welcoming entrance to Salt Lake City.

THE NETWORK



EXISTING LINES

- TRAX RED
  Daybreak - Downtown - University
- TRAX GREEN
  West Valley - Downtown - Airport

EXPANDED/MODIFIED LINES

- FRONTRUNNER COMMUTER
  Payson - Provo - Salt Lake - Ogden - Logan
- AMTRAK
  Denver - Salt Lake - Reno/Boise
- TRAX ORANGE
  Downtown - Sugarhouse - Holladay
- TRAX YELLOW
  Downtown Circulator
- TRAX BLUE
  Downtown - Traverse Mountain - Lehi

FUTURE LINES

- LAKE TO MOUNTAIN COMMUTER
  Tooele - Salt Lake - Park City
- TRAX BLACK
  Airport - Downtown - University
- TRAX SILVER
  University - Downtown
- BRT / ENHANCED BUS

ACCESS AND WALKABILITY

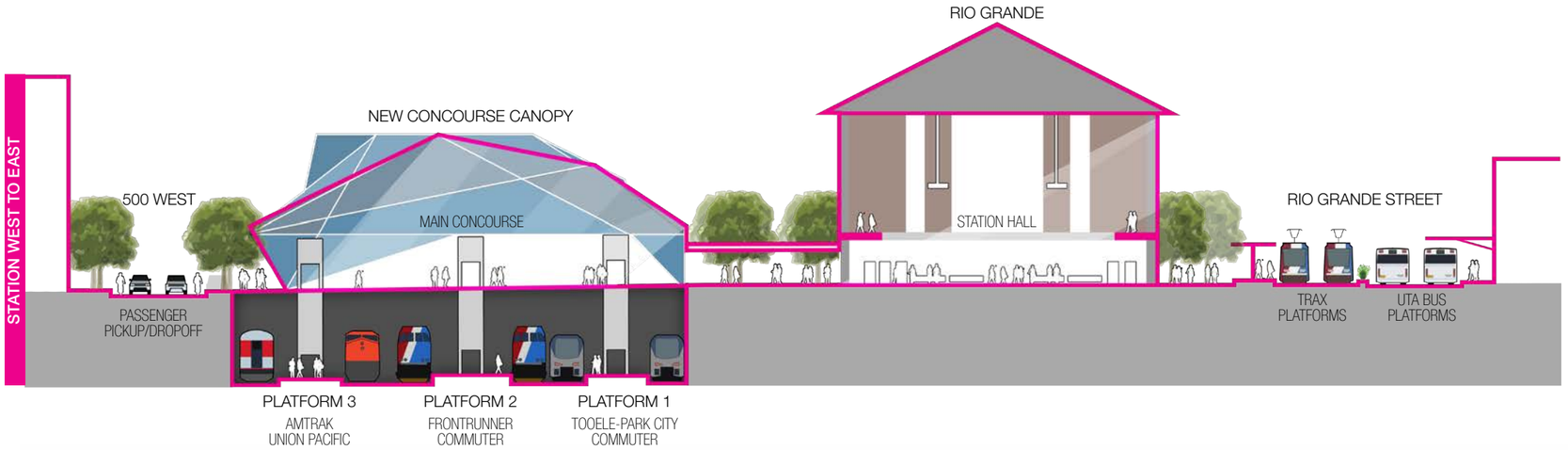
Transit and pedestrian routes create a basic framework around which a city operates. Even though the Rio Grande Depot is only a block and a half east of Salt Lake Central Station, the implications for the downtown core will be enormous.

