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LEGISLATIVE
FINANCE
COMMITTEE

Program
Evaluation
Unit

Program Evaluation: Cost Effectiveness and
Operations of the New Mexico Rail Runner
Express

January 14, 2019

Report #19-01

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January 14, 2019

Mr. Michael Sandoval, Cabinet Secretary-Designate
New Mexico Department of Transportation
P.O. Box 1149
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Councilor Diane Gibson, Chair, Board of Directors
Rio Metro Regional Transit District
809 Copper Ave. NW
Albuquerque, New Mexico 87102

Dear Secretary-Designate Sandoval and Councilor Gibson:

On behalf of the Legislative Finance Committee, I am pleased to transmit the evaluation report, *Cost Effectiveness and Operations of the New Mexico Rail Runner Express*. This review examined the costs and performance of the Rail Runner and its role in local economic development.

This report will be presented to the Legislative Finance Committee on January 14, 2019. An exit conference to discuss the contents of the report was conducted with the Department of Transportation and Rio Metro Regional Transit District on January 9, 2019. The Committee would like a plan to address the recommendations within this report within 30 days from the date of the hearing.

I believe this report addresses issues the Committee asked us to review and hope the Rail Runner will benefit from our efforts. We very much appreciate the cooperation and assistance we received from your staff.

Sincerely,

A handwritten signature in cursive script that reads "David Abbey".

David Abbey, Director

Cc: Representative Patricia Lundstrom, Chairwoman, Legislative Finance Committee
Senator John Arthur Smith, Vice-Chairman, Legislative Finance Committee
Ms. Olivia Padilla-Jackson, Secretary-Designate, Department of Finance and Administration
Mr. John Bingaman, Chief of Staff, Office of the Governor
Mr. Brian S. Colón, State Auditor

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Targeted Investments Could Help the Rail Runner Reverse Declining Ridership

Since opening in 2006, the New Mexico Rail Runner Express commuter railroad has taken over 11 million passengers on trips along its 97-mile route between Belen and Santa Fe. Owned by the state and operated by Rio Metro Regional Transit District through a private contractor, the Rail Runner is New Mexico's only commuter rail line. However, weak economic and population growth in its service area and recent, consistent declines in ridership have contributed to higher costs per passenger and fewer incentives for development around its stations.

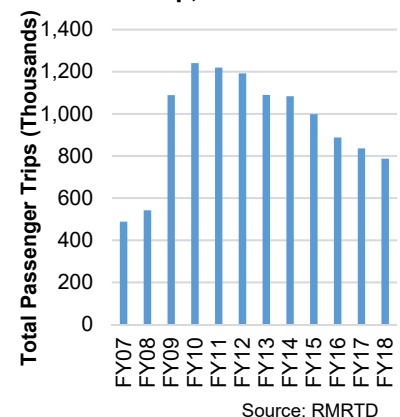
Ridership on the Rail Runner totaled 787 thousand trips in FY18, 37 percent below the peak of 1.2 million in FY10 and the lowest level since service was extended to Santa Fe in FY09. The Rail Runner primarily relies on a small, core group of regular intercounty commuters for most of its ridership, but fewer people in its service area are crossing county lines to get to work. Each passenger trip cost \$34 in 2017, but fares covered just 8 percent of that, among the lowest of similar railroads. Despite this, Rio Metro is working to achieve operational efficiencies. Although the state owns the railroad and its assets, it does not have a formal seat on the Rio Metro board of directors, potentially forgoing an assured role in governing its operations.

Scheduling, frequency of service, and long travel times are among the most common reasons people do not ride the Rail Runner. Core infrastructure improvements, such as planned projects to improve capacity through the center of Albuquerque, should allow some additional scheduling flexibility and reduced travel times. Larger scale improvements, such as upgrading certain segments to allow for speeds of up to 90 miles per hour, could build upon these to attract more riders. However, additional stations are unlikely to induce significantly more ridership.

Even though there has been growth in employment and transit-oriented development near stations in the key job centers of Downtown Albuquerque and Santa Fe, its effects overall remain unclear. Many conditions should be met before effective transit-oriented development can be implemented. The state can play a role in encouraging and regulating such development in locations with high potential to attract employers near stations, but New Mexico's geography naturally limits the extent to which may occur.

This evaluation recommends Rio Metro incorporate efficiency and cost-effectiveness metrics into its regular performance reporting, improve tracking of downtime operating costs, and collaborate with local stakeholders on transit-oriented development guidelines. Rio Metro and NMDOT should also prioritize core infrastructure projects with the highest potential to attract ridership and partnerships for economic development around Rail Runner stations. Finally, NMDOT should consider requesting the Governor to exercise the authority under existing law to grant the state a seat on Rio Metro's board to ensure permanent representation in the future.

NMRX Annual Ridership, FY07-FY18





KEY FINDINGS AND RECOMMENDATIONS

Declining Ridership Poses Risks to the Rail Runner's Performance

Economic factors pose challenges to Rio Metro Regional Transit District's (RMRTD) ability to increase ridership of the Rail Runner. Ridership peaked in FY10 and has decreased in every year since. The Rail Runner's core ridership consists mostly of about 1,200 regular, mostly long-distance commuters, as well as riders who take the train for leisure and tourism, school, and other business and personal appointments.

While the Rail Runner is generally financially stable and able to maintain operations without raising passenger fares, it has among the lowest ratios of fares to operating costs any commuter railroad. Most of the Rail Runner's funding comes from local gross receipts tax (GRT) revenues and federal sources, with no regular operating support from the state general fund or road fund. Federal mandates to implement positive train control (PTC) will place an increasing financial burden on RMRTD. Despite sizable federal grants to cover the estimated \$55 million to \$60 million cost of the project, RMRTD will still be responsible for paying debt service on a State Infrastructure Bank loan and ongoing PTC operating costs.

Ridership declines have resulted in higher operating costs per passenger, but RMRTD is working to contain costs. While RMRTD regularly monitors the Rail Runner's performance, there is little emphasis on efficiency or cost effectiveness metrics. The Rail Runner also collects less than half of the on-time performance incentives it is eligible for under an agreement with Amtrak. Despite its ownership of the Rail Runner, the state does not sit on RMRTD's board of directors.

Core Infrastructure Improvements Can Help the Rail Runner Add Value to the Transportation System

While it is a low-cost option for passengers, the Rail Runner has become less competitive as an alternative to driving. Ridership has trended downward along with gasoline prices, and fewer commuters in the train's four-county service area are going to work across county lines. Freeway congestion in the region has also decreased relative to urbanized areas with peer commuter railroads, likely making driving more attractive. The most common reasons given for not riding the Rail Runner include inconvenient schedules and long travel times.

Stations near job centers and commuting hubs account for most Rail Runner ridership, with one-third of stations accounting for two-thirds of trips. Most notably, the least-used Rail Runner station, Downtown Bernalillo, is located just one mile from one of the most-used stations, Sandoval County/U.S. 550. While four new stations have opened since FY10, ridership has continued to decrease. Proposals for new stations at Albuquerque's Balloon Fiesta Park and the Albuquerque International Sunport do not appear to be supported by potential ridership, especially in the absence of increased levels of service.

Investments in core infrastructure improvements, such as capacity building projects through central Albuquerque and upgrading tracks to support higher speeds of up to 90 miles per hour, could improve travel times and scheduling

flexibility that could help grow ridership, but would require significant costs to do so. Federally mandated PTC also represents a significant financial investment, amounting to between \$567 and \$619 thousand per mile or between \$70 and \$76 per passenger based on FY18 ridership.

An initial goal of the Rail Runner was to attract economic development, but most station-centered plans have not materialized due to local economic and market factors since 2008. While there has been growth in employment and building activity around certain stations in job centers, the effects of rail service itself are unclear.

***The Rail Runner Can
Play a Larger Role in
Catalyzing Economic
Development***

Improving economic conditions could provide the state an opportunity to leverage its ownership of the Rail Runner to attract local economic development. However, many conditions must exist for transit-oriented development (TOD) to be viable. The state can play a role through policies to encourage and regulate TOD, such as those found in Utah and Tennessee. Existing stations serving the most regular workers and commuters may be prime candidates due to the limitations of current Rail Runner service.

Key Recommendations

The Legislature should consider:

- Prioritizing the use of state infrastructure and capital outlay funding for the Rail Runner toward costs associated with core infrastructure needs and necessary safety or capacity improvements, rather than development of new stations; and
- Amending the Regional Transit District Act to permit RMRTD to participate in transit-oriented development, with appropriate safeguards to mitigate risk to public funds and ensure return on investment.

NMDOT should:

- As the owner of the Rail Runner, seek approval from the Governor to exercise its current statutory authority under the Regional Transit District Act to enter into a contract with RMRTD and hold a seat on its board of directors.

RMRTD should:

- As part of its short-range plan, adopt performance targets for key Rail Runner efficiency and cost-effectiveness metrics and use them to drive strategies and goals for cost savings and operational efficiency in concert with initiatives to attract ridership;
- Incorporate transparency and efficiency requirements into its next RFP and contract for a train operator, including the ability to separately track charges not directly related to revenue operations;
- Pursue other mechanisms to lower operating costs in the medium to long term, including the use of ticket vending machines in lieu of on-board sales;
- Develop a long-term strategy to increase ridership, with a focus on actions to attract or reattract core commuters;
- As part of its next long-term strategic visioning plan, collaborate with local planning and development agencies within the RMRTD service area to develop and adopt shared guidelines for transit-oriented development that enable the maintenance of local character; and
- Partner with the Economic Development Department, local planning and development agencies, and landowners to identify opportunities for employers to locate near Rail Runner stations.

RMRTD and NMDOT should:

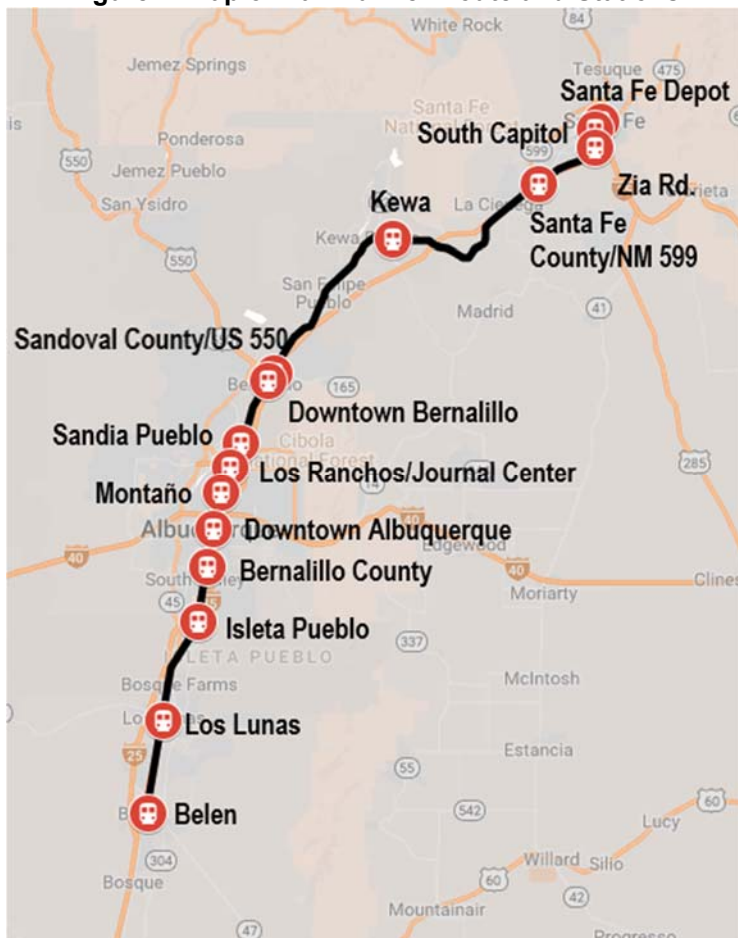
- Place an immediate moratorium on development of any new stations and close or limit service to the Downtown Bernalillo station;
- Present to the 2019 Legislature a temporary plan for prioritizing core infrastructure improvements, taking into account opportunities to reduce travel times and improve scheduling flexibility, and develop and present a thorough plan for the above by October 2019;

New Mexico's commuter railroad has served over 11.5 million passengers since 2006

Overview

The New Mexico Rail Runner Express (NMRX) is a commuter rail line extending 97 miles from Belen to Santa Fe and consisting of 15 stations (Figure 1). The Rail Runner's track, infrastructure, and rolling stock are owned by the state of New Mexico, and Rio Metro Regional Transit District (RMRTD) is responsible for operating commuter trains and maintaining the right-of-way under an agreement with the New Mexico Department of Transportation (NMDOT).

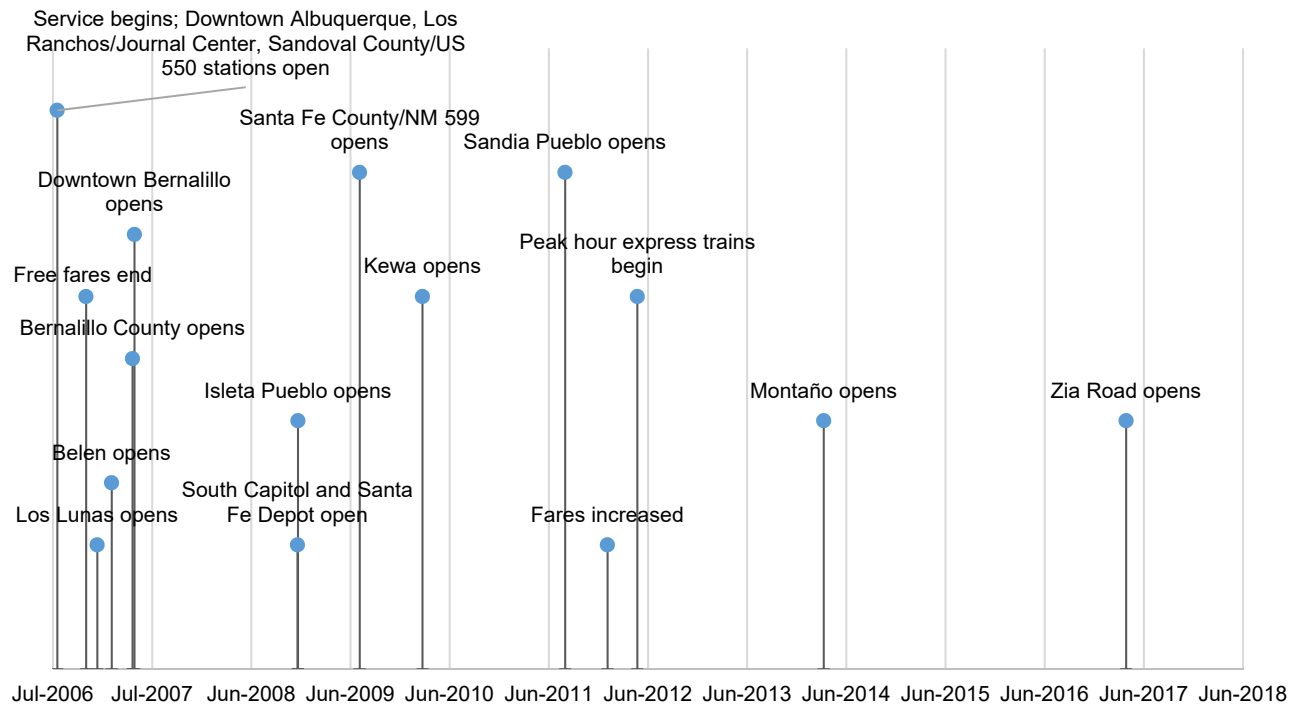
Figure 1. Map of Rail Runner Route and Stations



The NMRX corridor consists of right-of-way purchased from BNSF Railway in 2005 and extending from Belen to Lamy, as well as the Santa Fe Subdivision, running from near La Bajada to Santa Fe Depot via newly constructed tracks in the median of Interstate 25. The Rail Runner does not operate on the portion of the track extending to Lamy. However, the Amtrak Southwest Chief uses that segment and shares most of the Rail Runner's route until turning westward at Isleta Junction south of Albuquerque. BNSF also maintains freight rights along the right-of-way under a different agreement with the state. Appendix D contains a map of all railroads in the state, including the state-owned rail right-of-way between Belen, Santa Fe, and Lamy.

The Rail Runner began revenue service between Downtown Albuquerque and the Sandoval County/U.S. 550 station in Bernalillo in July 2006. Additional service to the south began as new stations opened in December 2006 (to Los Lunas) and February 2007 (to Belen), with additional mid-line stations opening later. The second phase, extending north from Sandoval County/U.S. 550 to Santa Fe, opened for revenue service in December 2008, completing the full 97-mile line as it exists today. The most recent station to open, Zia Road, began service in 2017 (Figure 2). Since its opening in FY07, the Rail Runner has reported nearly 11.5 million total passenger trips.

Figure 2. Rail Runner Service Timeline



Source: RMRTD

Ownership and Financing

NMDOT owns the NMRX tracks and rolling stock, and contracts with Rio Metro Regional Transit District (RMRTD) to manage operations of the railroad. RMRTD in turn contracts with a private firm to operate the trains and maintain the vehicles, equipment, and right-of-way. RMRTD's primary source of operating funding comes from a locally approved one-eighth percent gross receipts tax (GRT) increment in Bernalillo, Sandoval, and Valencia counties, as well as a portion of GRT revenues from North Central Regional Transit District to support Rail Runner service in Santa Fe County. Federal funds support capital and maintenance costs, while fare revenues and fees and incentive payments from BNSF and Amtrak for the use of NMRX tracks make up the rest of the Rail Runner's revenues.

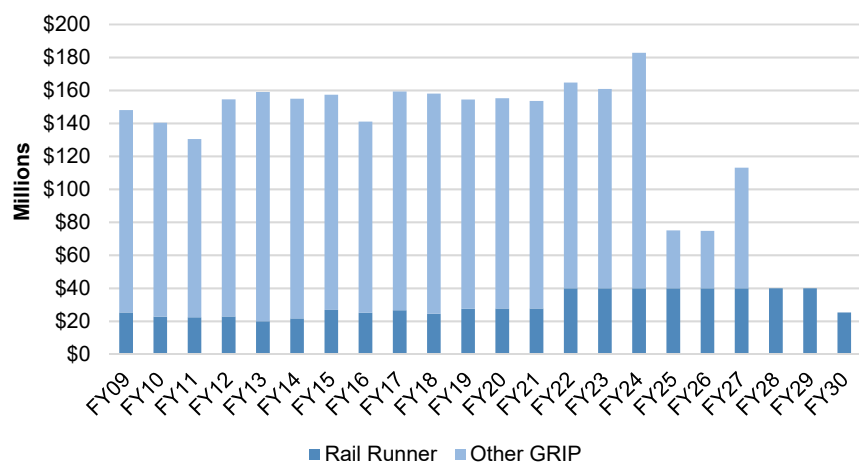
Laws 2004, Chapter 3 authorized the use of bond proceeds to fund "the reconstruction and improvement of the Interstate 25 corridor from Belen to Santa Fe to accommodate public transportation elements including commuter rail." This permitted the New Mexico Department of Transportation (NMDOT) to use the proceeds of transportation bonds issued by the New Mexico Finance Authority (NMFA) for the purchase and construction of what is now the Rail Runner's route. The act authorized up to \$1.6 billion in bonds to fund a variety of highway and transportation projects, including the Rail Runner. The total cost of the Rail Runner's construction through 2008 was approximately \$400 million, including \$75 million to purchase the right-of-way from BNSF.

As owner of the railroad, NMDOT continues to make debt service payments for the Rail Runner's initial purchase and construction costs from the Road Fund, primarily supported by state motor fuel taxes. The Rail Runner was

constructed as part of Governor Richardson’s Investment Partnership (GRIP), a major infrastructure package totaling over \$1.6 billion in projects, mostly highway and bridge construction. Total GRIP debt service costs are expected to total over \$2 billion by FY30, of which about \$723 million will have been for the Rail Runner.

In July 2018, the state refinanced much of the outstanding debt to eliminate large “balloon” payments on the Rail Runner that were expected to occur in FY25 and FY26. Instead of payments of approximately \$110 million in each of those years, the state will now pay roughly \$40 million in FY25 and FY26, and extend the term of the debt through FY30 rather than FY27 as originally planned. Chart 1 illustrates the expected annual GRIP and Rail Runner debt service payments through FY30 under this revised payment plan.

Chart 1. Rail Runner and Other GRIP Debt Service Payments, FY09-FY30 Estimated



Source: NMDOT

In the 2015 session, the Legislature passed House Memorial 127, requesting NMDOT to study the long-term operational and maintenance costs of the Rail Runner and assess the feasibility of selling its infrastructure. The resulting report found a low likelihood of a private purchaser willing to assume responsibility for retiring the outstanding debt, operating and maintaining the rail line subject to existing agreements with BNSF, Amtrak, and federal, local, and tribal governments, and maintaining insurance requirements. The report also determined suspending NMRX train service and replacing it with bus service similar to NMDOT’s Park and Ride system would not relieve the state of the costs it would incur to continue to maintain the railroad pursuant to its joint use agreements even in the absence of passenger rail service. These costs include insurance premiums and providing dispatching services for BNSF and Amtrak trains that operate on NMRX right-of-way.

Current Operations

The Rail Runner’s fleet of rolling stock consists of nine diesel-powered locomotives, nine cab cars, and 13 passenger coaches. Cab cars are similar to regular passenger cars except they include a control compartment. Locomotives pull the passenger cars on southbound trips. On northbound trips, locomotives push while operators control the train from cab cars. The Rail Runner’s coach cars can seat up to 151 passengers each, and cab cars have a

capacity of 141. The state owns all NMRX rolling stock, but RMRTD is responsible for its maintenance through its private contractor.

The Rail Runner currently (as of December 2018) operates 22 trains daily on weekdays, including two express trains during peak hours. The morning northbound express train (train #102) is the most popular train on the schedule, with an average daily passenger count of 419 in FY18, or approximately 75 percent of its capacity. Revenue operations begin at approximately 4:30 a.m. on weekdays and end just after 10:30 p.m. Eleven trains run on Saturdays and seven on Sundays.