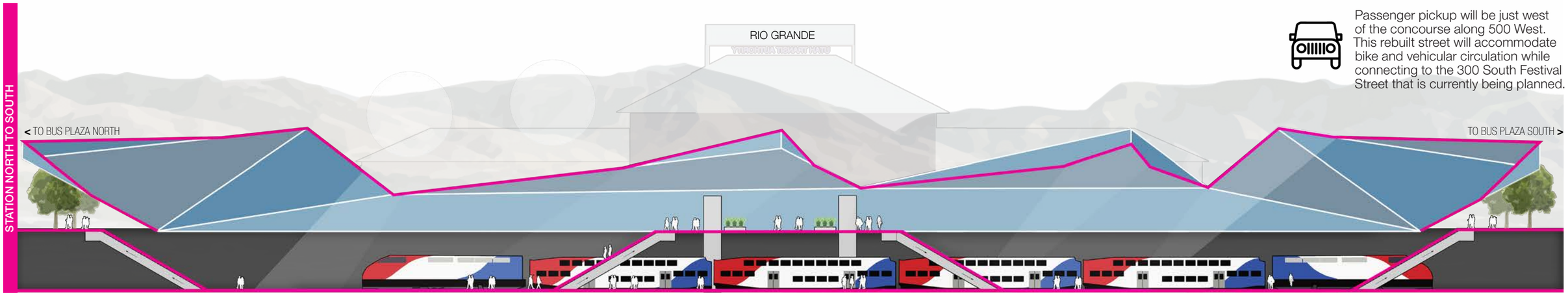
For pedestrians, the Rio Grande Depot is within easy walking distance of much more of downtown than the current transit center, meaning not all passengers will need to transfer to TRAX or buses to reach their destinations. In fact, Rio Grande Plan creates **twice as much street-frontage accessible to pedestrians**, greatly expanding the area that will benefit from increased foot traffic. By moving transit closer to the city center, Salt Lake City can finally have the **tight-knit and walkable downtown** it has been building toward.

FUTURE NETWORK

The Rio Grande Depot can be easily integrated into a **downtown TRAX loop**. A new circulator line can run continuously between Main Street and the Rio Grande, providing the same service as the long-proposed downtown streetcar line, but at a lower cost. A line on 400 South can create a **direct link to the University Medical Center**. As the local and national rail systems continue to grow, even more destinations will be brought within easy access of downtown. While the transit routes shown on this map are aspirational, they demonstrate the enormous potential of what can be created by having a more centrally-located transportation hub.

THE STATION





RESTORED DEPOT

The Rio Grande Depot was constructed in 1910 by Chicago-based architect Henry Schlacks, and is listed on the **National Register of Historic Places**. It was meant to be larger and grander than the neighboring Union Pacific Depot three blocks to the north, costing twice as much to construct. The six enormous arched windows were an impressive feature for the time, and the foundations are clad with Yule Marble – the same exclusive marble that adorns the Lincoln Memorial in Washington D.C. Facing financial difficulties, the railroad chose to sell the depot to the state of Utah in 1977 for $1, rather than see it torn down. The freight wing has been home to the Utah State Historical Society since 1981, and the main hall has been used as an art gallery since the trains left in 1999. The Rio Grande Plan will **restore this remarkable building to its original purpose**.

The new landmark concourse will provide access to six tracks, hosting trains from Amtrak, UTA, and future rail services. Access to platforms will be via elevators and escalators.

TRAX light rail will be rerouted to Rio Grande Street, east of the depot, in order to provide passengers with a seamless transfer to Main Street, University of Utah, and the airport.

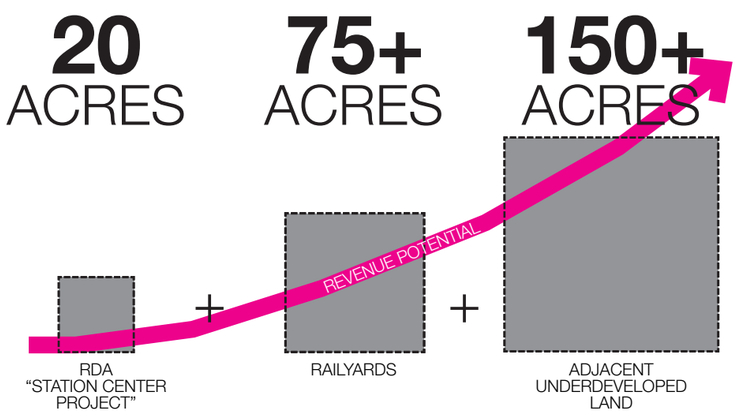
Intercity buses will be directed north and south of the main concourse, while UTA buses will be located on Rio Grande Street parallel to TRAX.

Passenger pickup will be just west of the concourse along 500 West. This rebuilt street will accommodate bike and vehicular circulation while connecting to the 300 South Festival Street that is currently being planned.

THE IMPACT

REDEVELOPMENT | Streetscape and Urban Trail

Land Gains for Development



REDEVELOPMENT

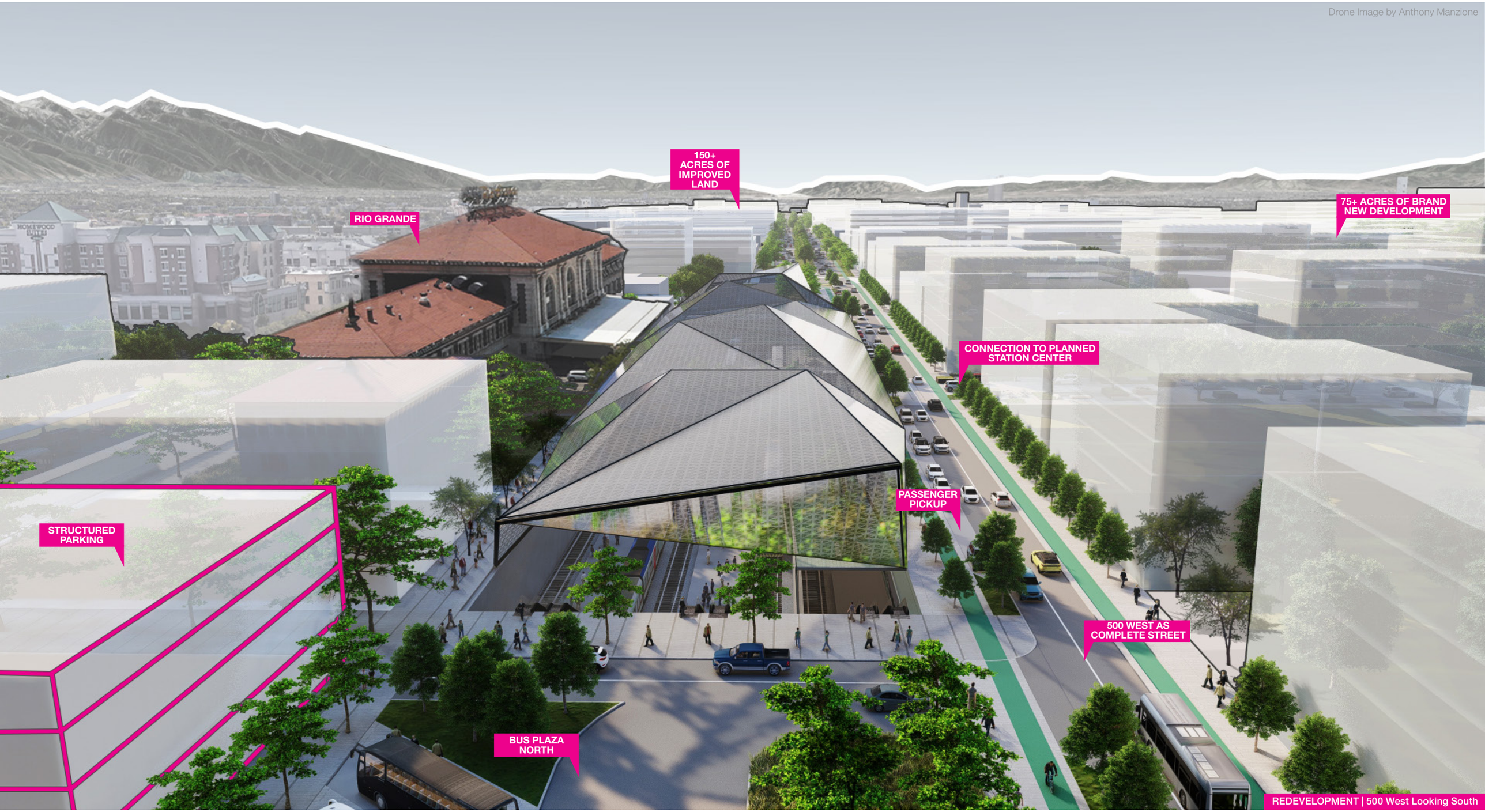
The railyards west of downtown were originally constructed to provide staging for the many rail-served warehouses that were common in the area in the early 20th century. Changes in technology and business practices, buyouts and mergers in the railroad industry, and more modern railyards north and south of the city have removed all need for a railyard at this location. Railroad properties alone comprise nearly **75 acres of land between 9th South and South Temple**, all of which could be better utilized by housing, office, and retail to accommodate for a rapidly growing population.