In addition to the 15 passenger stations on the route, RMRTD oversees a maintenance yard in Downtown Albuquerque where trains are assembled, cleaned, and repaired. RMRTD's private contractor operates this facility, conducting regular maintenance on NMRX locomotives, coaches, and cab cars. Contractor staff also have separate teams responsible for track and signal systems maintenance, conducting regular field maintenance and inspections along 121 miles of the state's railroad right-of-way, including 24 miles of right-of-way used by Amtrak but not the Rail Runner.

Figure 3. NMRX Maintenance Yard, Downtown Albuquerque



Source: LFC files

Role of Commuter Rail in Public Transit

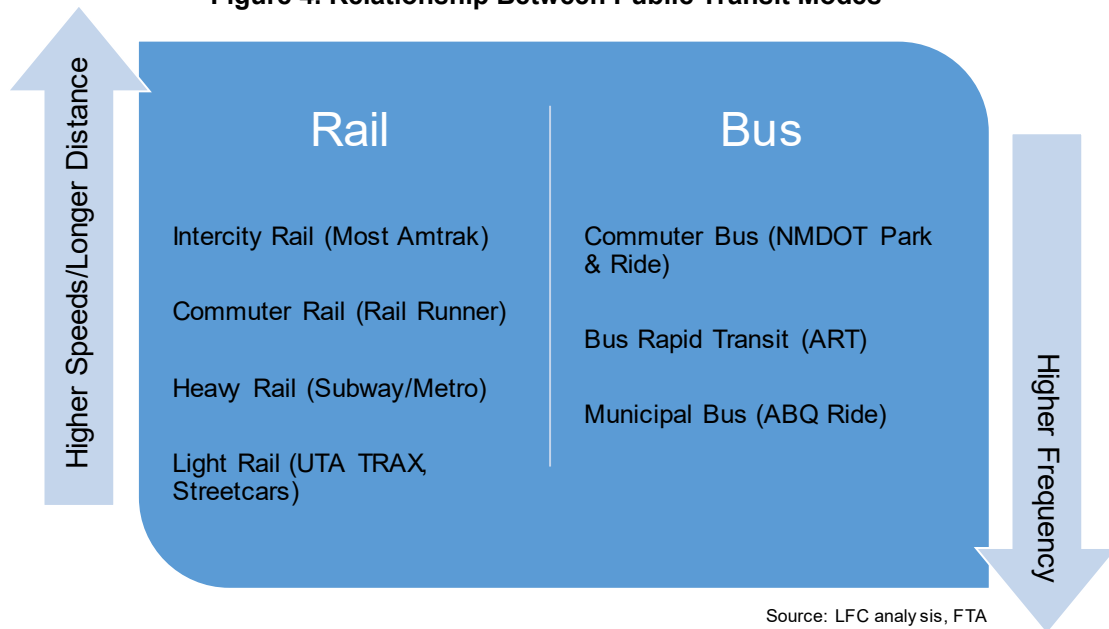
The Rail Runner is classified as a commuter rail system for federal regulatory and reporting purposes. The Federal Transit Administration (FTA) defines commuter rail as “an electric or diesel propelled railway for urban passenger train service consisting of local travel which operates between a central city and outlying areas.” Other FTA characteristics of commuter rail, according to the FTA, include:

- Regular operation for the purpose of transporting passengers within urbanized areas or between urbanized and outlying areas;
- Multi-trip tickets and specific station-to-station fares;

- Railroad employment practices;
- Relatively long distance between stops; and
- Only one or two stations in a central business district.

Commuter rail sits between urban heavy rail transit, such as subway or “Metro” systems, and intercity rail, such as most Amtrak services, in the hierarchy of transit modes. Generally, commuter rail systems operate over shorter distances between stops and more frequently than intercity rail services, but longer distances and less frequently than heavy rail. There is sometimes overlap between these modes, as some FTA-classified commuter rail systems operate with vehicles more typically used by urban heavy rail (such as the Denver RTD commuter rail system), and Amtrak has contracts to operate some lines officially classified as commuter rail (such as the Downeaster in Maine). Another form of rail transit is light rail, which typically operates at grade with other street traffic in urban cores, with one example being the TRAX system in Salt Lake City. Some streetcar systems may also be considered light rail. Figure 4 shows how commuter rail fits among various modes of public transit and gives examples of each.

Figure 4. Relationship Between Public Transit Modes



The Rail Runner connects directly to some other form of public transit at every stop except Downtown Bernalillo and Zia Road, including municipal bus service in Albuquerque and Santa Fe, and RMRTD’s own local and rural bus service in outlying areas in Sandoval and Valencia counties. Additionally, NMDOT’s Park and Ride bus service meets Rail Runner trains at the Santa Fe County/NM 599 and South Capitol stations, and the city of Albuquerque’s planned bus rapid transit system, Albuquerque Rapid Transit (ART), has a stop built but not yet in service near the Alvarado Transit Center in Downtown Albuquerque, which serves both Rail Runner and Amtrak trains.



Declining Ridership Poses Risks for the Rail Runner's Performance

Economic factors pose challenges to increasing Rail Runner ridership

The New Mexico Rail Runner Express (NMRX) began service in July 2006, initially operating between Downtown Albuquerque and the Sandoval County/US 550 station in Bernalillo. Additional stations on the southern portion of the line opened throughout 2007 and 2008, and the second phase of the line, extending north from the Sandoval County station to Santa Fe, opened in December 2008. Ridership peaked in the years just after service to Santa Fe began, exceeding 1.2 million trips in FY10 and FY11, decreasing in each year since (Chart 2).

After irregular monthly growth in the first few years of operation, ridership settled into a generally seasonal pattern, with more trips in the summer months when tourism is at its highest, and fewer trips in the winter (Chart 3). The Rail Runner saw its most riders in a single month in January 2009, with 126 thousand trips. February 2018 had the fewest trips since service began on the full length of the route, at approximately 58 thousand.

While the Rail Runner's decrease in ridership mirrored the national trend in FY18, commuter rail ridership had been on an upward trend previously, growing 3 percent between FY14 and FY17. By comparison, ridership on all modes of public transit has been on the decline over the most recent five fiscal years, falling 7 percent since FY14 (Chart 4).

Chart 2. NMRX Annual Ridership, FY07-FY18

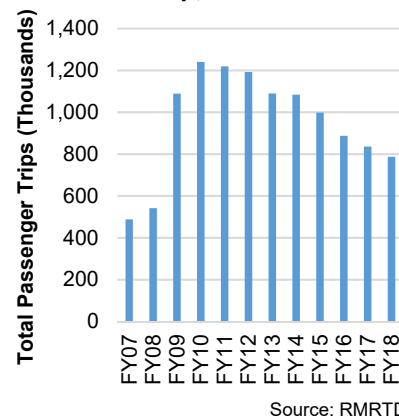


Chart 3. NMRX Monthly Ridership, FY07-FY18

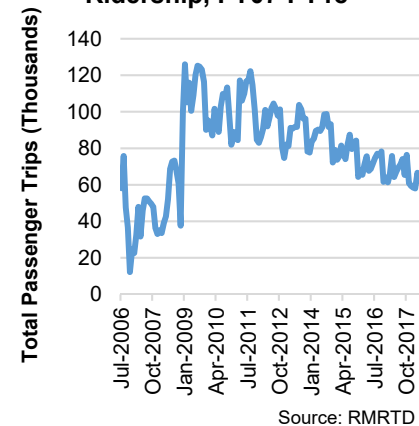
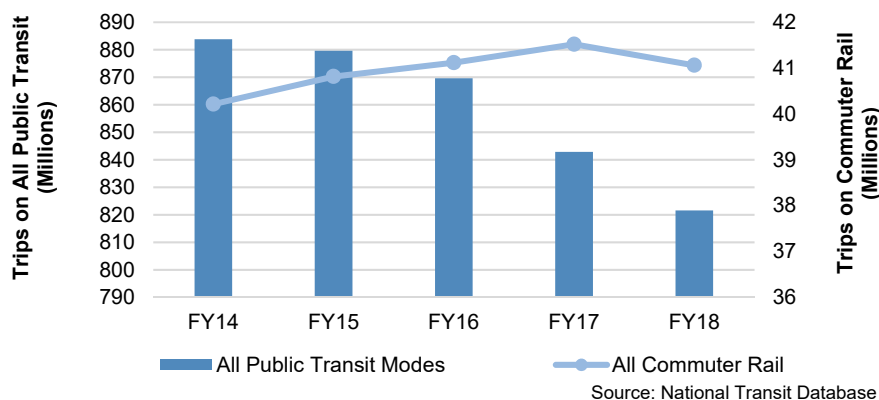
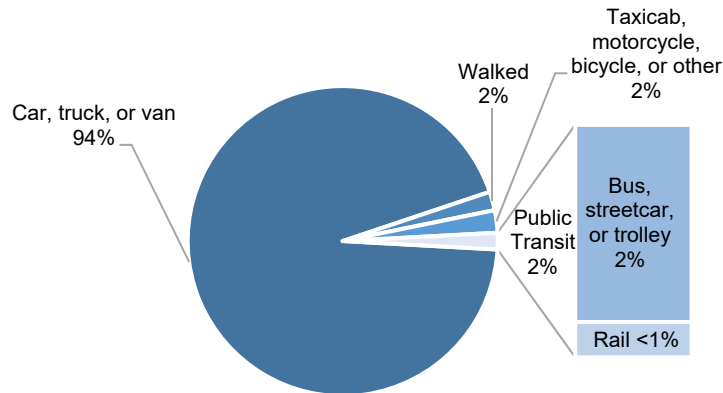


Chart 4. National Monthly Average Passenger Trips on Commuter Rail and All Public Transit, FY14-FY18



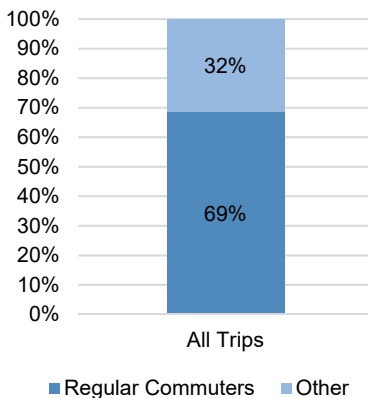
The Rail Runner serves a small, core group of mainly long-distance commuters, as well as tourists, students, and other occasional riders. According to the U.S. Census Bureau's 2017 American Community Survey (ACS) five-year estimates, there were approximately 1,158 individuals in Bernalillo, Sandoval, Santa Fe, and Valencia counties who used rail transit as their primary mode of transportation to work. This represents about 15 percent of all users of public transit, or just 0.3 percent of all commuters in the Rail Runner's four-county service area. Meanwhile, 94 percent of commuters drove (Chart 5).

Chart 5. Mode of Transportation to Work in Bernalillo, Sandoval, Santa Fe, and Valencia counties, CY17



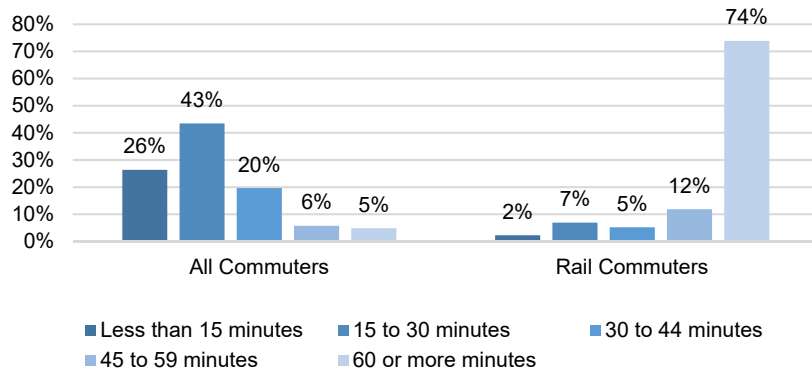
Source: American Community Survey 2017 5-year Estimates

Chart 6. Estimated Proportion of Rail Runner Trips Made by Regular Commuters, CY17



Assuming each of these commuters averages the equivalent of two trips per day for 20 working days per month, this group of regular rail riders accounted for about 69 percent of the total number of trips taken in CY17 (Chart 6). Of those who take the train according to the ACS, 74 percent have a trip to work of 60 minutes or more, compared to just 5 percent of all commuters in the region (Chart 7). Forty-four percent of rail commuters live in Bernalillo County, 31 percent live in Sandoval County, 17 percent live in Valencia County, and 7 percent live in Santa Fe County. Santa Fe County rail commuters have the largest percentage of individuals with commutes of an hour or more, at 91 percent, while Valencia County rail commuters have the smallest at 51 percent.

Chart 7. Distribution of Travel Time to Work in Rail Runner Counties, CY17



Source: American Community Survey 2017 5-year Estimates

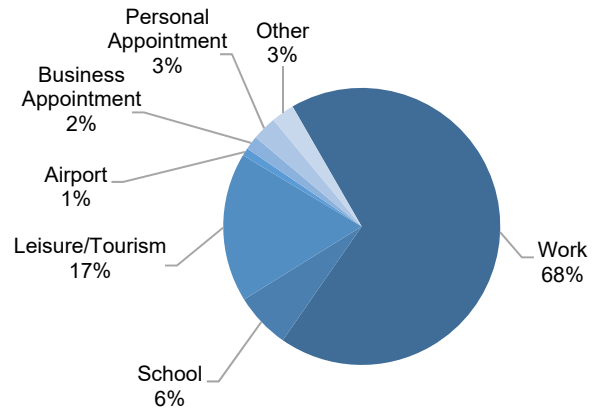
Across all RMRTD customer surveys since 2009, 68 percent of respondents indicated they rode for work on their most recent trip, 17 percent for leisure or tourism, 6 percent for school, 5 percent for business or personal appointments, and 1 percent to get to the airport (Chart 8).

The Rail Runner is generally financially stable, maintaining operations without raising fares.

Rail Runner revenues totaled \$34 million in FY18, 88 percent of which came from federal funds or gross receipts tax (GRT) revenues. Rio Metro Regional Transit District receives revenues from a one-eighth percent GRT increment in Bernalillo, Sandoval, and Valencia counties, as well as a portion of a corresponding increment transferred from the North Central Regional Transit District (NCRTD) for Rail Runner service in Santa Fe County. FY18 GRT revenues for Rail Runner operations totaled \$14.9 million, slightly less than federal transit grant revenue of roughly \$15 million. Payments from Amtrak and BNSF for the use of the NMRX rail line totaled \$2.1 million, while fare receipts totaled just under \$2 million (Chart 9). The Rail Runner does not receive regular funding from the state general fund or road fund.

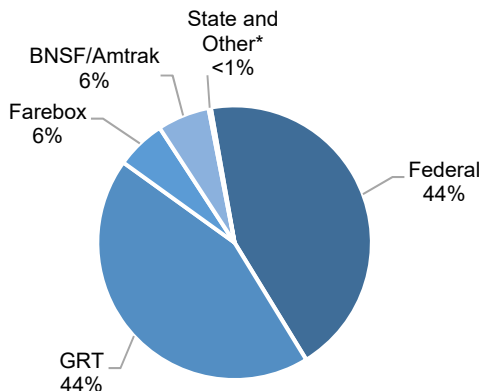
FY18 expenditures were roughly \$33 million, consisting of \$29.1 million in operating costs and \$3.9 million in capital expenses. A majority of the Rail Runner's expenditures are paid to Herzog Transit Services, the contractor responsible for operating and maintaining the trains and right-of-way. Herzog is responsible for staffing train crews and maintaining the rolling stock, signals and control devices, and the tracks and roadbed. RMRTD pays Herzog a management fee and rates based on the number of hours and miles trains are operated, as well as certain costs of maintenance and equipment materials and incentives for on-time performance. FY18 contract expenditures to Herzog totaled \$20.8 million. RMRTD also covers some repair and maintenance costs itself, as well as pays for diesel fuel for the locomotives, insurance, dispatch services, and salaries and benefits of its own staff, employed through the Mid-Region Council of Governments (MRCOG) (Chart 10).

Chart 8. Reasons for Traveling on Most Recent Rail Runner Trip, 2009-2018 Customer Surveys



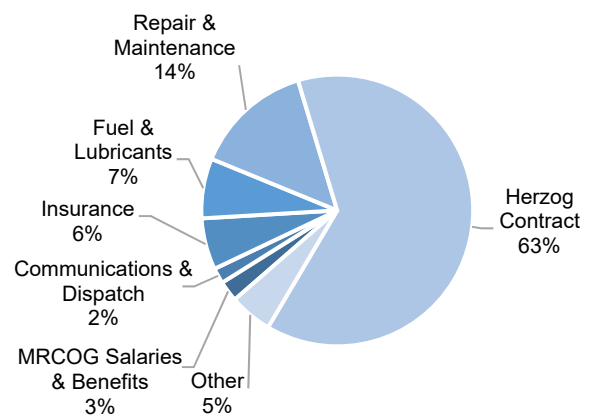
Source: RMRTD Customer Surveys (2009, 2011, 2013, 2015, 2018)

Chart 9. NMRX Revenues, FY18 (Total: \$34 million)



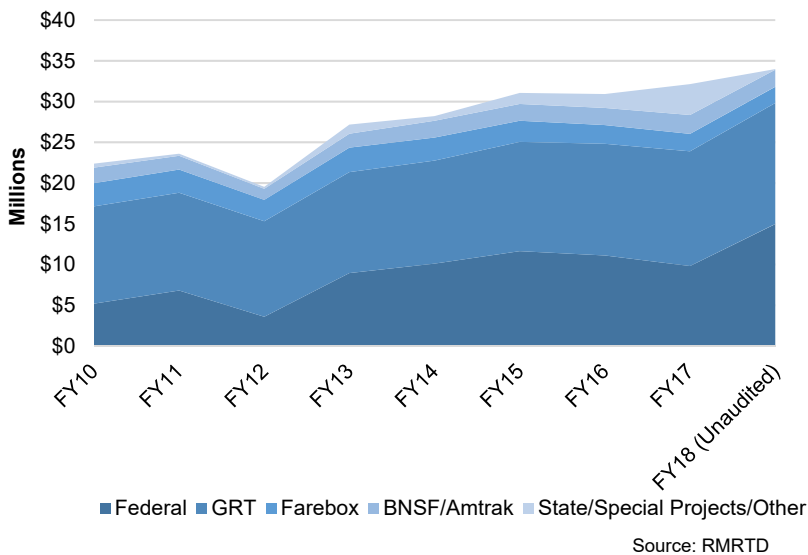
*State and Other includes funds from NMDOT, bike lockers, special projects, advertising, merchandising, and permitting
Source: RMRTD

Chart 10. NMRX Expenditures, FY18 (Total: \$33 million)



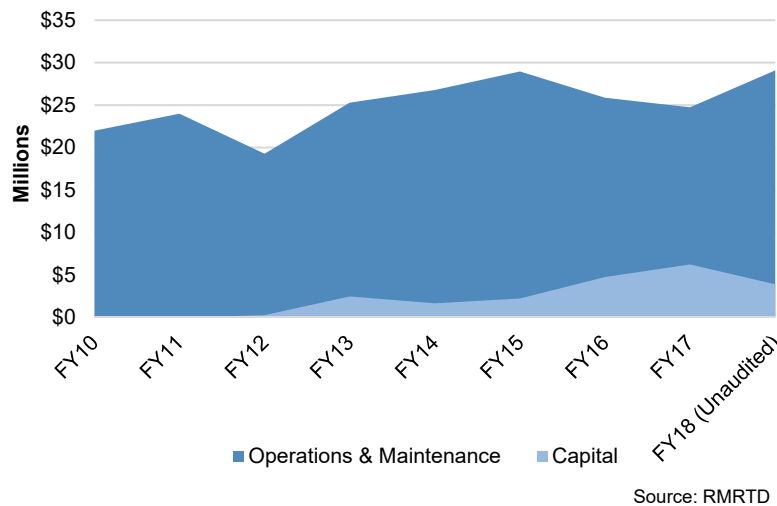
Source: LFC analysis of RMRTD data

Chart 11. NMRX Revenues, FY10-FY18



RMRTD has been successful at maintaining a balanced budget for the Rail Runner, relying on GRT revenues, fares, and payments from Amtrak and BNSF to fund most operating costs and federal funds received directly or passed through NMDOT to support most capital projects. RMRTD does not currently have any outstanding debt for any capital projects related to the Rail Runner, as all debt service associated with the railroad's initial construction costs is borne by NMDOT. However, RMRTD expects to begin paying roughly \$109 thousand annually in FY19 through FY21, and \$786 thousand annually thereafter, to repay a State Infrastructure Bank (SIB) loan for its federally mandated positive train control (PTC) project.

Chart 12. Rail Runner Expenditures, FY10-FY18



Since FY10, the first full year of Rail Runner operations on the Belen-Santa Fe route, GRT revenue has increased by 17 percent. Fare revenues peaked in FY13 at \$3 million, or 11 percent of all sources, before declining by approximately one-third to under \$2 million in FY18. A spike in state and other funds occurred in FY17 due to the receipt of one-time pass-through funding from NMDOT to match a federally funded tie replacement project on the track segment used by Amtrak but not the Rail Runner (Chart 11).

Federal funding is generally used for maintenance and capital purposes. The Rail Runner's federal funding increased by 48 percent since FY10, with much of the increase in FY18 due to one-time federal awards for portions of positive train control

(PTC) costs and planned infrastructure projects such as the Alameda siding, as well as an increase in Section 5337 State of Good Repair funds. RMRTD's FY19 budget includes about \$8 million in federal funds carried over from FY18 for these purposes in addition to an anticipated new federal grant of \$29 million for PTC. RMRTD expects its capital expenditures are expected to spike to \$40 million in FY19 and \$29 million in FY20, mostly for PTC. FY18 operations and maintenance expenditures also increased due to preliminary planning work necessary for PTC implementation (Chart 12).