Between the railyards, the Redevelopment Agency's currently planned Station Center Project (which would be unaffected by this proposal), and underdeveloped parcels in the immediate vicinity, **well over 200 acres of land** could be redeveloped.

STATION | Canopy and Platforms

THE FUTURE

Drone Image by Anthony Manzione



REDEVELOPMENT | 500 West Looking South

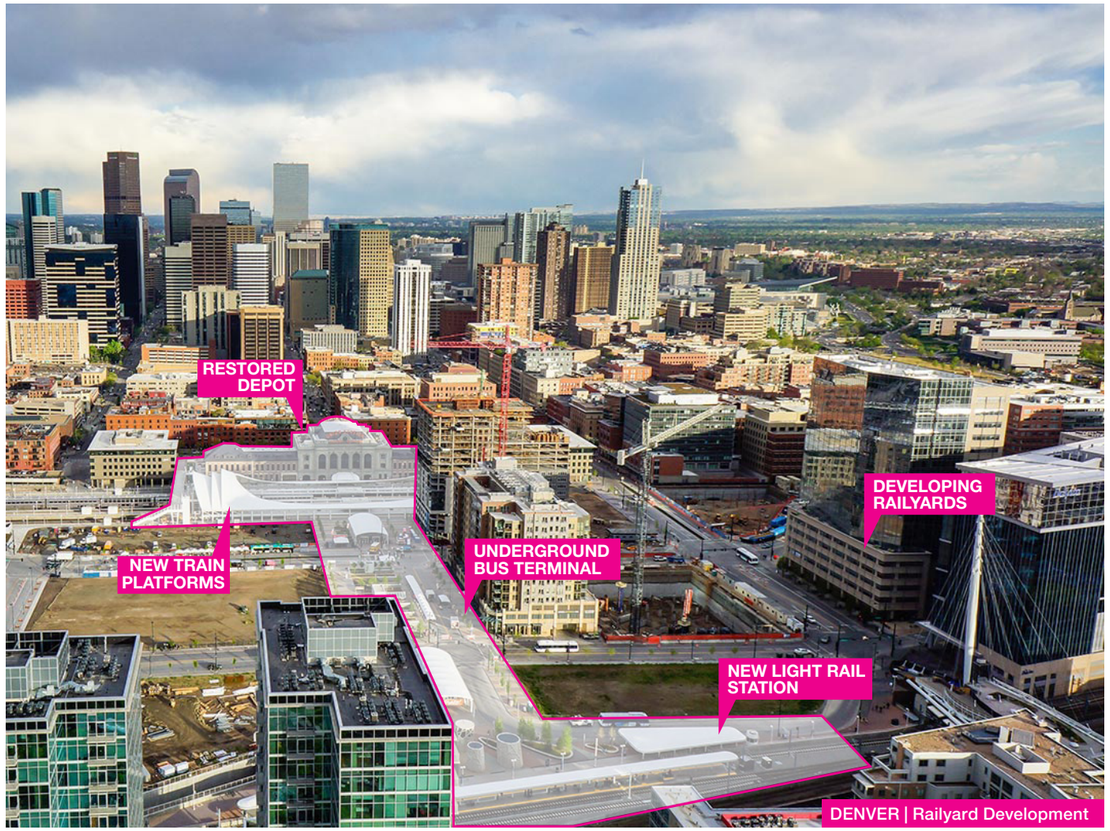
PRECEDENT PROJECTS

RENO, NEVADA

- Rail route through downtown reconstructed in underground train box.
- Revitalized historic depot
- New public space on top of rails
- 100 acres of land acquired by city for redevelopment
- ~$300 million price tag
- Twice as long and half as wide as Rio Grande proposal

RENO | Train Box Under Construction

RENO | Capped Tracks

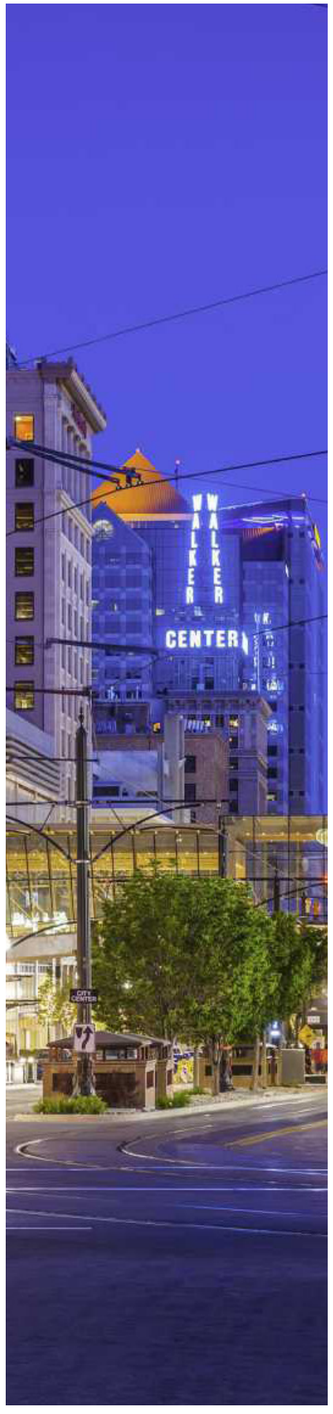


DENVER | Railyard Development

DENVER, COLORADO

- Restoration of the historic Union Station, removal and reconstruction of light rail tracks, construction of an underground bus terminal, and construction of new train canopy.
- 42 acres of new mixed use urban development
- $500 million price tag
- Paid through federal loans and local funding.
- Loan retired nearly 10 years ahead of schedule from development revenue

DENVER | New Platform Canopy



COST ESTIMATES

At this early stage, it isn't possible to provide a detailed cost projection for the Rio Grande Plan. Broadly, we expect the cost to fall between the costs of the Reno and Denver projects listed above – between $300 and $500 million. This is because the plan has been designed around the same techniques used in Reno, Denver, Sacramento, Portland, Seattle, and other western American cities that have had great success in restoring their historic train stations.

CHEAPER THAN THE ALTERNATIVE

If the Rio Grande Plan is not adopted, various state and local agencies will be required to make infrastructure improvements on their own:

» UTA's FrontRunner will require more space for a second track through downtown, requiring demolition of existing structures and the reconstruction of the 900 South freeway bridge. **Costs will be in the hundreds of millions of dollars**.

» Grade crossings at 5 locations will need to be grade separated eventually. Railroad crossing projects are in the purview of the Utah Department of Transportation, which draws funds from taxpayers statewide. The recent grade-separation project on 5600 West cost UDOT $83 million. **Five crossings at that rate would cost $415 million**.

» Salt Lake Central Station will need significant upgrades, including safer access to platforms, better passenger waiting areas, and restrooms. No plan for these improvements has yet been published, but costs will be significant.

» Transit improvements between Main Street, Salt Lake Central, and the Granary District, such as the proposed Downtown Streetcar, will be required in the future, owing to the greater distance to Salt Lake Central Station and its inferior connections to downtown.

When taken all together, these individual projects have the potential to cost taxpayers far more than the estimated price the Rio Grande Plan.

KEEPING COSTS LOW

The Rio Grande Plan has been designed to have the greatest positive impact with the least amount of disruption, displacement, and cost:

» By building new rail infrastructure in a new right-of-way, current rail operations will not be disrupted during construction, **minimizing delays to transit riders and reducing remediations**.

» The Rio Grande Plan takes advantage of the full width of 500 West. **No private properties will need to be acquired** for this stretch of the corridor.

» Because so much of the historic rail corridor still exists – including freeway bridges and a clear right-of-way – disruptions to adjacent property owners and residents will be minimal.

» No ramps, bridges, or major roads will need to be altered. Although the Rio Grande Plan enables the existing overpasses to be reduced or eliminated in the future, such changes are not necessary for rail service to be restored to the Rio Grande Depot.

» By opening new land for development, the Rio Grande Plan will turn otherwise vacant land into a **source of income for the city**.

FUNDING POSSIBILITIES

Funding may come from a variety of sources, including but not limited to:

» A **special tax district**, covering only the area directly improved by the Rio Grande Plan. This additional tax would be in effect only until the project costs are repaid. This strategy was used to great success in the Denver Union Station project, and is planned for improvements to the Ogden Union Station area.