While the Rail Runner's fare revenues are among the lowest of comparable commuter railroads, current fare levels are appropriate for its market. Using data from the Federal Transit Administration's (FTA) National Transit Database, LFC staff identified nine other commuter railroads with characteristics similar to the Rail Runner. These are listed in Table 1, and more detailed information on each is included in Appendices E through H. Eight of these are systems that (1) are classified by the FTA as commuter railroads, (2) operate similar heavy, diesel-powered

locomotives and rolling stock, (3) operate no more than one line or route in CY17, and (4) operated fewer than 75 thousand vehicle revenue hours and 2 million vehicle revenue miles in CY17. The ninth, the Utah Transit Authority's FrontRunner serving the Salt Lake City area, meets all of these criteria except those for vehicle revenue hours and miles, but is included as an outlier example of a model commuter rail system in the Mountain West region.

A key national measure of a transit system's financial performance is the farebox recovery ratio, or the percentage of a system's operating costs covered by fare revenues. Compared with its peers, the Rail Runner covers a much smaller share of its operating costs with fares. According to the National Transit Database, the Rail Runner's farebox recovery ratio was 8 percent in 2017, the second lowest among these peers. By contrast, the Altamont Corridor Express (ACE) had a farebox recovery ratio of 41 percent (Chart 13). The average among all commuter rail systems nationwide was 40 percent.

The Rail Runner also collected the third-lowest fare amount per passenger trip in 2017, at \$2.58 (Chart 14). However, the Rail Runner's fares are comparable to those of similar systems, and are the lowest on a per-mile basis at 6 cents, owing to the Rail Runner having the longest average trip length of any commuter railroad at 46 miles.

RMRTD last undertook a fare study in 2011 and most recently adjusted fares in 2012. RMRTD has been cautious about raising fares due to weaker economic conditions and lower demand for transit in New Mexico relative to other markets. A 2011 study from the University of New Mexico's Bureau of Business and Economic Research (BBER) on behalf of RMRTD estimated each 1 percent increase in fares would result in a roughly 0.18 percent decrease in ridership, based on research on transit systems in cities with much larger systems and heavier demand. Given that ridership has decreased consistently since the last fare adjustment and raising fares may contribute to additional ridership losses, fare increases do not appear warranted.

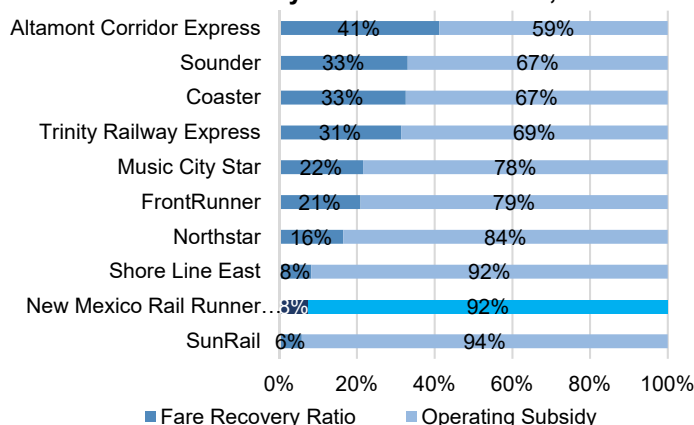
RMRTD depends on local funding more than most transit agencies operating peer commuter railroads. All public transit systems are subsidized by public funds to some extent, including through state and local taxes and, in some cases, taxes levied by transit agencies themselves. RMRTD does not have taxation authority in its own right, instead relying on a local one-eighth percent GRT increment approved by voters in Bernalillo, Sandoval, and Valencia counties in 2009. Of RMRTD's GRT revenues, roughly half supports Rail Runner operations and half supports RMRTD bus service.

Table 1. NMRX Peer Commuter Rail Systems

Commuter Railroad	Area Served
Altamont Corridor Express	Stockton-Tracy-San Jose, CA
Coaster	San Diego-Oceanside, CA
FrontRunner	Salt Lake City-Provo-Ogden, UT
Music City Star	Nashville-Lebanon, TN
Northstar	Minneapolis-Big Lake, MN
Shore Line East	New Haven-New London, CT
Sounder	Seattle-Everett-Lakewood, WA
SunRail	Orlando-Sanford, FL
Trinity Railway Express	Dallas-Fort Worth, TX

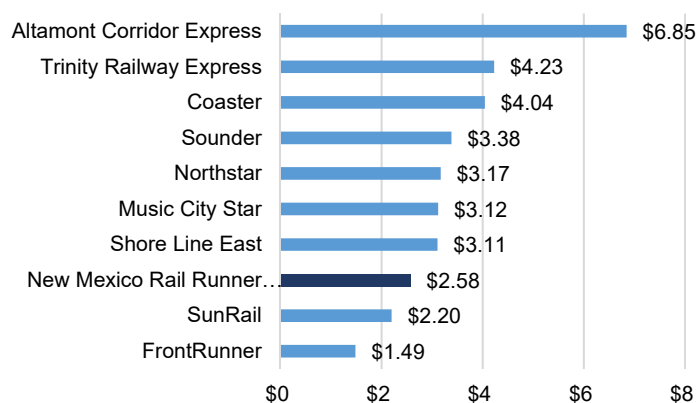
Source: National Transit Database

Chart 13. Share of Commuter Rail Operating Costs Covered by Fares vs. Subsidies, 2017



Source: LFC analysis of National Transit Database

Chart 14. Commuter Rail Fare Revenues per Unlinked Passenger Trip, 2017

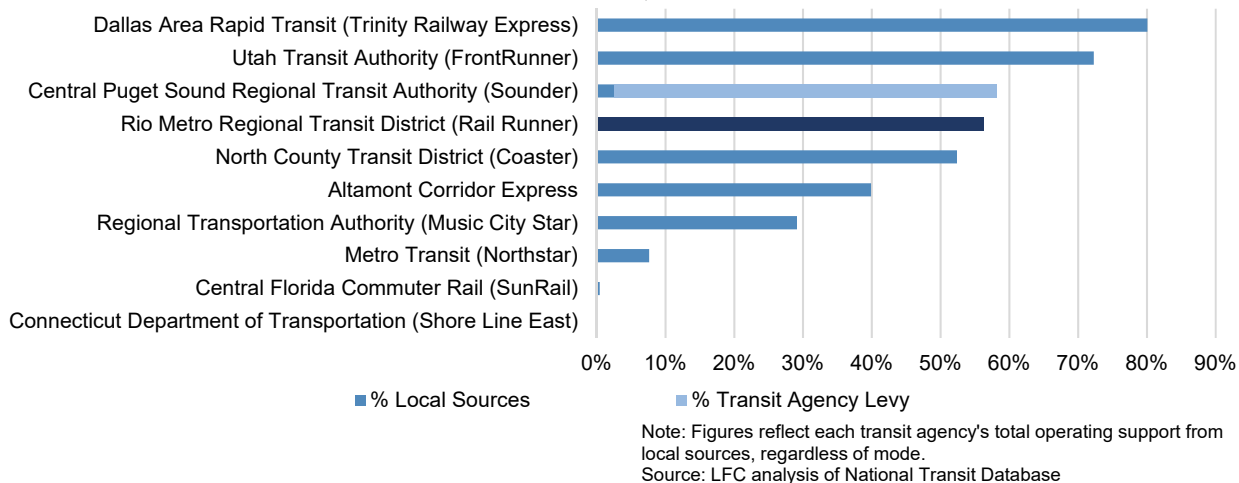


Source: LFC analysis of National Transit Database

In addition, North Central Regional Transit District (NCRTD) transfers the equivalent of half of Santa Fe County’s own one-eighth percent increment, amounting to roughly \$2 million annually, to support Rail Runner service in Santa Fe County pursuant to an intergovernmental agreement. This permits Santa Fe County’s contribution to be proportionally equal to the contributions of the RMRTD member counties.

Among transit agencies operating peer commuter rail systems, RMRTD relies on local funding for its operations more than all but three others (Chart 15). According to the National Transit Database, local sources accounted for 56 percent of RMRTD’s operating funding in 2017, below Dallas Area Rapid Transit, operator of the Trinity Railway Express, and the Utah Transit Authority, operator of the FrontRunner, which both also rely on locally voted sales taxes similar to the local option GRT that supports RMRTD. Central Puget Sound Regional Transit Authority, operating the Sounder commuter train in the Seattle area, is the only agency of these with a levy imposed under the transit district’s own authority.

Chart 15. Percent of Peer Commuter Rail Agency Operating Funds from Local Sources, 2017

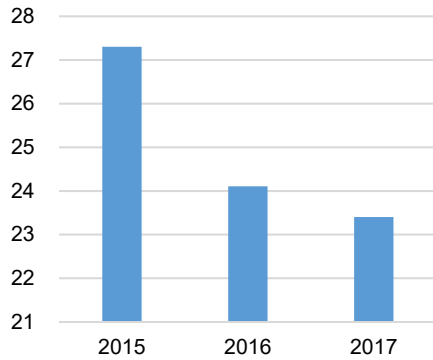


Ridership declines have resulted in higher costs per passenger, but RMRTD is working to manage costs.

RMRTD is required to report a number of performance metrics monthly and annually to the FTA, which publishes them in the National Transit Database. Several of these measure efficiency, both in terms of transporting passengers and operating costs. Certain measures are also available from RMRTD’s own ridership data.

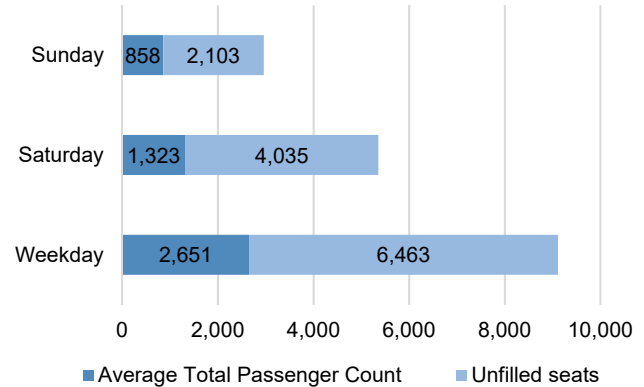
Between 2015 and 2017, the average number of Rail Runner passengers per mile, one of the national metrics tracked by the FTA, fell from 27 to 23, a 14 percent decrease reflective of the overall drop in ridership (Chart 16). Meanwhile, average passenger count as a percentage of the Rail Runner’s overall passenger capacity was 29 percent on weekdays and Sundays and 24 percent on Saturdays in FY18 (Chart 17). While this measure, also known as “load factor,” is not a typical performance measure for public transit nationally, it is an indicator of how efficiently agencies are using their vehicles.

**Chart 16. Rail Runner
Passengers per Hour,
2015-2017**



Source: National Transit Database

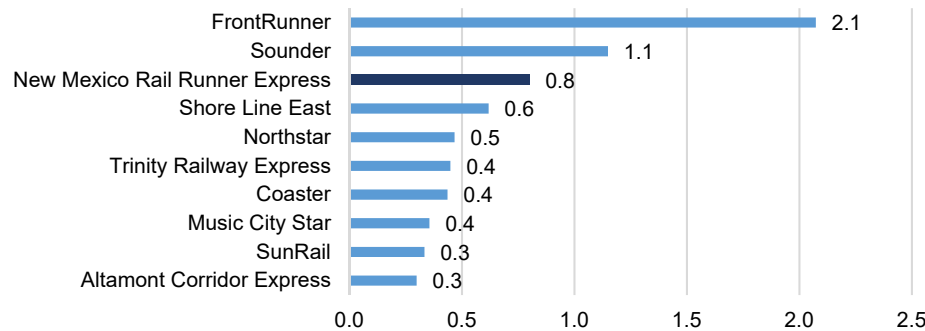
**Chart 17. Average Passenger Count vs.
Total Capacity, FY18**



Source: LFC analysis of RMRTD data

Notably, the Rail Runner carries more passenger trips per capita in its service area than all but two of its peers, despite the smaller and less dense population in New Mexico relative to other markets (Chart 18). Apart from the FrontRunner and Sounder, which run very frequent schedules in denser urban markets, this indicates the Rail Runner is relatively well used in its region compared to other systems, which may serve only certain parts of larger metropolitan counties.

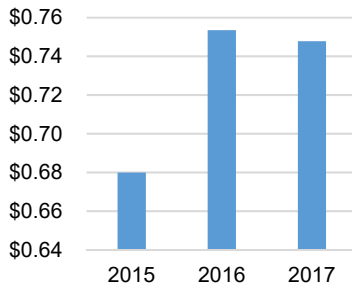
**Chart 18. Commuter Rail Passenger Trips per Capita in
Counties Served, 2017**



Source: LFC analysis of National Transit Database and Census data

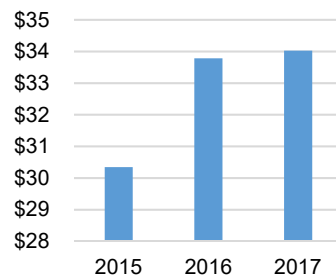
In terms of cost, the Rail Runner's operating cost per passenger mile grew from 68 cents in 2015 to 75 cents in 2016 and 2017 (Chart 19), while the cost per passenger trip grew from \$30 to \$34, a 12 percent increase (Chart 20). These metrics again reflect declining ridership as well as a relatively long average distance traveled. Meanwhile, however, the cost per vehicle revenue hour fell by 4 percent, from \$828 to \$796, a measure more likely to reflect the costs of equipment operation and maintenance, which are less dependent on ridership (Chart 21).

Chart 19. Cost per Passenger Mile, 2015-2017



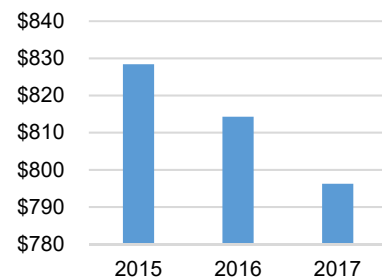
Source: National Transit Database

Chart 20. Cost per Passenger Trip, 2015-2017



Source: National Transit Database

Chart 21. Cost per Vehicle Revenue Hour, 2015-2017



Source: National Transit Database

RMRTD incurs about \$1.8 million in costs to staff trains during operational downtime, which could be mitigated through service adjustments. In FY18, RMRTD paid its private contractor approximately \$6.5 million for the costs of crews to operate Rail Runner trains. These include train operators, ticket agents, and conductors totaling 45 full-time equivalent (FTE) positions. Train crews are employees of the contractor and not of RMRTD. In FY18, RMRTD paid its contractor a base rate of \$312.53 per train hour for these costs, plus some additional costs for additional ticket agents, sales taxes, and the costs of a mock security drill.

RMRTD's contractor billed it for approximately 18 thousand hours in FY18. Extrapolating from CY17 data, an estimated 69 percent of this was for revenue service, and 3 percent was for deadhead service, meaning non-revenue movement of trains without passengers. This means an estimated 27 percent of the hours billed was for either layover time when trains sit idle during the day, or for the time required to transport crew members by car to and from trains in Santa Fe. Overall, the crew costs paid in FY18 amount to roughly \$125 thousand per FTE or \$362 per hour, incorporating the base rate plus the additional costs noted above. Based on these estimates, about \$1.8 million in crew costs, or 23 percent of the total, were incurred during non-revenue and non-deadhead downtime in FY18.

RMRTD's current arrangement permits it to move crews back and forth at a lower cost than would be incurred to run empty trains from Santa Fe to Albuquerque for cleaning and servicing. Service adjustments to incorporate additional or more frequent trains in the middle of the day would require additional operating funding, but could mitigate at least some portion of the crew costs currently incurred during downtime. For example, a train currently serviced in Santa Fe in the late morning could return to Albuquerque with passengers and undergo maintenance and cleaning at the main Albuquerque yard rather than require the transport of personnel by car to perform these tasks in the field.

One peer railroad with a unique structure enabling it to have very low operating and crew costs is Utah's FrontRunner. The Utah Transit Authority (UTA) operates the FrontRunner for about three times as many hours as the Rail Runner at a roughly similar total cost. UTA operates the FrontRunner directly, without a contractor, and is an outlier among commuter railroads for its very low operating costs. According to the National Transit Database, it spent \$6.8 million on wages and benefits for vehicle operations in CY17, or roughly \$81 thousand per FTE and \$173 per train hour.

UTA may be able to achieve such low costs in part because it operates on exclusive right-of-way for much of its route, securing it an exemption from certain federal crew requirements for operations in mixed passenger and freight traffic, as well as selling tickets at automated kiosks instead of having on-board ticket agents. UTA may also be able to achieve significant economies of scale due its higher volume of operations and integration of employees into existing bargaining units with its other transit personnel. The Rail Runner, on the other hand, is required to operate under a private contractor pursuant to its Joint Use Agreement with BNSF.

Overall, the Rail Runner’s total operating cost per train hour was just under \$2,200 per hour in CY17, comparable with most other peer railroads operated under private contracts. (Chart 22). Nevertheless, RMRTD should take steps to identify and mitigate key sources of operational inefficiencies, including tracking costs incurred during downtime.

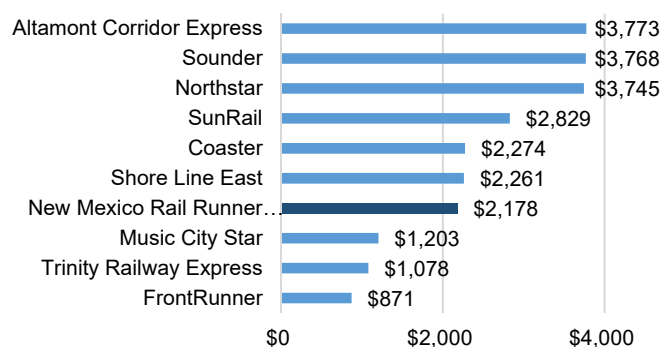
RMRTD regularly monitors the Rail Runner’s performance, but mostly without targets or benchmarks. RMRTD staff regularly present performance reports on the Rail Runner and regional bus services to the RMRTD board of directors. These reports include include several national metrics it reports to the FTA for inclusion in the National Transit Database, such as daily ridership, trips per hour, and fuel consumption, as well as customer-centered metrics such as on-time performance, passenger fuel savings, and complaints received.

However, RMRTD does not include targets or benchmarks for its performance measures, making it unclear how well the Rail Runner is performing relative to any objective or comparative standard other than its own historical performance. Cost efficiency and effectiveness performance targets should include not just measures of efficiency at moving passengers, such as cost per trip, but also measures that are less dependent on passenger volume. Measures such as cost per mile and cost per hour are more directly linked to efficient vehicle operations and more accurately reflect the real costs of operating rail services.

Additionally, RMRTD’s contract with the Rail Runner’s private operator does not include any incentives for efficient operations, instead incentivizing on-time performance. While on-time performance is essential to successful rail operations, identifying targets for certain measures of operational efficiency may encourage efficient and effective use of public funds. However, LFC staff have not identified any similar commuter rail contracts with such incentives, and any incentives should be designed so cost containment does not occur at the expense of safety.

Appendices F, G, and H of this report include charts showing how the Rail Runner compares to its nine peer railroads in several of the measures discussed above as well as others.

Chart 22. Total Operating Cost per Train Hour, 2017



Source: National Transit Database

The Rail Runner's performance affects incentives and penalties under the state's agreement with Amtrak.

Amtrak's Southwest Chief is a long-distance train running 2,286 miles between Chicago and Los Angeles, including five stops in New Mexico: Raton, Las Vegas, Lamy, Albuquerque, and Gallup. The vast majority of its route, about 97 percent of 2,206 miles, is on tracks owned by BNSF Railway, a Class I freight railroad. The NMRX corridor, owned by NMDOT, is one of two short segments of the Southwest Chief's route not owned by BNSF. The Amtrak Southwest Chief service enters NMRX territory at Lamy and operates on 81 miles of state-owned tracks, or 3 percent of its total route, until turning west at Isleta Junction, south of Downtown Albuquerque. Amtrak operates two Southwest Chief trains daily through New Mexico, one eastbound and one westbound.

Amtrak operates in NMDOT territory under a joint use agreement with NMDOT. Under this agreement, Amtrak pays the state for the rights to operate the Southwest Chief on the NMRX corridor under a set rate schedule for certain service components included in the agreement, plus a system of incentives or penalties depending on the on-time performance of the Southwest Chief and the Rail Runner. As the operator of the Rail Runner, RMRTD works directly with Amtrak to determine penalties and incentives on a monthly basis.

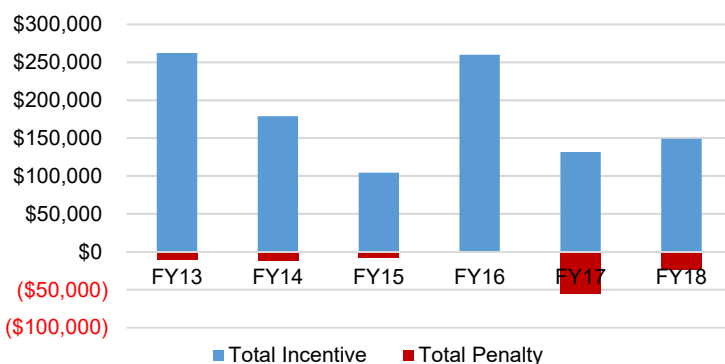
Under the joint use agreement, Amtrak trains have dispatching priority over all other trains under regular, on-time operations, even though the state owns the tracks and wayside equipment. This applies even if Amtrak trains are not operating on time, with the exception of peak hour Rail Runner service. RMRTD, through NMDOT, must pay a penalty for each minute an Amtrak train is delayed over 20 minutes due to conditions or operations on the NMRX corridor, up to a maximum of 70 minutes. For on-time performance or delays under 20 minutes, Amtrak pays RMRTD an incentive. In CY18, the penalty and incentive rate was \$34.43 per minute, with a maximum penalty amount per train of \$2,410 for a total delay of 90 minutes or more (consisting of the minimum pre-penalty delay of 20 minutes and the maximum of 70 additional minutes), whereas the maximum incentive payment per train is \$688.60 (for a maximum on-time period of up to 20 minutes).

Federal law generally requires Amtrak to have priority over freight trains (49 U.S.C. § 24308), but is less clear about non-Amtrak commuter rail service. Because of the structure of this agreement, an on-time Rail Runner train could be subject to a delay if an Amtrak train enters NMRX territory late, but outside

of peak hours. This means the Rail Runner could be assessed a penalty for operating on time if its operations interfere with an Amtrak train that, under the joint use agreement, has dispatching priority.

The Rail Runner netted nearly \$1 million in on-time performance incentives from Amtrak between FY13 and FY18, less than half of the total possible amount. Between FY13 and FY18, the Rail Runner earned nearly \$1.1 million in total incentives and incurred about \$108 thousand in total penalties, for net incentive revenues of approximately \$978 thousand. The average monthly incentive payment was

Chart 23. On-Time Performance Incentives and Penalties Assessed by Amtrak, FY13-FY18



Source: LFC analysis of RMRTD data

approximately \$18,400, and the average penalty was approximately \$8,300. No penalties were assessed in FY16, but the period of greatest penalties occurred between March and October 2017, largely due to a project to replace jointed rail with continuous welded rail between Albuquerque and Bernalillo (Chart 23).

On average, incentives amounted to approximately 45 percent of the total possible incentive amount over this period. The total possible incentive may vary monthly based on the number of Amtrak trains operated in NMDOT territory. For example, in September 2018, Amtrak operated a total of 60 trains on Rail Runner tracks, one per day in each direction. If these trains incurred no delays whatsoever, the state would be eligible for a total incentive payment of \$41,316 based on a CY18 rate of \$34.43 per minute for each minute, up to 20 minutes, without a delay. The actual incentive payment that month was \$9,950, or 24 percent of the maximum possible amount.

Planned infrastructure improvements, such as implementing positive train control, double-tracking and centralized traffic control through parts of Albuquerque, and a new Alameda siding in north Albuquerque, could result in short-term delays during construction, but further improve on-time performance and increase the amount of incentives the Rail Runner receives in the long run.

The Southwest Chief was subject to an average of over 2,000 minutes of delay per 10 thousand train miles in each month while operating in NMDOT territory during FY18, according to Amtrak's monthly Host Railroad Reports (Appendix I).

Despite owning the Rail Runner, NMDOT does not have a seat on the RMRTD board to oversee its operations.

The Regional Transit District Act authorizes the creation of regional transit districts by a combination of local governments. RMRTD's membership includes Bernalillo, Sandoval, and Valencia counties and various local jurisdictions within them, as well as associate members representing Isleta Pueblo and North Central Regional Transit District. The Act allows the state to join a contract creating a regional transit district upon approval of the governor, and requires that the state be entitled to at least one director's seat on the district's board (Figure 5). However, although it owns the Rail Runner, oversees the pass-through of federal funds, monitors compliance with state and federal transit and railroad regulations, and regularly attends meetings of and coordinates with RMRTD's board and management pursuant to the state's agreement with RMRTD, NMDOT does not have a formal seat on RMRTD's board. While the relationship between NMDOT and RMRTD is close, this may not always be the case in the future. Formal board representation could ensure NMDOT maintains a stake in operating and maintaining its asset in the long term.

Figure 5. Authority for State Membership on a Regional Transit District Board

"D. Upon the approval of the governor, the state may join in a contract creating a district. The number of directors of the board to which the state is entitled shall be established in the contract, but in no case shall the state be entitled to less than one director. The governor shall appoint the director or directors representing the state on the board, for a term as established by the contract that created the district."

Source: Regional Transit District Act (73-25-4 NMSA 1978)

Three of the peer railroads identified by LFC are wholly or partially state-owned. These are shown in Table 2 below, along with two railroads (Altamont Corridor Express and Sounder) that are not state-owned but do have state representation on their boards. One railroad, Shore Line East, is owned and operated by the Connecticut Department of Transportation, with a portion of its tracks owned by Amtrak. The others, including the Rail Runner, are operated by a regional transit authority or rail commission. Several railroads are owned by their operating transit authority, and are not included in the table.

Table 2. Peer Railroads with State Ownership or State Representation on Governing Boards

Railroad	Operating Agency Type	Ownership	State Representation on Board?	Who Represents the State?
Altamont Corridor Express	Regional rail commission	Regional rail commission	Yes (Ex Officio)	Caltrans District 10 representative
Music City Star	Regional transit authority	State DOT	Yes	State Transportation Commissioner or designee
New Mexico Rail Runner Express	Regional transit authority	State DOT	No	
Shore Line East	State DOT	State/Amtrak	N/A	
Sounder	Regional transit authority	Regional transit authority	Yes	State Secretary of Transportation
SunRail	Regional rail commission (advisory to state DOT)	State DOT	No	

Source: LFC analysis

Recommendations

NMDOT should:

- As the owner of the Rail Runner, seek approval from the Governor to exercise its current statutory authority under the Regional Transit District Act to enter into a contract with RMRTD and hold a seat on its board of directors.

RMRTD should:

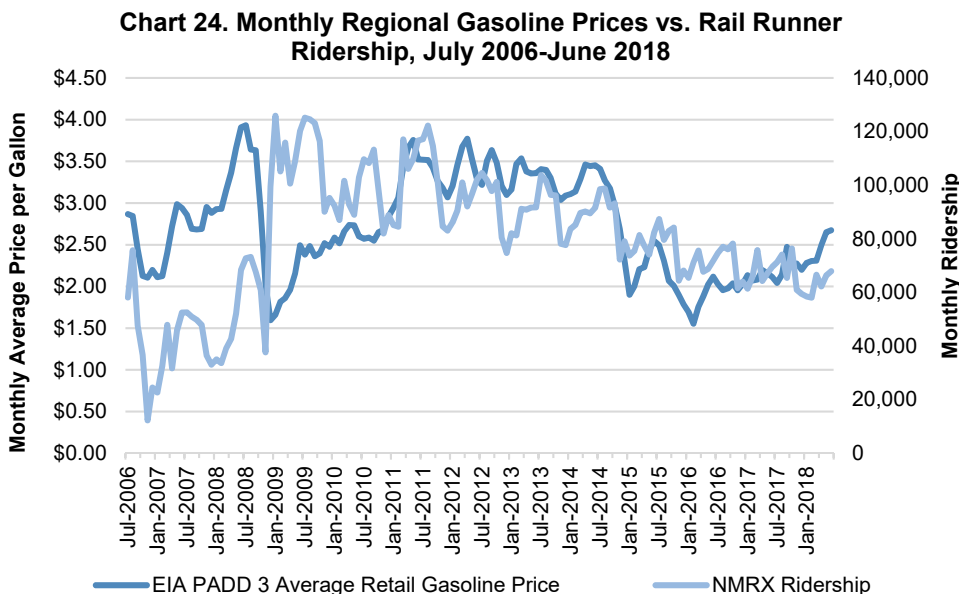
- As part of its short-range plan, adopt performance targets for key Rail Runner efficiency and cost-effectiveness metrics including, but not limited to, farebox recovery ratio, operating cost per hour and per mile, and passenger trips per hour;
- Use performance targets to drive strategies and goals for cost savings and operational efficiency in concert with initiatives to attract ridership;
- Incorporate transparency and efficiency requirements into its next RFP and contract for a train operator, including the ability to separately track charges not directly related to revenue train operations;
- Pursue other mechanisms to lower operating costs in the medium to long term, including the use of ticket vending machines in lieu of on-board sales; and
- Develop a long-term strategy to increase ridership, with a focus on actions to attract or reattract core commuters.

Core Infrastructure Improvements Can Help the Rail Runner Add Value to the Transportation System

The Rail Runner is a low-cost option for passengers, but has become less competitive as an alternative to driving.

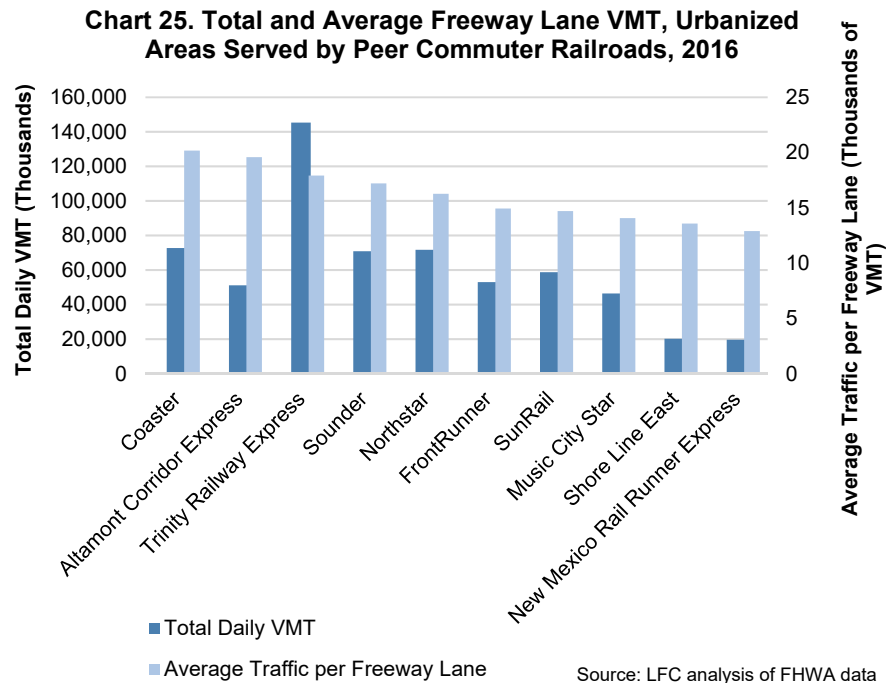
In CY17, Rail Runner passengers paid an average of 6 cents per mile in fares. Comparatively, the U.S. Bureau of Transportation Statistics and the American Automobile Association (AAA) estimate the average cost of vehicle ownership at 59 cents per mile, including fixed costs such as license and registration, insurance, and finance charges, and variable costs such as gas and maintenance. However, the continued fall in gasoline prices, coupled with slow economic growth and previously discussed reductions in commuting across county lines, have weakened the Rail Runner's position as a competitive alternative mode of transportation.

The average retail price for a gallon of gasoline in the region containing New Mexico peaked at \$3.93 in July 2008, a few months before the Rail Runner extended service to Santa Fe. As Chart 24 shows, gas prices plummeted around the time this service began, but climbed to nearly the same levels in 2011 and 2012, coinciding with some of the highest individual months of Rail Runner ridership. Since then, gas prices and ridership have followed a similar overall downward trend.

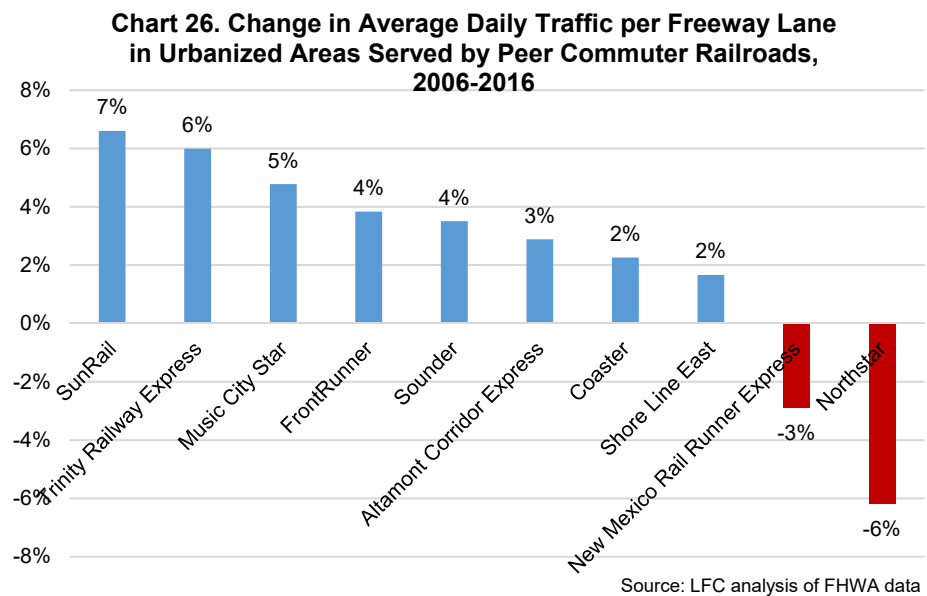


Source: LFC analysis of EIA and RMRTD data

Compared to many other markets served by commuter rail, the Albuquerque and Santa Fe areas are among the least congested with traffic. In CY16, the most recent year federal highway data are available, the Albuquerque and Santa Fe urbanized areas had 19.6 million total daily vehicle miles traveled (VMT) and under 13 thousand average VMT per freeway lane in CY16, the fewest of all the urbanized areas served by the Rail Runner's peer commuter rail systems (Chart 25).



Among the urbanized areas served by the group of 10 peer commuter railroads, all but two experienced growth in traffic per freeway lane during the decade between 2006 and 2016. Only the Albuquerque and Santa Fe urbanized areas, served by the Rail Runner, and the Minneapolis-Saint Paul urbanized area, served by the Northstar, experienced reductions in freeway traffic (Chart 26).



Further signaling deterioration in the Rail Runner's competitiveness, between 2014 and 2016, the Rail Runner's share of all trips across the Sandoval County-Santa Fe County line fell from 22 percent to 18 percent during afternoon peak hours, according to RMRTD traffic studies. Although this

reflects point-in-time data, it is another indication travelers are choosing to drive instead of take the train (Chart 27).

Infrequent service and long travel times deter riders, signaling a lack of competitiveness with driving. RMRTD conducts customer satisfaction surveys roughly every two years. Since 2009, these surveys have included a question asking respondents to check the reasons they do not ride the Rail Runner more often. In response to the question, “which factors prevent you from riding the train more often?” 31 percent of respondents in the 2018 survey chose “the schedule did not fit my needs,” while an additional 7 percent responded the travel time is too long (Chart 28).

Chart 28. 2018 Customer Survey Responses to the Question: “Which Factors Prevent You From Riding the Train More Often?”
(N=944 responses from 769 respondents)

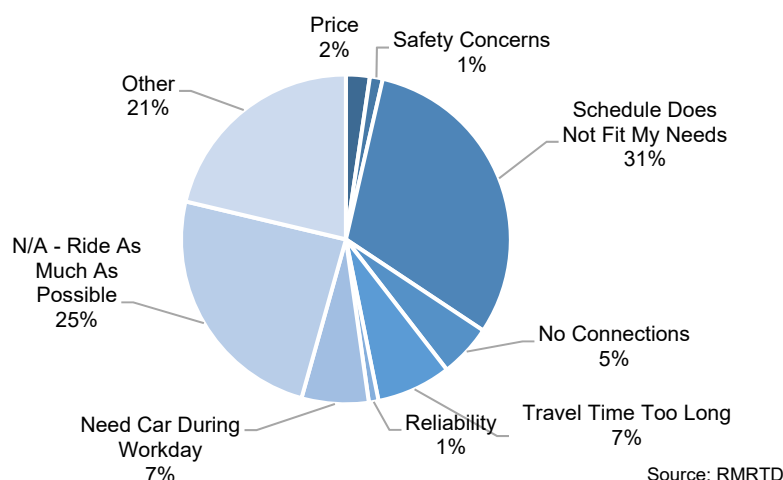
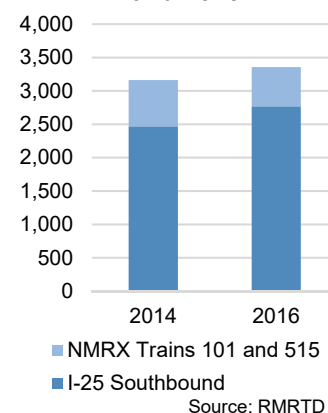
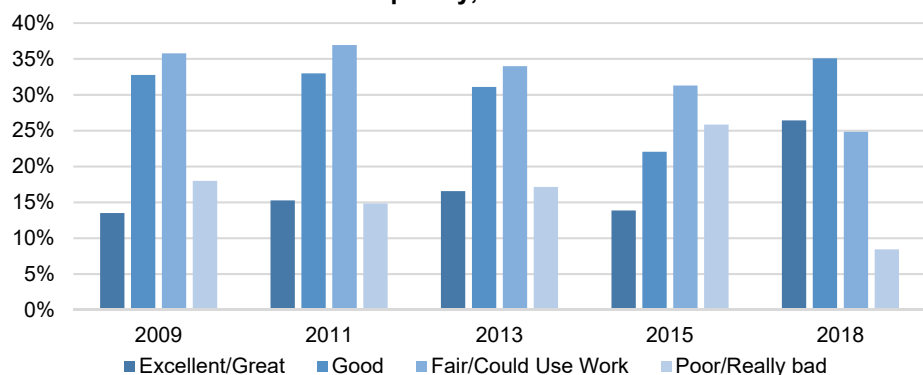


Chart 27. Afternoon Peak Trips Across Sandoval-Santa Fe County Line, 2014 and 2016



Service frequency also ranks as a chief concern of riders. Majorities of respondents ranked their satisfaction with service frequency as either “fair” or “poor” in each survey from 2009 through 2015. In 2018, riders appeared to hold higher opinions of service frequency, with 33 percent rating it as “fair” or “poor” (Chart 29). However, it is important to note that the demographics of survey respondents in 2018 skew older and more toward leisure travelers than prior years and thus may place less emphasis on service frequency than younger riders and regular commuters. In 2018, 56 percent of survey respondents were aged 60 or older, compared to 13 percent being 65 or older in 2015. Moreover, 50 percent of 2015 survey respondents reported their most recent trip was for work, compared to just 36 percent of 2018 respondents.

Chart 29. Rail Runner Customer Ratings of Service Frequency, 2009-2018



Note: Percentages do not add up to exactly 100% because "N/A" responses are excluded.
Source: RMRTD

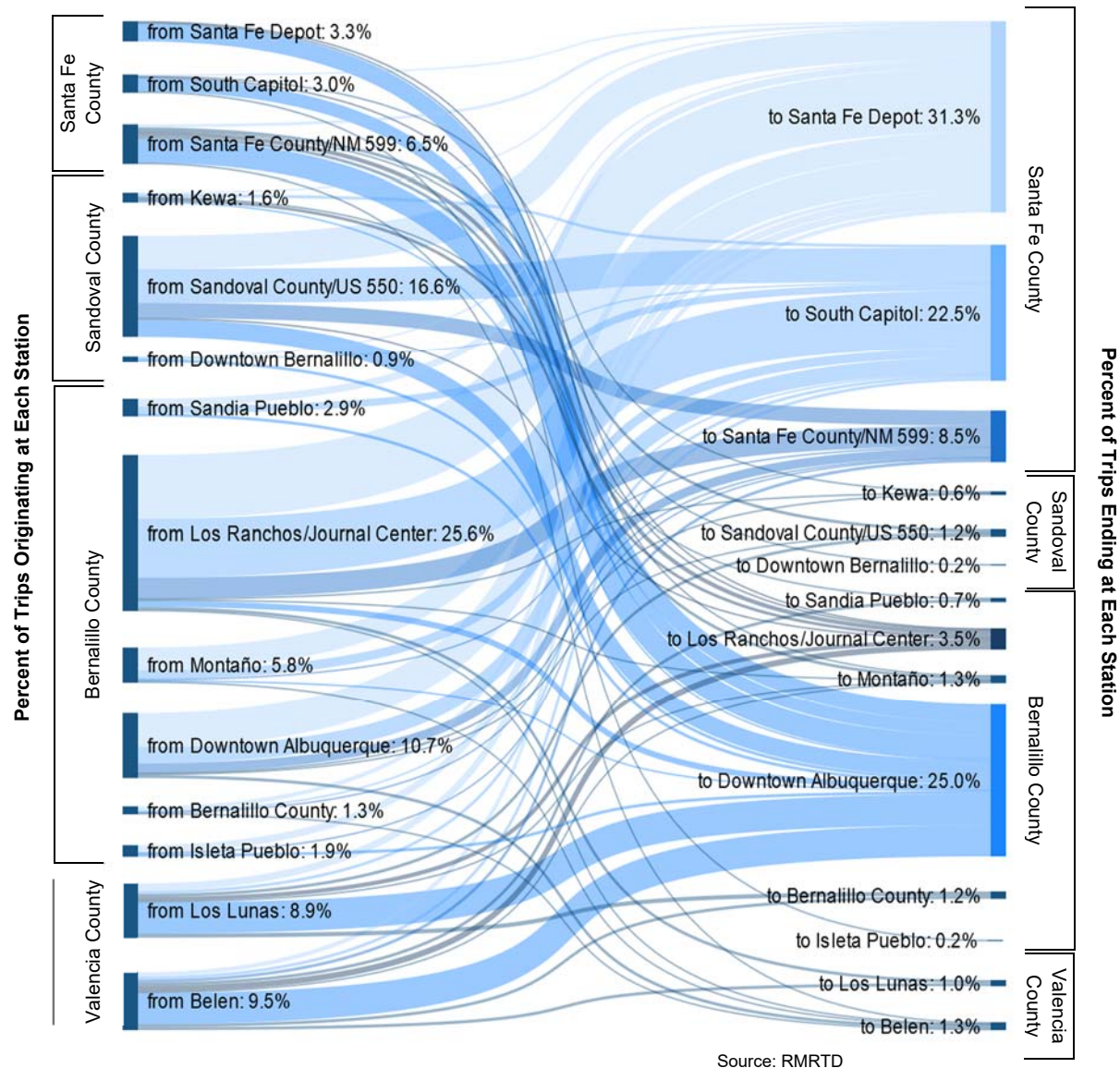
A few stations account for a majority of Rail Runner ridership, with most riders traveling across county lines

RMRTD's ability to collect detailed data on rider origin and destination points is limited. Its ticketing system permits knowledge of the type of ticket purchased and the number of zones of travel, but not where each individual traveler gets on and off the train. Conductors and ticket agents also complete passenger counts on each train, which inform data on each train's ridership and activity at each station. Otherwise, RMRTD has relied on survey data to inform its knowledge of passenger origins and destinations.

In its 2015 customer survey, Rio Metro collected limited data on where passengers began and ended their trips. While this data is based on a small sample of Rail Runner riders and is not necessarily representative of all trips, it is illustrative of how riders use the train. Figure 6 illustrates the volume of riders between each pair of Rail Runner stations based on the 2015 rider survey. The station of origin is on the left, and the destination is on the right. The percentages refer to the percent of total trips originating or ending at each station. For example, about one-quarter of all trips began at Los Ranchos/Journal Center, while roughly the same percentage of all trips ended in Downtown Albuquerque.