» Annual state transportation spending by the Utah State Legislature. In addition to the regular funding stream, large projects are often given special priority in the state budget. Some recent examples include:

  Highway 89 Widening (to be completed in 2023, **$489 million**)

  Mountain View Corridor (Various segments, **~$400 million each**)

  The I-15 Tech Corridor (completed 2021, **$415 million**)

  The West Davis Corridor (to be completed in 2024, **$725 million**)

» The Federal Government, through the Federal Department of Transportation and Federal Transit Administration. The state of Utah, UDOT, and UTA have been extremely successful in winning significant federal grants for rail safety and transit projects, including TRAX, FrontRunner, and the construction of Salt Lake Central Station in 1999.

» The Infrastructure Investment and Jobs Act. The 'bipartisan infrastructure bill' of 2021 has set aside $39 billion for public transportation and $66 billion for passenger rail. With such historic levels of funding available, the likelihood of receiving federal assistance is higher than ever.

CONCLUSION

Restoring rail service to the historic Rio Grande depot is not only technically feasible, but also extremely beneficial:

» The safer design of below-grade tracks will **save lives and prevent gridlock**.

» The new rail station will have a **higher capacity** than the current Salt Lake Central station.

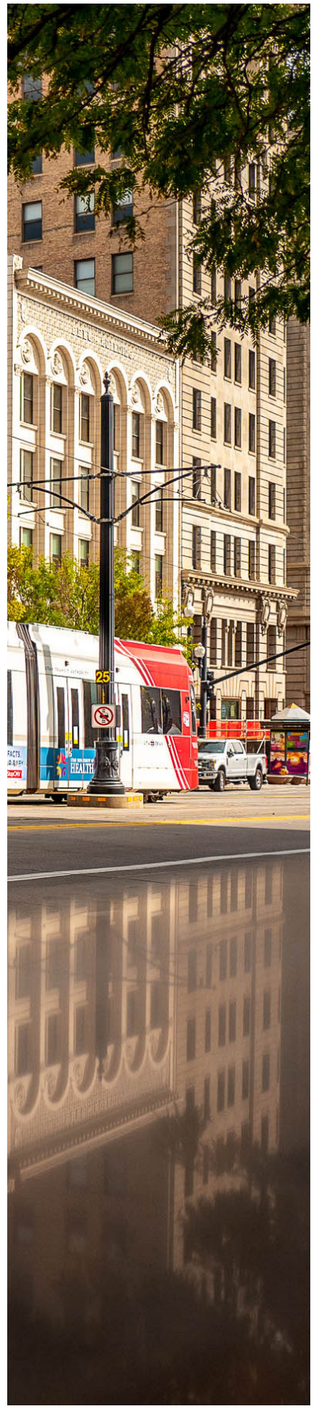
» The **75+ acres of newly open land** is equivalent to over 7 city blocks, and will provide room for tens of thousands of people to live and work in Salt Lake City.

» A more **central location** for downtown's rail terminal will result in more pedestrian activity, particularly on 300 South.

» Without the railyards in the way, downtown will become **better connected** to the West Side, Poplar Grove neighborhood, and the Jordan River.

» The new station will become an **icon of Salt Lake City**, the Wasatch Front, and the State of Utah.

The solutions presented in this Rio Grande Plan have all be successfully implemented in neighboring cities across the west. Like these other cities, Salt Lake City is experiencing phenomenal growth in its downtown core – but unlike its neighbors, it has not yet realized the immense potential of its historic train station. With rising transit ridership, increasing rent prices, and unprecedented amounts of federal aid available, the time is right for state and city leaders to act. By adopting the Rio Grande Plan, Salt Lake City can reconnect with its past, improve its current infrastructure, and position itself as a leader towards a cleaner, safer, fairer, and more prosperous future.



CHRISTIAN LENHART // CAMERON BLAKELY

PROFESSIONAL ENGINEER

WORK EXPERIENCE

UVX BUS RAPID TRANSIT
OGX BUS RAPID TRANSIT
MOUNTAIN VIEW CORRIDOR
WEST DAVID CORRIDOR
UTAH TRANSIT AUTHORITY

URBAN DESIGNER

WORK EXPERIENCE

AGGIE BOULEVARD STREETSCAPE DESIGN, USU
DOWNTOWN OGDEN MASTER PLAN
DAYBREAK PLANNING AND DESIGN
LDS CHURCH SITE DESIGN AND PLANNING

THANK YOU