Thicker lines represent more riders between two stops, while thinner lines represent fewer. For example, there is a high volume of passengers between Los Ranchos/Journal Center, primarily used as a park-and-ride stop in Bernalillo County, and both the South Capitol and Santa Fe Depot stations in Santa Fe County, indicating significant use by commuters between Albuquerque and Santa Fe. Additionally, most riders originating in Belen and Los Lunas indicated they were heading to Downtown Albuquerque, likely commuting to work there. There are very few trips between stops within Bernalillo County, a likely indicator that the train does not serve the needs of commuters who need to make shorter trips.

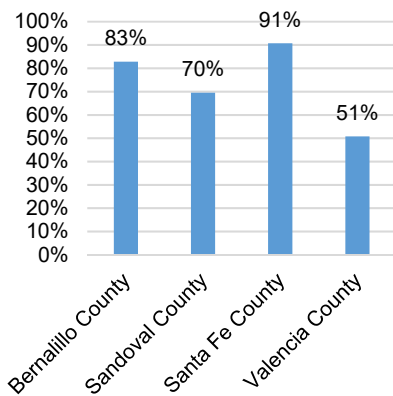
Figure 6. Flow of Rail Runner Passenger Trips by Origin and Destination as Reported in the 2015 Customer Survey



This analysis is supported by census data showing rail commuters' travel times by their county of residence. A greater proportion of rail commuters in Bernalillo and Santa Fe counties have trips of an hour or more than those in Sandoval and Valencia counties (Chart 30). Those from Bernalillo County tend to make longer trips to Santa Fe County and vice versa, while those from Valencia County mostly travel to Bernalillo County and those from Sandoval County travel slightly shorter distances to both Bernalillo and Santa Fe counties

Because commuter rail is often implemented on a regional scale, rather than within a single county or municipality, its users are more likely to travel between counties than users of other types of public transportation, and the extent to which passengers commute across county lines is one indicator of a region's transportation needs. Most local public transit systems do not cross county lines, requiring people employed outside the county where they live to

Chart 30. Percentage of Rail Commuters with Trips of 60 Minutes or More by County, CY17



Source: ACS2017 5-year Estimates

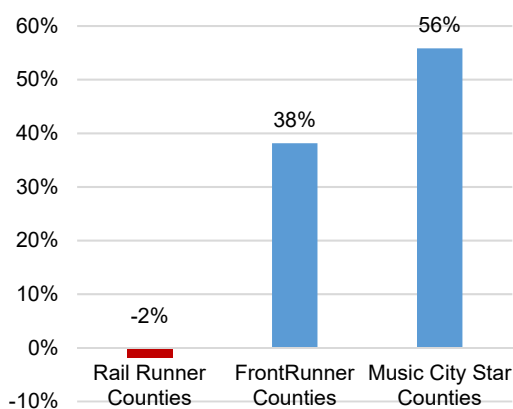
drive or use a mode of transportation that does cross county lines, such as commuter rail.

Besides the Rail Runner, two peer railroads, the FrontRunner and the Music City Star, opened during the same two-year period from 2006 to 2008, allowing for useful comparisons between them and the regions they serve. Of these three railroads, the Rail Runner and FrontRunner each serve a four-county region, and the Music City Star serves two counties.

In the areas served by the FrontRunner (Davis, Salt Lake, Utah, and Weber counties, Utah) and the Music City Star (Davidson and Wilson counties, Tennessee), the number of workers who commute to work outside their county of residence grew substantially between 2005, before the commencement of commuter rail service, and 2017, as shown in Chart 31. In the Rail Runner's service area, the number of workers crossing county lines to get to work decreased by 2 percent during the same period.

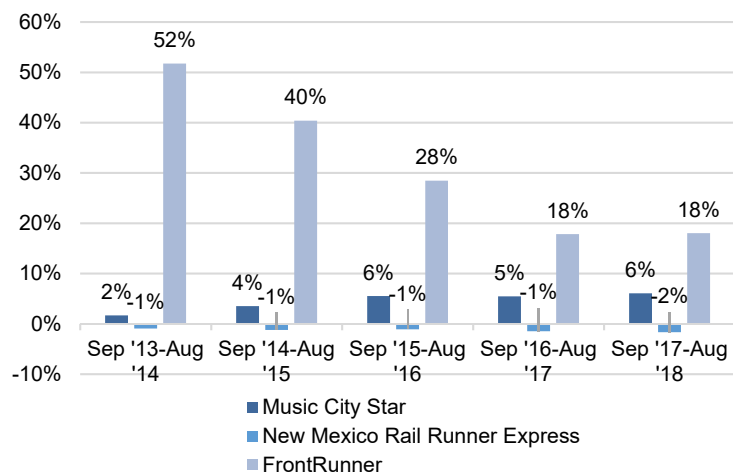
The Rail Runner is the only one of the three railroads not to experience consistent ridership growth (Chart 32). The FrontRunner experienced significant year-over-year growth in each month between September 2013 and August 2015 due to service expansions, while the Music City Star has experienced more modest growth, averaging between 2 percent and 6 percent year-over-year, despite not implementing major service expansions. The Rail Runner, however, experienced year-over-year declines of 1 percent to 2 percent during this period. Given the pattern of trips between Rail Runner stations across county lines shown above in Figure 6, coupled with the extent to which the Rail Runner relies on commuters for most of its ridership, this decline in intercounty commuting likely had some impact on Rail Runner ridership.

Chart 31. Change in Number of Workers Working Outside Their County of Residence, 2005-2017



Source: LFC analysis of American Community Survey

Chart 32. Average Monthly Year-Over-Year Change in Ridership, September 2013-August 2018



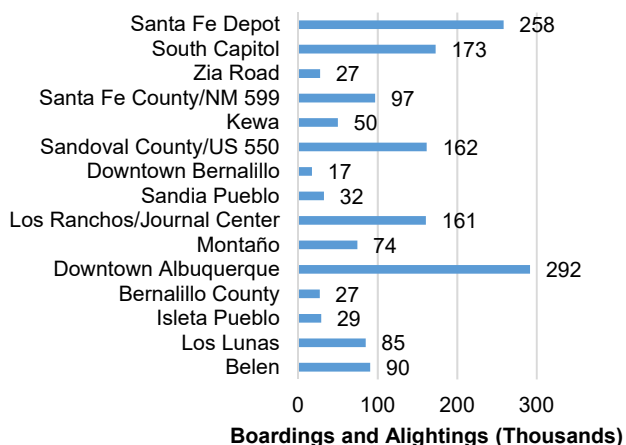
Source: LFC Analysis of NTD Data

One-third of Rail Runner stations account for two-thirds of ridership. The Rail Runner has 15 stations along its approximately 97-mile route. Those in key job centers and commuter hubs drive ridership. Overall the five most used stations, those with more than 100 thousand boardings and alightings each, accounted for 66 percent of all station activity in FY18, while the other ten accounted for 33 percent.

In FY18, the Downtown Albuquerque station at the Alvarado Transit Center was the most used by passengers, with a combined 291.6 thousand boardings and alightings. Santa Fe Depot, the northern terminus of the line, was second with 258.4 thousand. Other heavily used stations are located near centers of employment, such as South Capitol, which is near several state office buildings, or serve as major park-and-rides for suburban commuters, such as Los Ranchos/Journal Center and Sandoval County/US 550 (Chart 33).

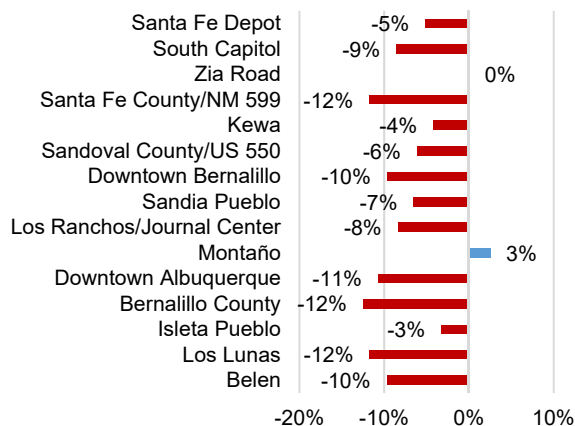
Total activity at all stations along the route decreased an average of 8 percent per year during the FY15-FY18 period. Prior to the opening of the Zia Road station in FY17, the most recent station to open was Montañito in FY14. Since it opened, Montañito is the only Rail Runner station to experience a consistent increase in use. All others (excluding Zia Road, which only has one full year of data available) saw an average annual drop in ridership, with the greatest average decrease of just over 12 percent occurring at the Bernalillo County station in the South Valley (Chart 34).

Chart 33. NMRX Station Activity (Boardings + Alightings), FY18



Source: RMRTD

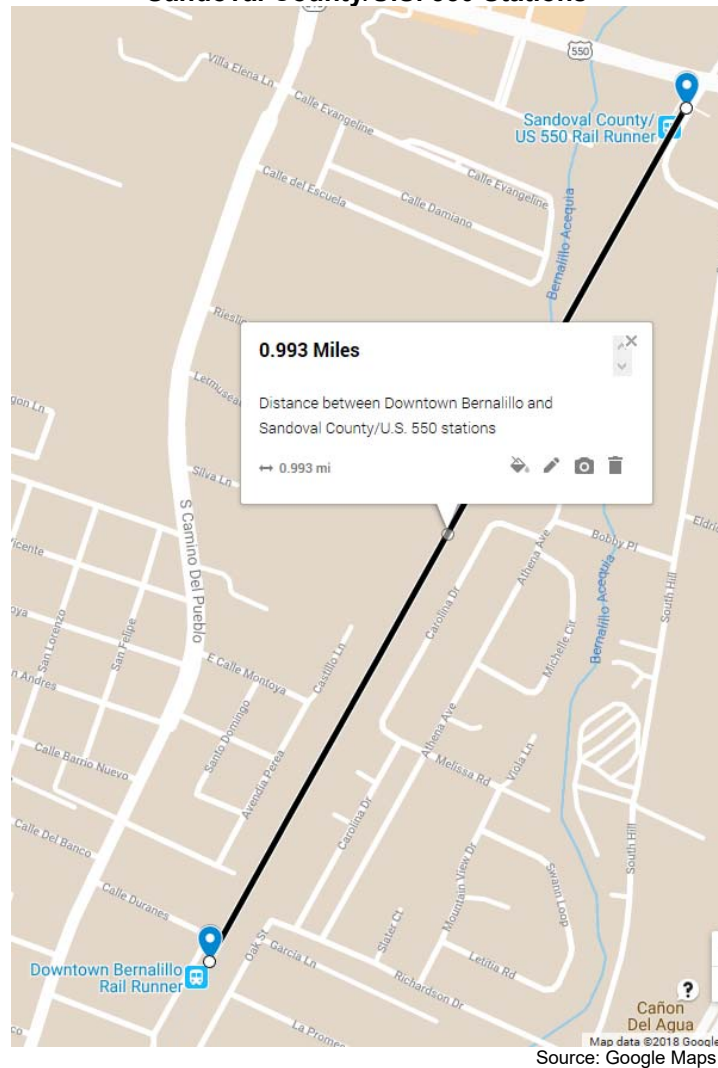
Chart 34. Average Annual Change in Activity by Station, FY15-FY18



Note: Excludes Zia Road (opened in FY17)
Source: LFC analysis of RMRTD data

The least-used Rail Runner stop, Downtown Bernalillo, is just one mile from one of the most-used stations. Downtown Bernalillo had just 17.3 thousand boardings and alightings in FY18, or just 1 percent of all station activity on the line. This was equivalent to roughly 64 percent of the activity at the next least used station, Bernalillo County, and 11 percent of the activity at the Sandoval County/U.S. 550 station, located just one mile north (Figure 7). Under the current service schedule, a non-express train coming from Downtown Bernalillo will depart Sandoval County/U.S. 550 just four to five minutes later, the shortest time and distance between two stops. The morning and evening commuter express trains (trains 101 and 102) do not stop at Downtown Bernalillo.

Figure 7. Proximity of Downtown Bernalillo and Sandoval County/U.S. 550 Stations



Opening new stations has not led to more riders, and proposals for additional stations would complicate service without guaranteeing ridership increases.

The last year in which the Rail Runner experienced overall ridership gains was FY10, the first full fiscal year after extending service to Santa Fe. Four Rail Runner stations opened between FY10 and FY18: Kewa in March 2010, Sandia Pueblo in August 2011, Montañito in April 2014, and Zia Road in April 2017. While two of these stations serve tribal communities that previously did not have dedicated stops, the other two added additional stops between already heavily used stations. Montañito added an additional stop between Downtown Albuquerque and Los Ranchos/Journal Center, and Zia Road added an additional stop in Santa Fe between the Santa Fe County/NM 599 park-and-ride station and South Capitol. While the Zia Road station was built in 2008, it did not open until 2017 due to issues with access from the surrounding land.

None of these station openings resulted in net ridership gains. For example, Chart 35 illustrates the change in boardings and alightings at Montañito and the

two stations immediately to its north and south between FY13, the year before Montañó opened, and FY15, its first full year of operation. Montañó experienced growth in ridership to roughly 69 thousand trips between its opening in April 2014 through FY15. However, this was more than offset by decreases at both Downtown Albuquerque and Los Ranchos/Journal Center, which experienced combined ridership losses totaling 139 thousand trips, for a net loss of about 70 thousand trips between these three stations.

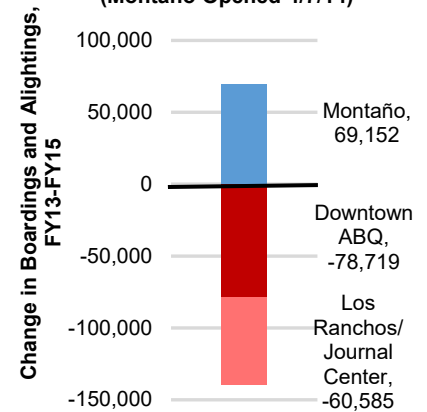
A previously built Lobo Special Events Platform has not been used since 2011. In 2009, the Rail Runner added limited service to the Lobo Special Events Platform for events at the University of New Mexico (UNM) sports facilities. The platform, located a short distance south of the Downtown Albuquerque station near Avenida Cesar Chavez, was built using \$1 million in funding split by MRCOG and UNM. However, it has not been used since 2011 and currently sits behind a fence. There are currently no plans to revive service to this stop.

Recent Rail Runner ridership to the Albuquerque International Balloon Fiesta does not appear to justify construction of a spur and platform at Balloon Fiesta Park. Plans by the city of Albuquerque for a rail spur and platform at Balloon Fiesta Park in Albuquerque date to 2008, with recent updates in 2018. The spur would allow trains to exit the main line to serve events at the park directly through a dedicated passenger platform. Current estimates of the cost to build the spur range from \$8.4 million to \$11.2 million, depending on the design chosen. This is a significant increase from the \$4.4 million estimate from the time of the initial 2008 proposal.

RMRTD reported roughly 3,900 total trips using discounted Balloon Fiesta ticket packages in FY18, the most recent year it offered them. This amounts to approximately one-half percent of total ridership in that year. Put another way, Rail Runner trips to the Balloon Fiesta amounted to approximately 23 percent of the total activity at Downtown Bernalillo, the least-used Rail Runner station. The less expensive of the two alternative designs for the Balloon Fiesta Park spur and station would cost \$8.4 million, or just under \$2,200 for each FY18 Rail Runner passenger trip to the Balloon Fiesta.

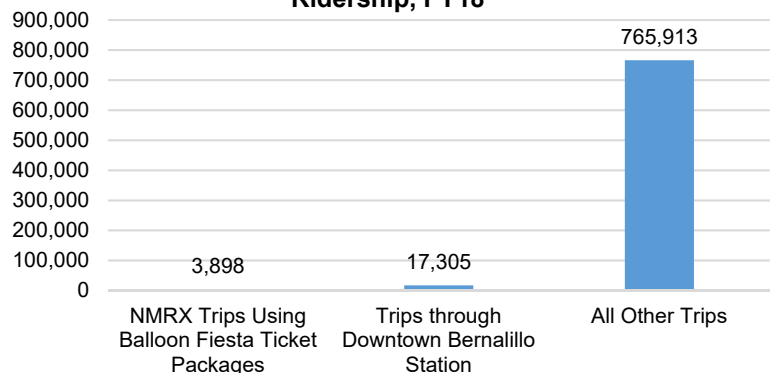
The plans for the spur would also introduce complications to service since each alternative design would only permit access from one direction, either from the north by southbound trains or from the south by northbound trains. This would likely result in some disruption to service since any train transporting passengers from the opposite direction would have to change direction to access the spur. While the planned Alameda siding may alleviate this to some extent, it is unclear how the spur would affect schedules or travel times on the main line to and from points north of the park. Neither the 2008 nor 2018 proposals address this situation or any service implications that would result, nor do they include any projections of ridership or estimate how often the spur would be used apart from Balloon Fiesta events. Since it would not be located on the main line, it would not be a regular commuter stop and would likely see very limited use only during Balloon Fiesta events and possibly others.

Chart 35. Change in Ridership by Station, FY13-FY15
(Montañó Opened 4/7/14)



Source: RMRTD

Chart 36. Balloon Fiesta Weekends vs. Other Ridership, FY18



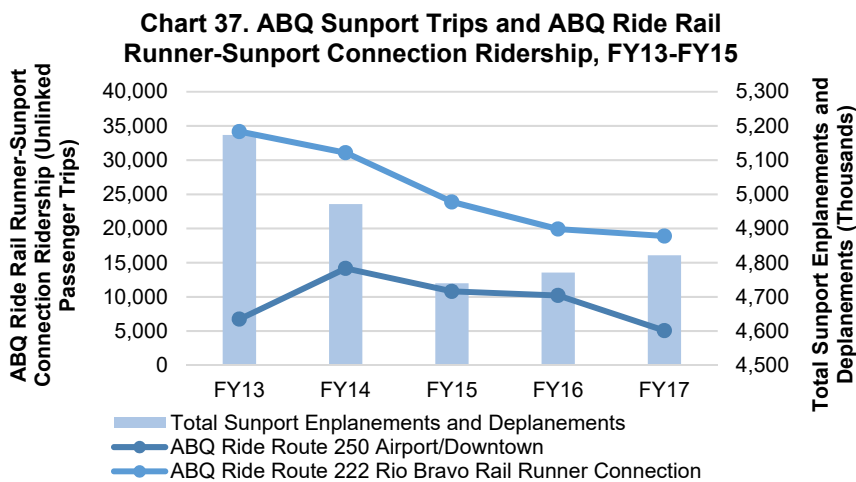
Source: LFC analysis of RMRTD data

No peer railroads have similar dedicated special event spurs or stations. A proposal exists to add a special events platform for Coaster and Amtrak Pacific Surfliner trains at the Del Mar Fairgrounds in San Diego County, California as part of a larger bridge replacement and double-tracking project. Unlike the proposed Balloon Fiesta spur, however, this platform would be on the Coaster's main line and would be built secondary to other necessary bridge and infrastructure improvements.

Direct Rail Runner service to the Albuquerque International Sunport would likely require higher frequency and more demand.

RMRTD is exploring the possibility of rehabilitating and extending an existing but disused rail spur near the Albuquerque International Sunport to provide direct service for air passengers as well as airport employees. Presumably, this spur, like the proposal for Balloon Fiesta Park, would terminate at a platform off the main line. LFC staff requested, but did not receive, information on the cost, service, and ridership implications of this proposal.

Currently, ABQ Ride operates two bus routes connecting Rail Runner stations with the Sunport, both funded entirely by RMRTD and at no additional cost to riders. Route 250 provides a direct shuttle connection to the airport from the Alvarado Transit Center, site of the Downtown Albuquerque Rail Runner station, while route 222 connects the Bernalillo County station with the airport and Kirtland Air Force Base, making other stops along its route.



Total trips on ABQ Ride's routes providing connections from the Rail Runner to the airport represented about 3 percent of all Rail Runner trips in FY17, the most recent year for which ABQ Ride has published data. Ridership on both these routes decreased by 41 percent from FY13 to FY17, while passenger trips through the Sunport, as measured by total enplanements and deplanements, were 7 percent lower in FY17 compared to FY13 (Chart 37).

Most commuter rail lines do not directly serve airports, and those that do tend to be major hubs (Table 3). Of the 29 federally designated commuter railroads as of 2018, just two, in Denver and Philadelphia, have dedicated on-airport stations directly serving terminals. An additional six serve dedicated airport stations that connect to terminals via a direct shuttle. With the exception of the newly-opened in 2017 SMART commuter rail line serving the Sonoma County airport in California, these tend to be large hub airports with significant air traffic, such as Newark, Chicago O'Hare, and Miami. The Rail Runner is one of six commuter railroads offering a direct shuttle route from an off-airport station, via the free ABQ Ride route 250 shuttle bus from Downtown Albuquerque.

Limited research into the effect of airport service on transit ridership indicates airports tend not to be a primary driver of transit usage, as they tend to exist in areas with robust and well-developed transit systems that already have a large ridership base and frequent service. Commuter rail ridership by definition generally is driven by regular riders commuting to job centers at peak hours,

and commuter rail operates less frequently than other modes of transit, such as light rail, urban heavy rail (such as a subway system) or buses.

Table 3. Commuter Railroads with Airport Stations and Connections as of 2018

Dedicated Airport Station at Terminal(s)	Off-Airport Station with Other Transit Connections to Airport
SEPTA Regional Rail (Philadelphia) Denver RTD (Denver)	Amtrak Downeaster (Portland, ME) Capital MetroRail (Austin) Coaster (San Diego)
Dedicated Airport Station with Shuttle Connection	MBTA Commuter Rail (Boston)
Amtrak Keystone Service (Newark) MARC (Baltimore-Washington Int'l) Metra (Chicago O'Hare) NJ Transit (Newark) SMART (Santa Rosa, CA) Tri-Rail (Miami, Fort Lauderdale-Hollywood, Palm Beach)	Metra (Chicago-Midway) Metro-North (New York) Northstar Line (Minneapolis) Shore Line East (Hartford) Sunder (Seattle-Tacoma) SunRail (Orlando) FrontRunner (Salt Lake City) Virginia Railway Express (Washington-Reagan National)
Off-Airport Station with Airport Shuttle Connection	No Airport Connection
Altamont Corridor Express (San Jose) Caltrain (San Francisco, San Jose) Long Island Rail Road (New York-JFK) Metrolink (Los Angeles, Burbank, Orange County) New Mexico Rail Runner Express (Albuquerque) Trinity Railway Express (Dallas-Fort Worth)	A-Train (Denton, TX) Music City Star (Nashville, TN) South Shore Line (Gary-Chicago, IN-IL) Westside Express Service (Portland, OR)

Source: LFC analysis

Investing in core infrastructure improvements could contribute to ridership recovery through faster travel times and improved scheduling flexibility.

Operations of the Rail Runner's 22 weekday and 18 weekend trains are largely dictated by the locations of sidings and double-tracked segments where trains are able to pass each other, as well as the schedule of Amtrak's Southwest Chief. NMDOT's agreement with Amtrak generally gives Amtrak trains priority over Rail Runner trains, except during peak Rail Runner hours.

Eight sidings or double-tracked segments exist along the Rail Runner's 97-mile route. At times, trains may need to wait in sidings for another train to pass. On segments where there is only one track, only one train may operate at a time. A central dispatcher controls the flow of traffic by operating signals and communicating instructions to train engineers. Each location of a signal or switch is known as a control point (CP). Some control points are close together, while others may be further apart. For example, there are three stations, Montañño, Los Ranchos/Journal Center, and Sandia Pueblo, along a roughly 12-mile stretch of single track between two control points. This severely limits the potential for operations along this portion of the route and often requires trains to be held at either end for extended waits while a train traverses the segment.

Current and planned projects should improve capacity and operational flexibility through the center of Albuquerque. RMRTD and NMDOT are currently planning to construct a new, 1,500-foot siding near Alameda Boulevard between Los Ranchos/Journal Center and Sandia Pueblo on the track segment described above. This project, estimated to cost \$1.6 million, funded by federal surface transportation funds and a 20 percent local match, will create an additional space for trains to hold or pass each other, adding flexibility to operations on this portion of the line.

Additionally, in September 2018, RMRTD submitted an application to the Federal Railroad Administration (FRA) for \$13.8 million in Consolidated Rail Infrastructure and Safety Improvement (CRISI) funds to support a project to implement centralized traffic control (CTC) and upgrade a portion of state-owned tracks through central Albuquerque. Currently, a roughly 5-mile segment of double track stretching from just south of Downtown Albuquerque to near the Montañito station is subject to speed restrictions because it does not contain electronically controlled signals and requires trains to operate under a system of paper “track warrants” granting authority for specific train movements. This adds an administrative burden and limits maximum speeds to 20 miles per hour on one portion and 50 miles per hour on another. Implementing CTC will allow the central dispatcher to control train movements with electronic signals, improving safety and operational speeds.

Another part of this project involves a roughly 1-mile segment of the second main track (Main 2) currently constructed to a lower standard unsuitable for passenger trains. The proposed project will upgrade this to Class 4 track, which will create an additional segment for passenger trains that need to be held due to traffic on the route ahead. While Class 4 track is able to accommodate speeds of up to 79 miles per hour under federal regulations, RMRTD anticipates limiting speeds to 60 miles per hour on this portion of the corridor due to activity at the Downtown Albuquerque station and other railyards, spurs, and sidings in the area. However, NMDOT has safety concerns about this proposal due to its proximity to locations where freight cars would load and unload very close to moving passenger trains.

Combined with the installation of CTC, RMRTD estimates these upgrades would save Rail Runner trains approximately 8 to 9 minutes total, or about 2 minutes north of Downtown Albuquerque and 6 to 7 minutes south of Downtown Albuquerque. RMRTD expects this would attract some additional ridership from reduced travel times. RMRTD also expects a reduction in instances where the Southwest Chief needs to wait for Rail Runner trains or vice versa before being able to proceed.

Completion is dependent on the timing of CRISI funding and construction, but currently Rio Metro estimates a federal award announcement in April 2019 and construction between fall 2019 and spring 2020. Figures 8 and 9 are taken from Rio Metro’s application for FRA funding and illustrate the present and proposed conditions along those segments of track.

Figure 8. Diagram of Current Configuration in Central Albuquerque

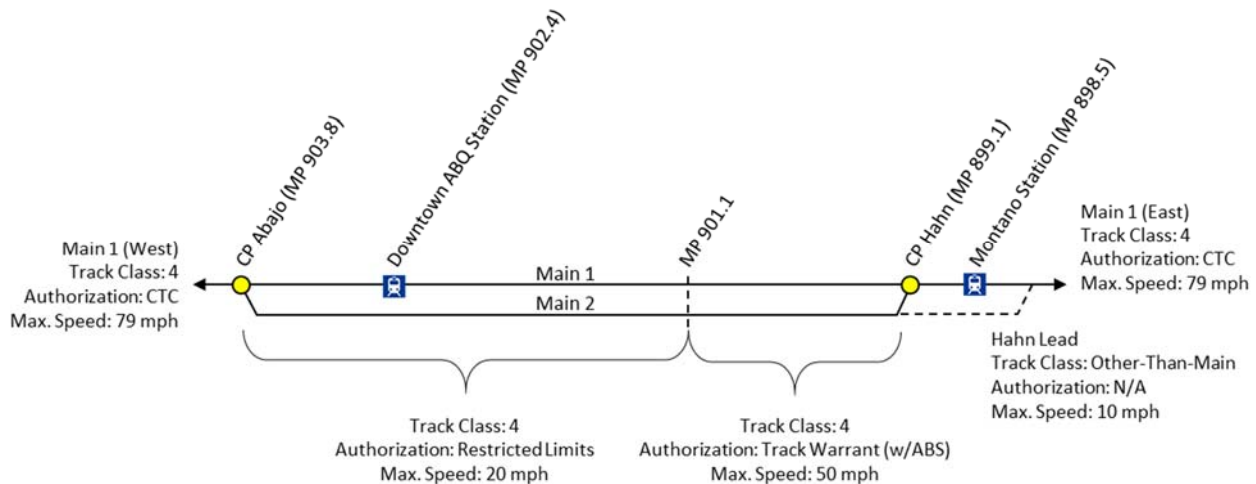
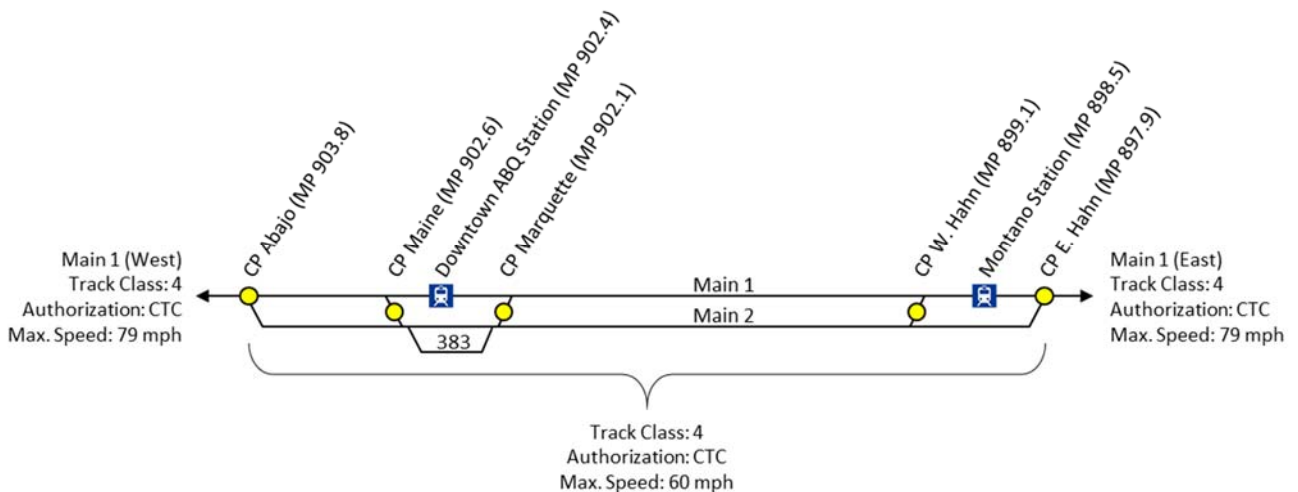


Figure 9. Diagram of Proposed Configuration After Project Completion



Note: Directional references are based on traditional railroad east-west alignment. On the above diagrams, "east" represents the geographic north while "west" represents the geographic south.
Source: RMRTD

Upgrading certain track segments to allow trains to operate up to 90 miles per hour could introduce travel time savings. The Rail Runner operates on Class 4 track, which has a maximum speed of 79 miles per hour for passenger trains under federal regulations. By comparison, Class 5 track allows passenger train speeds of up to 90 miles per hour, and Class 6 track allows speeds up to 110 miles per hour. The 2014 New Mexico State Rail Plan adopted by NMDOT notes there are portions of the Rail Runner's route north of Albuquerque equipped with automatic train stop (ATS) systems that would allow speeds of up to 90 miles per hour with upgraded Class 5 track, but segments south of the Isleta junction south of Albuquerque are not so equipped.

The plan estimates the cost of upgrading the Rail Runner alignment to Class 5 at approximately \$15 million and notes some track in Albuquerque is already maintained at Class 5 standards and could support higher speeds with the

implementation of federally mandated positive train control (PTC) technology. Implementing PTC on the entire route may also contribute additional safeguards that would permit higher speeds, especially on longer segments of track through rural areas north of Albuquerque. However, the costs of upgrading to class 6 track, and the attendant equipment requirements of doing so, would likely be significantly higher.

The 2014 rail plan notes Class 5 track would reduce travel times for both the Rail Runner and Southwest Chief by approximately five minutes. However, it is unclear if this is reflective of the aforementioned capacity enhancement project through the center of Albuquerque, which is planned to significantly improve speeds and operations through that area.

A literature review by the Victoria Transport Policy Institute indicates that every 1 percent decrease in travel time increases demand by 0.6 percent among commuter rail passengers. This suggests increasing the operating speed of the Rail Runner may decrease travel time and increase ridership accordingly. A maximum speed of 90 mph on class 5 track is 14 percent faster than the current maximum Rail Runner speed of 79 mph. However, because it takes more time to accelerate to higher speeds, only a fraction of total trip length will achieve improved performance.

A rail ridership feasibility study commissioned by the Michigan Department of Transportation shows that one locomotive on a 300-seat train, similar to those used by the Rail Runner, can accelerate to 90 mph in eight miles or two locomotives can accelerate to 90 mph in four miles. An additional locomotive to facilitate increased speeds would cost approximately \$4 million. Analysis by LFC staff indicates, based on distances between stations and control points on the Rail Runner's route, there are approximately 50 miles of track along which the Rail Runner could travel 90 mph on class 5 track versus the current 79 mph, reducing travel time along those miles from 38 minutes to 33 minutes. The largest single reduction in travel time would be realized on the southbound evening express route, train #101, from the Santa Fe County/NM 599 station to Sandoval County/US 550, as there are about 39 miles between the two stops and a 90 mph train will reduce travel time from 36.5 minutes to 32.5 minutes, a 4 minute difference.

Additional time reductions may be achievable in the long term using locomotives designed for sustained higher speeds. The Michigan study illustrates how a purpose-built diesel train can achieve acceleration to 90 mph in one minute. This would reduce travel time along the entire route by 6.8 minutes compared to the current 79 mph speed limit and locomotive design. Such a locomotive would also make feasible speed increases to 110 mph for future upgrades to class 6 track, reducing the total route travel time by 15 minutes compared to the current 79 mph speed limit and locomotive design. The Rail Runner's current locomotives are currently between 11 and 14 years into an expected lifespan of at least 25 years.

Economic research on the effect of commuter rail travel time on demand predicts for every 1 percent reduction in travel time, ridership will increase by 1 percent. For example, Table 4 below shows that for a common commuter station pair on the most popular Rail Runner train (morning northbound express train #102 between Los Ranchos/Journal Center and South Capitol), track upgrades could result in a savings of 3 to 11 minutes of travel time and between 5,000 and 19 thousand additional trips.

Table 4. Estimated Travel Time and Ridership Impacts of Track Upgrades

(Train #102 Express from Los Ranchos/Journal Center to South Capitol)

	Class 4 (Current)	Class 5 (90 mph), 2 locomotives	Class 5 (90 mph), higher- speed locomotive	Class 6 (110 mph), higher- speed locomotive
Commute Time	1:06	1:03	1:01	0:55
Time Reduction	N/A	-5%	-8%	-17%
Estimated Change in Annual Ridership (Train #102 Express)	N/A	+5,000	+9,000	+19,000

Note: Assumes travel time elasticity = 1; these are general estimates only, not including components such as speed limits on La Bajada and in villages, increased deceleration time, and reduced travel time from the benefit of increased accelerations before reaching maximum speeds.

Source: LFC analysis

Significant increases in frequency would require major additional capital investments and increased operating funding, in addition to supportive ridership levels. Even with the completion of current and planned capacity improvement projects, RMRTD will still be limited in its ability to increase frequency of service without further investment in projects to build or extend sidings and double-tracked segments of rail. RMRTD's rail capital improvement plan includes siding projects in Los Lunas and Belen that could improve operating speeds and times, as well as reduce interference with BNSF freight trains on that part of the corridor. These projects are currently estimated at roughly \$6 million, but remain unfunded.

It is likely that significant increases in frequency would require further additional infrastructure to support levels of service exhibited by the highest-performing peer railroads, such as more double-tracked segments and control points. For example, Utah's FrontRunner operates every 30 minutes during peak hours and hourly during off-peak hours, using nearly twice as many vehicles as the Rail Runner. However, its infrastructure permits this as every station is double-tracked, with dual platforms allowing them to serve two trains at once and permitting trains to pass each other more frequently.

Assuming ridership levels could support increased frequency, RMRTD would require sufficient operating funds for additional train crews, fuel, and associated maintenance costs. This would likely require RMRTD to request an increase in its GRT rate, which would need to be approved by local voters in member counties. State statute permits local option GRT increments for regional transit districts of up to one-half percent. RMRTD's current GRT increment is one-eighth percent.

RMRTD has not completed a comprehensive study of the potential for service expansion using either its existing rolling stock or an expanded rail fleet. If additional frequency required more locomotives, cab cars, and passenger coaches, the costs of these would also need to be taken into account. The state currently owns all Rail Runner rolling stock. Additional locomotives would likely cost approximately \$4 million each, with additional coaches and cab cars approximately \$3 million each.

Before NMDOT and RMRTD can invest in equipment and operational needs to support increased frequency, they should first complete planned improvements to core infrastructure and assess their impact on ridership and service. In the absence of stronger regional population and employment

growth contributing to ridership following planned incremental improvements, significant frequency upgrades may not be warranted.

Positive Train Control (PTC) will improve safety and allow for upgrades to passenger Wi-Fi, but at a high cost and continued risk of missing federal deadlines.

PTC is a technology mandated by the federal government to improve rail safety by using connected systems in locomotives, beside the tracks, and in central offices to monitor and control train movements and prevent collisions. The Federal Railroad Administration (FRA) recently awarded RMRTD \$29.4 million in CRISI funding for PTC systems on the Rail Runner. Receipt of the grant permits RMRTD to cancel plans for issuing bonds for the project, forgoing the need for approximately \$2 million in annual debt service costs.

The total cost of implementing PTC on the Rail Runner is estimated at between \$55 million and \$60 million. This is equivalent to between \$567 thousand and \$619 thousand per mile, or between \$70 and \$76 for every trip taken on the Rail Runner in FY18. The CRISI grant represents 53 percent of the total estimated cost the project, with an additional 25 percent from other federal awards received in FY17 and FY18. Overall, about 78 percent of the cost will be from federal sources. Another \$10.9 million in PTC costs, or about 20 percent, are from a State Infrastructure Bank (SIB) loan to match the federal grants, along with just under \$1 million in GRT revenues (Table 5)

Table 5. Estimated PTC Project Budget
(\$ in Thousands)

Federal Sources	Federal Funds Amount	SIB Match	GRT Match	Total
FY19 CRISI Grant	\$29,359.2	\$8,494.6	-	\$37,853.8
FY17-FY18 Section 5337 Funds	\$9,621.6	\$2,405.4	-	\$12,027.0
FY17 PTC Discretionary Grant	\$3,600.0	-	\$900.0	\$4,500.0
FY15/FY17 Surface Transportation Program Funds	\$529.0		\$90.2	\$619.2
Total	\$43,109.8	\$10,900.0	\$990.2	\$55,000.0

Source: RMRTD

Once functional, RMRTD estimates approximately \$3 million annually in PTC-related operating costs, including equipment maintenance and back-office server hosting costs. RMRTD will also be responsible for annual debt service costs to repay the SIB loan, totaling \$109 thousand annually through FY21 and \$786 thousand thereafter through the 18-year term of the loan. RMRTD is currently in final negotiations with a vendor for a PTC system using I-ETMS technology, the same system used by BNSF, which operates freight trains on certain segments of NMRX right-of-way. The I-ETMS system is a proprietary system only produced by a single vendor.

Under federal law, railroads must have implemented PTC no later than December 31, 2018. However, the FRA may approve extensions until December 31, 2020 if railroads meet certain conditions. RMRTD obtained conditional approval of an exception from the FRA allowing continued operations as it moves forward with its PTC implementation plans. Under this approval, RMRTD must complete mitigations of risks that would have been avoidable in the presence of PTC and demonstrate continued progress toward implementing PTC by December 31, 2020.

Of the 26 commuter railroads included on FRA's 2018 Q2 PTC status report, the Rail Runner has the fewest hardware installations and is the only commuter railroad not to have installed any on-board hardware or acquired all necessary spectrum for proper implementation of a PTC system.

Table 6. Statutory Criteria for PTC Deadline Extension to December 31, 2020

Criteria	Rail Runner Status
Install all PTC system hardware	11 percent of all hardware installed (21 out of 163 wayside hardware installations)
Acquire all necessary radio spectrum	Not completed
Complete required employee training	Not completed
Include an alternative schedule and sequence for implementing PTC in a revised implementation plan	Unknown
Certify to FRA that the railroad will be in full compliance by the date specified in the alternative schedule and sequence	Unknown
Initiate revenue service demonstration (RSD) in at least one territory required to have operations governed by a PTC system	Not completed

Source: GAO, FRA

While the Rail Runner is further behind other commuter railroads, it is not alone in requiring an extension. The U.S. Government Accountability Office (GAO) issued Congressional testimony in March 2018 reporting that up to two-thirds of commuter railroads have not allocated sufficient time to complete all required milestones for PTC installation. The GAO notes that field testing of PTC systems in revenue service demonstration (RSD), the final phase before operation can be approved, takes at least one year, but 14 commuter railroads planned to start this process with less than a year before the deadline.

PTC systems will provide a platform for more reliable Wi-Fi service. In December 2018, the FRA awarded RMRTD \$2.5 million for a project to install a new Wi-Fi system along the Rail Runner route. This is in addition to the \$29.4 million CRISI grant for PTC. The Wi-Fi system will provide both a reliable communications platform for the transmission of data as part of the positive train control (PTC) system, as well as the ability for Rail Runner passengers to access a high-speed internet connection. According to RMRTD, the Rail Runner's existing Wi-Fi system has reached the end of its useful life and now only functions along a 26-mile segment at the southern end of the route, and its unreliability has been a source of passenger complaints since 2014.

One peer commuter railroad reduced service rather than incur the cost to install PTC. The Regional Transportation Authority of Middle Tennessee, operator of the Music City Star, pursued an exception with the FRA that allows it to maintain operations without PTC as long as it operates 12 trains or fewer per day. The Music City Star operates 12 trains on most weekdays, but has a 13th train that runs on Friday nights to serve patrons of downtown nightlife. Under the FRA exception, the Music City Star will suspend its Friday night service beginning in January 2019, allowing it to continue operations without PTC, the costs of which were estimated at \$20 million for the length of its 31-mile route.

To get the same approval, the Rail Runner would need to cancel 10 of its 22 trains per day, or five in each direction. Moreover, the Music City Star does not share its tracks with Amtrak or a Class I freight railroad, whereas the Rail Runner does, rendering it at higher risk of encountering other traffic.

Recommendations

The Legislature should consider:

- Prioritizing the use of state infrastructure and capital outlay funding for the Rail Runner toward costs associated with core infrastructure needs and necessary safety or capacity improvements, rather than development of new stations.

RMRTD and NMDOT should:

- Place an immediate moratorium on development of any new stations;
- Close or limit service to the Downtown Bernalillo station, consolidating its service at the Sandoval County/US 550 station;
- Present to the 2019 Legislature a temporary plan for prioritizing core infrastructure improvements, taking into account opportunities to reduce travel times and improve scheduling flexibility, including plans to upgrade to Class 5 track with a maximum speed of 90 miles per hour, improve the Los Lunas and Belen (Chloe) sidings, and identify opportunities for additional sidings or double-tracked segments; and develop and present a thorough plan for the above by October 2019.

The Rail Runner Can Play a Larger Role in Catalyzing Economic Development

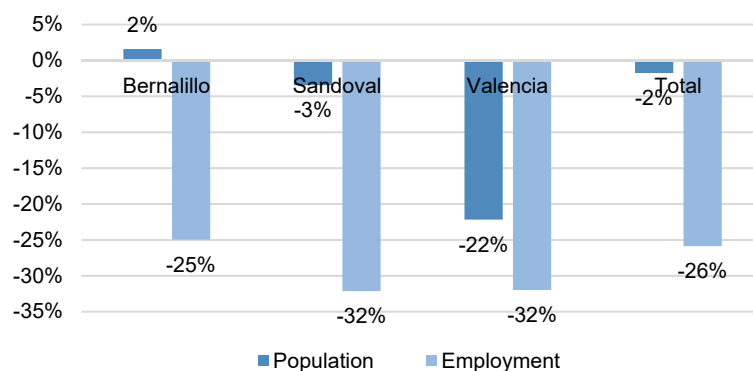
An initial goal of the Rail Runner was to attract economic development, but economic conditions have kept most station-centered plans from materializing.

In January 2008, the Mid-Region Council of Governments (MRCOG) published a report evaluating the potential for transit-oriented development (TOD) along the Rail Runner corridor. TOD refers to the development of mixed-use, higher-density, pedestrian-friendly areas near transit stations to facilitate easy accessibility and ridership of mass transit systems by those who live or work in the area. This may include residential, commercial, or industrial development laid out in such a way as to encourage the use of transit by residents and employees. Research generally indicates that TOD, in combination with quality transit systems, is likely to have a positive effect on ridership of such systems, though impacts can vary substantially depending on the viability and success of these developments. TOD may also serve to alleviate traffic congestion by promoting transit use and encourage infill development that places residents closer to their places of work.

The original 2008 TOD evaluation included recommendations based on projections of population and economic metrics for the Rail Runner's original three-county service area (Valencia, Bernalillo, and Sandoval counties), excluding Santa Fe County. However, this plan was developed at roughly the time of the financial crisis and Great Recession, rendering its projections unreliable almost immediately. Conditions in the region generally stagnated or worsened since the TOD evaluation was published, and overall population and employment levels in the original three-county service area in 2015 were below where the 2008 market study projected them to be at that time.

Bernalillo County is the only county that had a 2015 population higher than it was projected to be in 2008, while Sandoval County's population was 3 percent below projections and Valencia County's was 22 percent below projections. All three counties had lower employment levels, in terms of total individuals employed, than were projected. Overall, 2015 employment levels across all three counties were 26 percent below the 2008 projections for that year (Chart 38).

Chart 38. Percentage Difference between Projected and Actual 2015 Population and Employment in Original Rail Runner Service Area



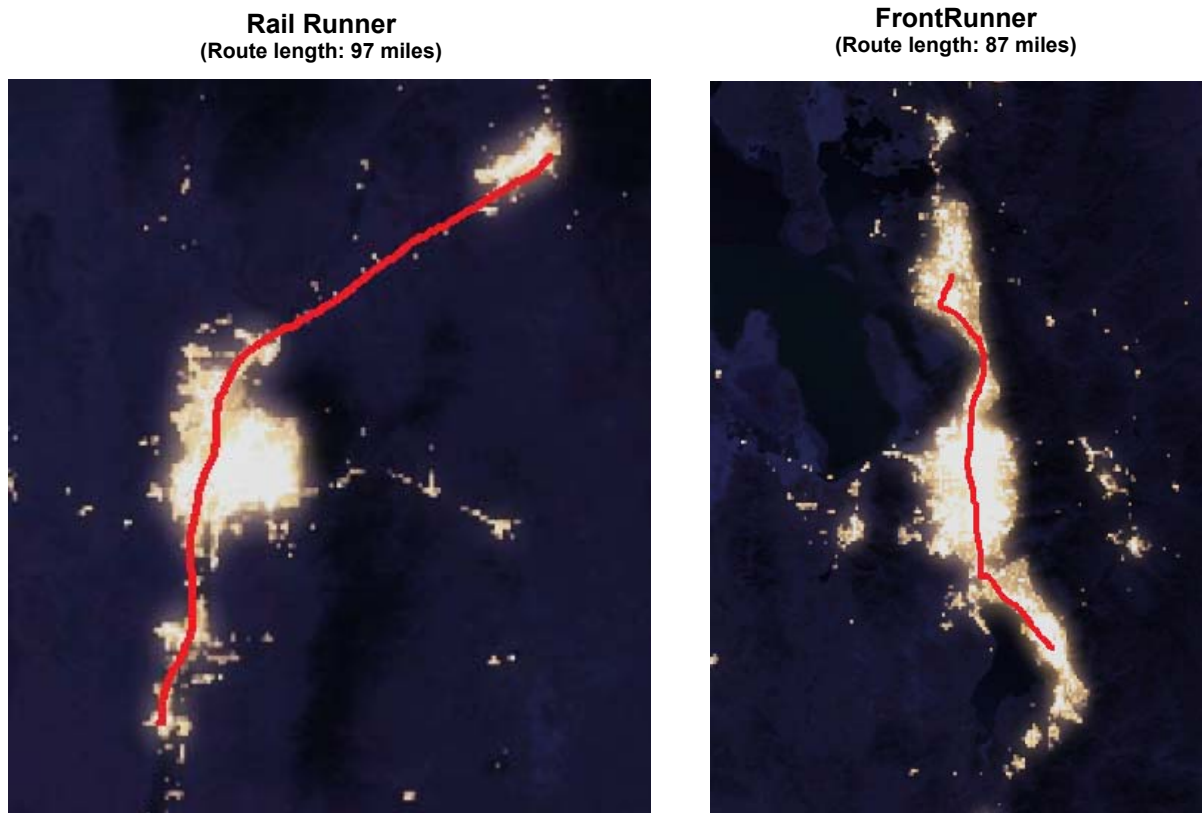
Source: LFC Analysis of 2008 TOD Market Evaluation, UNM BBER, and Bureau of Labor

Geography limits options for inducing Rail Runner ridership through development.

New Mexico's geography makes the Rail Runner's service area unique among its peers. Commuter rail often serves predominantly metropolitan areas with denser population centers connected by sprawling, developed suburban communities. However, the Rail Runner passes through several very low-density rural and tribal areas, and these geographical constraints mean the Albuquerque and Santa Fe metropolitan areas do not have the same pattern of suburban growth demonstrated by many other regions with a commuter rail line.

The nighttime satellite images in Figure 10 below illustrate how the population and development patterns along the Rail Runner corridor (left) differs from those along the FrontRunner corridor in Utah. Both commuter rail lines are a similar length, and both operate along a similar north-south alignment, approximated by the red lines, connecting smaller cities at either end through a major metropolitan area in the middle. However, where there is substantial suburban development along the corridor between Salt Lake City and Ogden to the north and Provo to the south, there are significant rural and tribal areas between Belen, Albuquerque, and Santa Fe, much of which is unlikely to be heavily developed. This constrains the extent to which population and employment growth can drive ridership along the NMRX corridor to areas with the greatest potential to increase the concentration of jobs and residents near stations in urban and suburban locations.

Figure 10. Development Patterns Along the Rail Runner and FrontRunner Corridors



Source: Google Earth, NMRX and FrontRunner maps

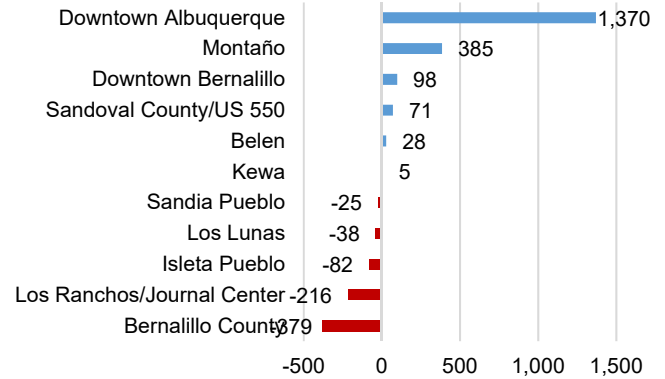
Development in Rail Runner station areas has been concentrated around existing commuter and tourist destinations, but the effects of rail service itself are unclear.

The three most popular Rail Runner stations, Downtown Albuquerque, Santa Fe Depot, and South Capitol, are located near clusters of employment and economic activity that draw commuters and other travelers from around the region. According to an analysis by the Mid-Region Metropolitan Planning Organization (MRMPO), a division of MRCOG, employment has grown faster within one-half mile of Rail Runner stations since 2008 than Bernalillo, Sandoval, and Valencia counties as a whole. The number of jobs within one-half mile of a Rail Runner station, the typical buffer used to measure TOD,

grew 5 percent during the period, which included the Great Recession, compared to a 2 percent decrease in employment across the three-county region overall. This analysis excludes Santa Fe County, which lies outside MRMPO's planning area.

However, when examined closer, all of the change in station area employment can be accounted for by employment growth of nearly 1,400 jobs in Downtown Albuquerque, while employment in all other station areas experienced a net loss of about 150 jobs. The net gain across all station areas was slightly over 1,200 jobs (Chart 39). This further illustrates the extent to which existing employment centers may influence ridership, but reveals little about whether these gains or losses would also have occurred without Rail Runner service. Additionally, despite this growth in employment in the largest job center near the busiest Rail Runner station, overall ridership has continued to decrease, suggesting other factors such as the train's lack of competitiveness with driving and declines in overall intercounty commuting are influencing ridership more.

Chart 39. Net Change in Jobs Within 1/2 Mile of Rail Runner Stations, 2008-2016
(Santa Fe County not included)

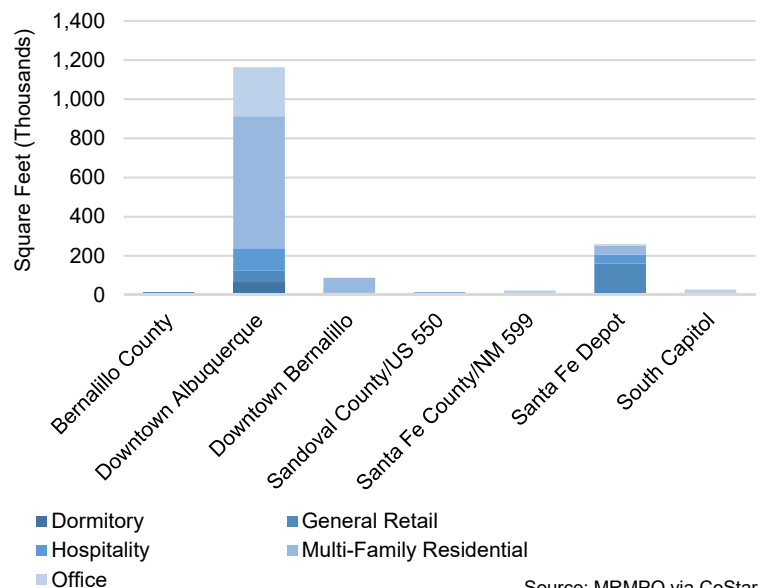


Source: MRMPO

Notably, while the Downtown Bernalillo and Sandoval County/US 550 station areas both showed modest employment gains, the proximity of these stations to each other may dilute any effects these gains may have had on ridership. As noted earlier in this report, Sandoval County/US 550 is one mile north of Downtown Bernalillo but serves about nine times as many passengers because of its location on a major arterial highway frequented by commuters and high parking capacity. Additionally, the Sandoval/550 station primarily serves commuters heading from southern Sandoval County into Albuquerque or Santa Fe, rather than acting as a destination for workers.

MRMPO's analysis of commercial and multifamily building construction and renovation data, including data for Santa Fe County, appears to show little, if any, effect of the Rail Runner's presence on station area development. More new buildings were constructed within a half-mile of current Rail Runner station sites in the decade prior to its opening than in the decade since. From 2007 to 2018, Downtown Albuquerque had the largest amount of new or renovated square footage within a half-mile of a Rail Runner stop at 739 thousand, while Santa Fe Depot was next at 168 thousand (Chart 40).

Chart 40. Square Footage of New Construction and Renovation Within 1/2 Mile of Rail Runner Stations, 2007-2018



Source: MRMPO via CoStar

While several station areas experienced new construction between 2007 and 2018, only one station area, Santa Fe Depot, had a transit-oriented development explicitly designed around the Rail Runner in the Santa Fe Railyard, with new retail and multi-family housing units. Downtown Albuquerque has also seen several new developments or

renovations arise in close proximity to the Alvarado Transit Center, including the One Central residential and office building, Innovate ABQ, and the Lobo Rainforest. Though not included in the data provided by MRMPO, Santo Domingo Pueblo also completed a new housing development and approximately \$1.5 million in renovations to the Santo Domingo Trading Post near the Kewa station.

A 2015 study of the effects of commuter rail on population and commuting in the Salt Lake City area found the establishment of commuter rail led to population declines in neighboring census tracts, but tended to replace single-family residential land uses with denser multifamily, commercial, and industrial uses, potentially enhancing ridership to and from those locations.

Most TOD plans created around the time of the Rail Runner's opening have not come to fruition. Station area development plans exist for several Rail Runner stations dating as far back as 2007. These plans are generally conceptual visions of how the area around a commuter train station could support retail, office, residential, and public uses of moderate to high density. The plans identify the types of existing zones and uses around station locations, including opportunities to use vacant or underutilized land, and explore options for optimizing new development in the station area.

It should be noted that most plans of this nature have long time horizons and generally are not expected to materialize in less than five to ten years. However, the relatively flat economy in central and north-central New Mexico since the Great Recession, coupled with decreasing Rail Runner ridership, has meant a weaker market for these types of developments than envisioned at the time of their original creation.

An example of a successful TOD around a Rail Runner station is the Santa Fe Railyard, consisting of about 50 acres of commercial, residential, and related development near the Santa Fe Depot, the northern terminus of the route. Although purchased by the city of Santa Fe in the 1990s, well before the Rail Runner was planned, the area came to center itself on the Rail Runner station and features arts and entertainment venues, shopping and dining, and multi-family housing. Its proximity to Downtown Santa Fe and the Plaza also attracts tourists. According to the Santa Fe Railyard Community Corporation, the private nonprofit that manages the development, the total project resulted from \$144 million in public and private investments, including \$23 million to acquire and assemble the land. As of the third quarter 2018, 95 percent of parcels were leased.

By contrast, the Zia Road station in Santa Fe serves as a cautionary example of TOD plans where station construction began before land use issues were fully settled. The station was originally intended to be the center of a moderately scaled transit-oriented development, and was built without parking. However, issues with the surrounding private land and local traffic concerns delayed the opening of the station from 2008 until 2017, with none of the originally proposed surrounding development. Zia Road now serves as a “kiss-and-ride” station only.

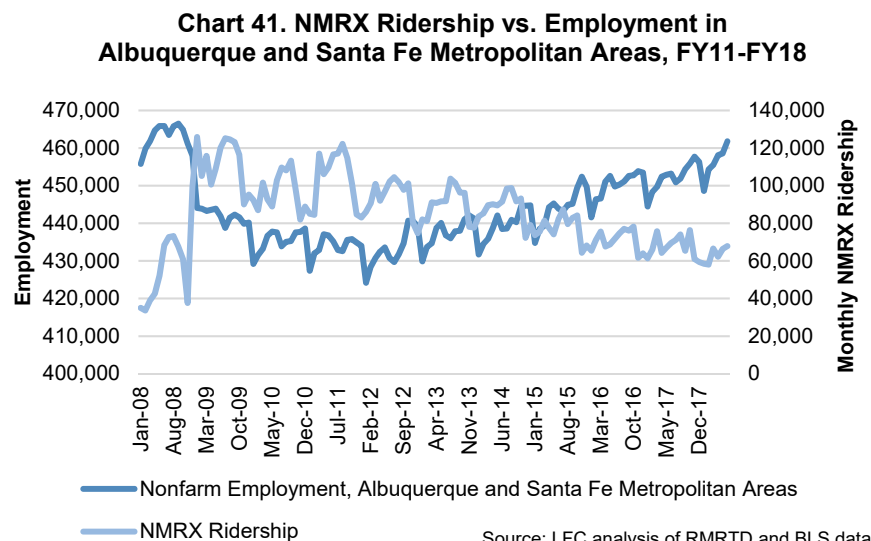
Other communities with TOD plans around their Rail Runner stations include Belen, Los Lunas, the Town of Bernalillo, and areas surrounding the Bernalillo County, Montañito, and Los Ranchos/Journal Center stations. Based on interviews with RMRTD and local officials in these communities, some of

these plans are likely more viable than others. For example, the Village of Los Lunas has developed plans to create a civic plaza and town center around its station and has received interest in the area for possible multi-family and affordable housing developments.

Conversely, while the Los Ranchos/Journal Center station is heavily used by commuters, the Los Ranchos and North Valley area around the station is less likely to see the type of dense, multi-use development often associated with TOD due to local preferences to maintain the historically rural character of the area. The Bernalillo County station, one of the least used on the line, is located in a heavily industrial area on the south side of Albuquerque, also limiting the types of development it could support.

Improving economic conditions could provide the state an opportunity to leverage its ownership of the Rail Runner to attract local economic development.

As the owner of the Rail Runner, the state has a stake in its performance and maximizing the value of its asset. Strategically leveraging Rail Runner stations to attract jobs and residents could do this by inducing ridership as well as GRT collections. Economic conditions in New Mexico are improving, with total employment in the Albuquerque and Santa Fe metro areas up 6 percent at the end of FY18 compared with the end of FY10, the year the Rail Runner had its highest ridership (Chart 41).



Overall, transit-oriented development is merely one tool within the larger realm of economic development. It is also a highly localized process, subject to local preferences, interests, complicated zoning codes, and many potential impediments to success, requiring strong partnerships and mutual support between all involved entities. According to a 2014 report from the U.S. Governmental Accountability Office (GAO), the success of TOD can depend on the presence or absence of supportive conditions and potential challenges, as shown in Table 7.

Table 7. Supportive Conditions and Challenges to Transit-Oriented Development

Supportive Conditions	Challenges
<ul style="list-style-type: none"> • Market demand for real estate • Large parcels of land available for development • Resident support for transit and transit-oriented development • Efficient access to jobs and centers of activity 	<ul style="list-style-type: none"> • Higher construction costs • Reluctance to finance TOD projects • Requirements or delays in local approval process • Residents unsupportive of transit or density • Undesirable physical features • Unsupportive land uses

Source: GAO

Because of its highly localized nature, research into TOD does not typically generalize effects of developments around transit stations outside of the geographic areas of study. However, there is a general consensus that development around transit stations, particularly those where multiple modes converge, can attract residents, jobs, and riders and increase property values. One analysis of TOD near the Coaster commuter rail in San Diego County estimated residential property value premiums of 20 percent compared to other locations and 20 percent to 40 percent for commercial properties. Another study of TOD in Denver found rent in TOD areas averaged 15 percent higher than comparable properties in other areas.

States can enact policies that may both encourage and regulate TOD. Currently, New Mexico state law is silent on the matter of transit-oriented development, but other states have enacted measures to govern its use. For example, Utah and Tennessee, both states with commuter rail lines in markets experiencing fast economic growth, have laws enabling local transit authorities to participate in TOD. Utah statute allows the Utah Transit Authority, operator of the FrontRunner, to enter into public-private partnerships for TODs, subject to restrictions and requirements including conducting cost-benefit analyses of service, ridership, and economic impacts, evidence of positive return on investment, and inclusion of affordable housing (Utah Code Annotated §17B-2a-826). Such requirements could safeguard against projects that are merely speculative or that may have weak market justification. Tennessee law requires a regional transit authority's regional transit plan to include descriptions of how it intends to use its property around transit stations to "encourage ridership and support local community goals for quality growth," including any intent to pursue TOD (TN Code §64-8-206).

NMDOT owns most land on which Rail Runner stations sit, with certain exceptions in Downtown Albuquerque and Santa Fe Depot, where local governments own the property. RMRTD owns small parcels near the Los Ranchos/Journal Center and Sandoval County/US 550 stations. Most other land in proximity to Rail Runner stations is privately owned, and further developments would depend on the ability of developers and stakeholders to acquire and assemble property for viable and sustainable uses. Existing tools such as tax increment development districts (TIDDs) could potentially be leveraged for TOD, if local conditions and support warrant it. It should be noted that any direct involvement of NMDOT or RMRTD in transit-oriented development projects, including public-private partnerships, may require enabling legislation as well as legal opinions as to their constitutionality under the New Mexico Constitution's Anti-Donation Clause.

Existing stations serving the most regular workers and commuters may be prime candidates for TOD due to the limitations of current Rail Runner service. Because of the Rail Runner's relatively low frequency, however, the most potential may remain in the key employment hubs of Downtown Albuquerque and Santa Fe, where other transit connections can serve other users apart from just rail passengers. Without taking steps to reduce travel times and enhance service to induce more ridership, the potential for and impacts of TOD around Rail Runner stations may be limited.

In addition to the main employment centers of Downtown Albuquerque and Santa Fe Depot, the South Capitol station is near a transit node where several local bus services and NMDOT's Park and Ride converge. The station sits next

to several existing state-owned properties, including NMDOT's headquarters and the General Services Department's South Complex, consisting of over 500 thousand square feet of state office space. NMDOT and RMRTD may wish to partner with GSD and the city of Santa Fe to explore options to leverage the significant state presence around this station for further, rail and transit-supportive uses.

Additionally, stations in Belen and Los Lunas are hubs for commuters into Albuquerque, and Sandoval County/US 550 is used by commuters into both Albuquerque and Santa Fe. As such, these locations are potential sources of ridership growth into those employment centers. Though mostly dependent on riders who park at the station, their locations both near town centers and commercial corridors could serve to draw commercial activity and residents. However, new station area developments undertaken with public involvement at any location should be predicated on sufficient market conditions, local support, and probability of a return on investment.

Recommendations

The Legislature should consider:

- Amending the Regional Transit District Act to permit RMRTD to participate in transit-oriented development, with appropriate safeguards to mitigate risk to public funds and ensure return on investment.

RMRTD should:

- As part of its next long-term strategic visioning plan, collaborate with local planning and development agencies within the RMRTD service area to develop and adopt shared guidelines for transit-oriented development that enable the maintenance of local character; and
- Partner with the Economic Development Department, local planning and development agencies, and landowners to identify opportunities for employers to locate near Rail Runner stations.



January 10, 2019

The Honorable Patricia A. Lundstrom, Chair
Legislative Finance Committee
New Mexico Legislature
325 Don Gaspar, Suite 101
Santa Fe, NM 87501

Delivered via email

Dear Representative Lundstrom:

On behalf of Cabinet Secretary-Designate, Michael R. Sandoval, thank you for giving the New Mexico Department of Transportation (DOT) the opportunity to review Report #19-01 *Cost Effectiveness and Operations of the New Mexico Rail Runner Express*.

Rail Runner is the public transportation spine running through the most concentrated population of New Mexico, and provides a transportation alternative to driving and coordinates connections with at least six other public transit agencies in the corridor. The public transit system in this area provides residents of and visitors to New Mexico unprecedented mobility options and leeway for New Mexico to grow and progress. DOT appreciates the thoughtful consideration of our comments throughout the process, as well as to the final draft report, by Legislative Finance Committee staff that ultimately got beneath the surface of the last decade of prevalent news and information to make focused recommendations regarding the Rail Runner.

The State's maintenance of its investment in the Rail Runner assets has been a focus of DOT's Transit and Rail Division, and we have worked diligently with Rio Metro Regional Transit District to manage the capital infrastructure to its maximum useful life. Our partner, Rio Metro has managed to be financially self-sufficient for its operations, take on the funding and implementation of the federal mandate for positive train control, and require minimal financial assistance for capital improvements over the past number of years. With all this in mind and the goal of the State's progress at the center of attention, DOT supports the report's recommendation that core targeted infrastructure improvements to Rail Runner to improve service can add value to the overall transportation system, and continue to provide mobility options for New Mexico for years to come. Nonetheless, we are in the 5th largest state in the nation, and there are many infrastructure and maintenance demands we are currently challenged with.

The partnership between DOT and Rio Metro is working daily to provide the best public transportation system possible, and I believe the Legislative Finance Committee's report provides a renewed foundation that supports Rail Runner's invaluable role to the State.

Sincerely,


David C. Harris
NMDOT Transit and Rail Division Director

**Michelle Lujan
Grisham**
Governor

Michael R. Sandoval
Cabinet Secretary-Designate

Commissioners

Ronald Schmeits
Chairman
District 4

Dr. Kenneth White
Commissioner
District 1

David Sepich
Commissioner
District 2

Keith Mortensen
Commissioner
District 3

Butch Mathews
Commissioner
District 5

Billy Moore
Commissioner
District 6

General Office

P. O. Box 1149

Santa Fe, NM 87504



January 10, 2019

The Honorable Patricia A. Lundstrom, Chair
Legislative Finance Committee
New Mexico Legislature
325 Don Gaspar, Suite 101
Santa Fe, NM 87501

Delivered via email

Dear Representative Lundstrom:

Thank you for giving Rio Metro the opportunity to review Report #19-01 *Cost Effectiveness and Operations of the New Mexico Rail Runner Express*. Please consider this Rio Metro's formal response to the report insofar that its content and recommendations remain unchanged prior to the January 14, 2019 Legislative Finance Committee (LFC) meeting.

On the following pages, Rio Metro has provided key recommendations pertaining to the Rail Runner and the State of New Mexico, in addition to more detailed comments on the report delineated by section, page number and paragraph. These comments include a mix of clarifications, changes, and other emphases important to Rio Metro. Please do not hesitate to contact me should you, other members of the committee, or LFC staff require additional information regarding this response.

I would also like to thank Mr. Hoffmeister for working closely with my staff throughout the development of this report. It was apparent from his visits, follow-up questions, and the report itself, that he has sought to understand the Rail Runner, its context within the transit industry, and its importance to central New Mexico.

Finally, it is my hope that the ultimate outcome of this report will be a renewed and strengthened partnership between Rio Metro and the State of New Mexico that values the Rail Runner's role within the broader transportation network.

Sincerely,

Terry Doyle, Director



Key Recommendations

The state can play a pivotal role in helping the Rio Metro Regional Transit District (RMRTD) improve Rail Runner service, particularly with respect to four recommendations from Report #19-01.

1. Prioritizing Core Infrastructure Improvements

While the RMRTD Short Range Plan (approved by RMRTD and NMDOT) prioritizes several core infrastructure improvements that would enhance operational flexibility, reduce travel time, enable frequency increases, and improve customer satisfaction, these projects have been on hold while RMRTD assembled the \$55-\$60 million required to implement positive train control (PTC). With PTC funding now in place, RMRTD is again pursuing funding for these core infrastructure improvements. The state can participate by providing funding support as follows:

- Rail Runner Wi-Fi Rehabilitation (systemwide): \$624,210 to match a \$2.4 million Consolidated Rail Infrastructure and Safety Improvement competitive federal grant recently awarded to RMRTD. This project will provide reliable passenger facing Wi-Fi on board the train and a redundant communication path for operating data including PTC.
- Centralized Traffic Control Signalization of restricted limits Albuquerque (Downtown Albuquerque): \$2,408,935 to match \$12 million federal grant request and TIP request. This project will reduce the overall travel time between Belen and Santa Fe by about 8 minutes.
- Main 2 Extension (North Valley, Albuquerque): \$1,298,901 to match \$6.5 million federal grant request and TIP request. This project will improve train handling and flexibility to facilitate passing between downtown Albuquerque and Paseo del Norte.
- Los Lunas Siding (Los Lunas): \$2,000,000. This project will provide a much needed passing siding to improve train handling and prepare for / facilitate more frequent NMRX service.
- Chloe Siding (Belen): \$4,025,000. This project will provide a much needed passing siding to improve train handling and improved freight / commuter interactions in the area.
- Funding for an additional passing siding in Santa Fe as highlighted in NMDOT's comments (cost TBD but similar to other siding projects). This project will provide a much needed passing siding to improve train handling and prepare for / facilitate more frequent NMRX service.
- Funding for an additional passing siding near Isleta (cost TBD but similar to other siding projects). This project will provide a much needed passing siding to improve train handling and prepare for / facilitate more frequent NMRX service.
- Other capital improvements identified in the Short-Range Plan, including the rehabilitation and replacement of major assets that are nearing the end of their useful life

As noted in the report, RMRTD has not completed a feasibility study and cost analysis to upgrade certain track segments to Class 5—enabling speeds upward of 90 mph—primarily because this would likely prove costlier and more time-consuming than the more immediate capital needs noted above. Nevertheless, RMRTD is willing to conduct this study in the future.

2. Improving Frequency and Scheduling

The limited daily train schedule restricts the utility of the Rail Runner for many New Mexicans. A function of the existing operating budget, the current schedule focuses on three A.M. markets—to





Albuquerque from points south, to Albuquerque from points north, and to Santa Fe from points south (these markets reverse in the P.M.). A mid-day train also provides service for those desiring to travel outside of peak hours.

Increasing the number of trains in the weekday schedule would facilitate trips with shorter turnarounds (e.g., a few hours to half day), work shifts that fall outside of typical commuting hours, tourism, educational and healthcare access, etc. As stated in the report, the additional frequency (and ridership) would also improve the economic development potential near stations.

Along with core infrastructure improvements, the state could fund additional service in several ways. For example, the state could reduce RMRTD's current operating costs through a GRT exemption. Conversely, the state could bolster the operating budget by apportioning federal Congestion Mitigation and Air Quality funds to RMRTD (which may be spent on operations). Similarly, the state could regularly fund Rail Runner capital maintenance/improvements, which would offset RMRTD gross receipts tax expenditures and allow these funds to shift to operations. RMRTD believes incremental service increases are not contingent upon additional capital improvements or rolling stock, and can be implemented rather soon if more operating funds were to become available. However, some of the siding improvements would enable more flexibility in the schedule by providing additional passing areas.

3. Increasing Ridership

In addition to funding the core infrastructure improvements noted on the previous page, the state can enact new or promote existing policies that encourage ridership by:

- Giving greater flexibility to employees by allowing them to adjust their work schedules to better align with the train schedule. The previous administration tightened the use of flex schedules in 2011 and this likely had a negative impact on employee ridership.
- More aggressively promoting the commuter tax benefit it currently offers that enables the purchase of monthly and annual Rail Runner passes with pre-tax dollars.
- Upon completion of the Wi-Fi rehabilitation, allowing all or a portion of an employee's travel time to qualify as telecommuting work.
- Enabling fleet vehicles to be used in rare instances when a return trip by the Rail Runner would not be possible (e.g., impromptu meeting scheduled after hours).
- Utilizing and developing state-owned land and buildings near Rail Runner stations to the greatest extent possible.

4. Catalyzing Economic Development Opportunities Near Rail Runner Stations

RMRTD also concurs that the Rail Runner can play a larger role in catalyzing economic development near stations. As noted in the report, ambitious station area plans were created just prior to the Great Recession, and, unfortunately, the projected population and employment growth in both central New Mexico and surrounding specific stations failed to occur. Regardless of these conditions, RMRTD, the Mid-Region Council of Governments (MRCOG), and local jurisdictions still consider station areas to be economic development opportunities—albeit in light of current trends.





RMRTD believes that successful economic development near Rail Runner stations will require an ongoing effort from several key parties with various expertise, including the state. Local government actions that channel opportunities to station areas, address critical backbone infrastructure needs, and champion the importance of the Rail Runner should be incentivized and supported. Furthermore, in addition to direct investment near stations (e.g., South Capitol Station), the state should prioritize public-private partnerships near stations similar to how the City of Albuquerque's Metropolitan Redevelopment Areas incentivize public land contributions as part of public-private partnerships. Undertaking similar efforts at multiple station areas simultaneously would require considerable coordination, expertise and shepherding—potentially through an Economic Development Department initiative or through a state-funded process with RMRTD and/or MRCOG.





Report Comments

1. Executive Summary

- A. Page 1, 1st Paragraph: Since FY09, Rail Runner passengers have accumulated 463 million miles, primarily because the average passenger trip length is approximately 46 miles. The transport of passengers over long distances is likely the Rail Runner's most defining ridership characteristic when compared to its commuter rail peers.
- B. Page 1, 2nd Paragraph: Ridership during the months after major segments opened—particularly between Bernalillo and Santa Fe—included many "experience seekers" wanting to try out the service but unlikely to become recurring passengers. Service was also offered fare free during some of these introductory months. Because of this, RMRTD believes that ridership levels in the earliest years are somewhat inflated when compared to subsequent years.
- C. Page 1, 3rd Paragraph:
 - i. Of the three reasons that people do not ride the Rail Runner, RMRTD believes frequency of service is the most critical.
 - ii. Core infrastructure projects that would allow greater scheduling flexibility and reduced travel times have long been prioritized in RMRTD's Short Range Plan. While these projects have been deferred because of funding constraints associated with positive train control (PTC), they are again priorities now that PTC is funded.
- D. Page 2, 2nd Paragraph:
 - i. The funding that RMRTD does receive from the state are typically small federal apportionments for railroad-highway crossings (i.e., Section 130) and Amtrak/BNSF trackage fees (to maintain track/signals only) that pass through NMDOT.
 - ii. RMRTD has received a total of \$35.5 million in competitive federal grant funding for PTC and Wi-Fi implementation.
 - iii. By design, fare revenue has never constituted a sizable portion of RMRTD revenue, and RMRTD has not sought more substantial fare increases as residents are already supporting the Rail Runner via the GRT.
- E. Page 2, 3rd Paragraph:
 - i. The state already has an active oversight role through its Memorandum of Agreement (MOA) with RMRTD. Furthermore, the on-time performance agreement negotiated between Amtrak and NMDOT (not RMRTD) is one of many ways the state has significant, systemic influence on Rail Runner operations.
 - ii. More so than roads and highways, transit has significant operations and maintenance costs in comparison to the initial capital investment. So, while NMDOT may own the Rail Runner, operations and maintenance costs will outweigh the initial investment over a 20- to 30-year horizon.
- F. Page 2, 4th Paragraph: The phrase "inconvenient schedules" speaks to the limited level of existing service and the desire for more frequent service.
- G. Page 2, 5th Paragraph: RMRTD is not actively planning new stations at Balloon Fiesta Park and the Sunport, although feasibility studies and cost estimates have been completed for the Balloon Fiesta Park. These stations have been proposed by others (e.g., the Balloon Fiesta Park Station is a City of Albuquerque ICIP request).





- H. Page 3, 1st Paragraph: Providing the total cost of PTC here would be more appropriate. Project cost per passenger trip or mile in a single year does not capture the benefit of an improvement that has a useful life of several decades and protects both passengers and freight movements.
- I. Page 3, 2nd Paragraph:
 - i. As noted later in the report, the lack of economic development in station areas was largely a function of the economic downturn and market factors. It is widely recognized that a transit investment alone will not generate economic growth independent of other economic development efforts.
 - ii. Most all of the federal dollars that the Rail Runner receives would not otherwise come to the state (they would be re-distributed to other rail systems). And, while this may be viewed as a transfer and not a benefit, many of those dollars are brought into the local economy through wages paid to RMRTD and contractor employees.
- J. Page 4, 3rd Bullet: While RMRTD may research the viability of off-board ticket vending machines in the future, there are other costs associated with this approach, including: equipment, hardware and software; licensing; cash collection and transport; and vandalism. Furthermore, the personal interactions with on-board ticket agents (e.g., getting directions, recommendations) would be lost. According to customer surveys, passengers view ticket agents as the face of the Rail Runner and value their presence on the train.
- K. Page 4, 5th Bullet: RMRTD cannot open or close stations under the MOA without active NMDOT approval. NMDOT is not considering the closure of any Rail Runner stations. See comment 1.G.
- L. Page 4, 6th Bullet: The RMRTD Short Range Plan, to a significant degree, satisfies this recommendation. The plan is adopted annually by the RMRTD Board, and the NMRX CIP contained therein is also reviewed and approved by NMDOT. Furthermore, the plan is based on RMRTD's understanding of the rail infrastructure and operations (including Amtrak and BNSF), and reflects the highest priority and most financially feasible projects that would improve travel time and scheduling flexibility.
- M. Page 4, 7th Bullet: The existing, adopted RMRTD Long-Term Strategic Vision Plan includes as a core theme "Strong Transit Centered Communities". Plan development included a series of workshops, board presentations and individual meetings with local planners, developers and elected officials regarding the economic development opportunities/benefits presented by RMRTD transit that might be realized or expanded upon. G. B. Arrington, a nationally recognized expert in TOD, also gave a presentation to the RMRTD Board, which is composed of elected officials representing all Rail Runner jurisdictions. The Board adopted the plan in November 2015.
- N. Page 4, Last Bullet: RMRTD recognizes the importance of advancing economic development in station areas and would welcome the opportunity to partner with these entities. RMRTD believes its current role appropriately reflects the reality that implementation is dependent on local actions (zoning, local infrastructure investments, financing, etc.), and that the implementation of existing or new station area plans requires on-going, long-term effort and dedicated resources.





2. Background

- A. Page 6, 1st Paragraph: RMRTD operates and maintains the trains and guideway, including major capital rehabilitation, replacement and expansion.
- B. Page 6, 3rd Paragraph: The Rail Runner saw its highest single-month ridership in January 2009, the first full month of service to Santa Fe.

3. Declining Ridership Poses Risks for the Rail Runner's Performance

- A. Page 11, 1st Paragraph: See comment 1.B.
- B. Page 11, 3rd Paragraph: Some of the growth in national commuter rail ridership can be attributed to new or added service.
- C. Page 13, 2nd Paragraph:
 - i. Ultimately, the revenues described in this section reflect RMRTD's efforts to fund Rail Runner operations, maintenance and capital improvements through a package that includes federal formula and competitive grants, GRT, BNSF/Amtrak trackage fees, and fare revenue.
 - ii. By design, fare revenue has never constituted a sizable portion of RMRTD revenue, and RMRTD has not sought more substantial fare increases as residents are already supporting the Rail Runner via the GRT. Consequently, the Rail Runner remains an affordable transportation alternative, and, when compared to other agencies that have greater dependence on fare revenue (versus a local tax), RMRTD avoids having to cut service and/or increase fares during periods of ridership loss.
- D. Page 13, NMRX Revenue Chart: See comment 1.D.i.
- E. Page 14, 3rd Paragraph: RMRTD's Section 5337 apportionment increased from approximately \$4.3 million in FY16 to \$8.7 million in FY17 and beyond.
- F. Page 15, 3rd Paragraph: The Rail Runner's fare structure was designed with its peers in mind, but was not intended to be punitive against those taking longer trips or those traveling from rural to urban areas.
- G. Page 18, 1st Paragraph: The \$1.8 million in crew operating costs is associated with several activities, including: layovers at terminal stations during which trains/restrooms are cleaned, mechanical problems are corrected and/or documented, lost items are identified and secured, and required reports are completed; transport of train crews by van between Albuquerque and Santa Fe (reduces train fuel and contractual, per-mile maintenance costs for rolling stock, in addition to wear and tear); the employment of six additional ticket agents above contract minimums to meet existing workforce needs; cash handling/deposits at the end of shifts; and also the payment of gross receipts tax on train crew labor (GRT).
- H. Page 19, 1st Paragraph: To clarify the Joint Use Agreement is between the state and BNSF, and does not include RMRTD.
- I. Page 19, 3rd Paragraph: RMRTD has and will continue to set annual transit asset management performance targets as required by FTA. One of these targets, for example, assesses the percentage of track segments operating under performance restrictions.
- J. Page 20, 3rd Paragraph: RMRTD has often allowed late-arriving Amtrak trains to run behind schedule—foregoing its incentive—to avoid delaying Rail Runner passengers.
- K. Page 22, 5th Bullet: See comment 1.J.





4. Core Infrastructure Improvements Can Help the Rail Runner Add Value to the Transportation System

- A. Page 25, 2nd Paragraph: See comment 1.C.i.
- B. Page 31, 1st Paragraph: Unlike the Montano Station, the Downtown Albuquerque Station does not offer free parking. The Montano Station also serves as an important origin station for North Valley residents.
- C. Page 31, 3rd Paragraph: See comment 1.G.
- D. Page 31, 4th Paragraph: As with PTC, the cost impact of a long-term improvement like a Balloon Fiesta Park spur should not be normalized to one year's ridership. Also, direct rail service to Balloon Fiesta Park may be much more popular than the existing rail service that requires a bus transfer.
- E. Page 37, 1st Paragraph: Less so than additional capital investment, the critical factor for more immediately increasing the frequency of service is operational funding (i.e., the existing fleet and system have the capacity to provide more service). However, more significant frequency increases would require additional track/signal improvements and rolling stock.
- F. Page 40, 3rd Bullet: See comment 1.K.
- G. Page 40, 4th Bullet: See comment 1.L.

5. The Rail Runner Can Play a Larger Role in Catalyzing Economic Development

- A. Page 47, Bullet 2: See comment 1.M.
- B. Page 47, Bullet 3:
 - i. See comment 1.N.
 - ii. The initial station area plans were funded by a one-time grant from the state's Local Government Division. With the exception of FTA grants for TOD planning associated with projects expected to advance through the FTA's Small and New Starts Capital Investment Grant Program, few federal sources exist for this purpose. This leaves only RMRTD GRT (which is already fully allocated for operations and vital capital projects) or other state and local sources.





Appendix A: Evaluation Scope and Methodology

Evaluation Objectives.

- Review the financial performance, health, and sustainability of the Rail Runner
- Analyze the impact of the Rail Runner on the region's transportation system, including ridership, commuting patterns, and economic development.

Scope and Methodology.

- Reviewed state and federal laws and regulations pertinent to commuter rail
- Reviewed NMRX planning documents, reports, contracts, and agreements
- Analyzed financial data from NMDOT and RMRTD
- Analyzed ridership and operations data from RMRTD and the National Transit Database
- Reviewed and analyzed reports and data on the operations of commuter rail systems in other states
- Interviewed RMRTD and local government staff
- Conducted site visits to NMRX stations and facilities
- Reviewed research on commuter rail from national and other state sources

Evaluation Team.

Brian Hoffmeister, Program Evaluator

Travis McIntyre, Ph.D., Program Evaluator (Additional Research)

Authority for Evaluation. LFC is authorized under the provisions of Section 2-5-3 NMSA 1978 to examine laws governing the finances and operations of departments, agencies, and institutions of New Mexico and all of its political subdivisions; the effects of laws on the proper functioning of these governmental units; and the policies and costs. LFC is also authorized to make recommendations for change to the Legislature. In furtherance of its statutory responsibility, LFC may conduct inquiries into specific transactions affecting the operating policies and cost of governmental units and their compliance with state laws.

Exit Conferences. The contents of this report were discussed with the Secretary-Designate of the Department of Transportation, the Director of Rio Metro Regional Transit District, and their staffs on January 9, 2019.

Report Distribution. This report is intended for the information of the Office of the Governor, Department of Finance and Administration, Office of the State Auditor, and the Legislative Finance Committee. This restriction is not intended to limit distribution of this report, which is a matter of public record.

Charles Sallee

Deputy Director for Program Evaluation

Appendix B: Weekday Rail Runner Schedule

ESTACIONES DE TREN		Northbound / rumbo norte										Shown are departure time unless otherwise noted	
TRAIN STATIONS		#502	#504	#102 EXPRESS	#506	#508	#510	#512	#514	#516	#518	#520	
Belen		–	–	5:39A	6:35A	8:04A	–	3:40P	–	5:51P	7:01P	7:57P	
Los Lunas		–	–	5:49A	6:46A	8:15A	–	3:51P	–	6:01P	7:12P	8:08P	
Isleta Pueblo		–	–	6:02A	6:59A	8:27A	–	4:04P	–	6:16P	7:26P	8:22P	
Bernalillo County		–	–	6:10A	7:06A	8:35A	–	4:11P	–	6:29P	7:35P	8:31P	
Downtown ABQ		4:32A	5:02A	6:22A	7:19A	8:42A	9:35A	4:26P	5:34P	6:48P	7:42P	8:38P	
Montaño		4:41A	5:11A	–	7:29A	–	9:44A	4:35P	5:43P	6:58P	–	–	
Los Ranchos / JC		4:47A	5:17A	6:34A	7:36A	–	9:50A	4:41P	5:49P	7:06P	–	–	
Sandia Pueblo		4:52A	5:22A	–	7:42A	–	9:55A	4:46P	5:54P	7:12P	–	–	
Downtown Bernalillo		5:01A	5:31A	–	7:52A	–	10:03A	4:54P	6:07P	7:26P	–	–	
Sandoval / US 550		5:05A	5:35A	6:46A	7:58A	–	10:08A	4:59P	6:12P	7:31P	–	–	
Kewa		5:25A	5:55A	7:05A	8:18A	–	10:28A	5:19P	6:34P	7:50P	–	–	
SF County / NM 599		5:48A	6:18A	7:24A	8:39A	–	10:51A	5:43P	6:57P	8:13P	–	–	
Zia Road		5:58A	6:28A	–	8:49A	–	11:01A	5:53P	7:07P	8:23P	–	–	
South Capitol		6:08A	6:38A	7:40A	8:56A	–	11:11A	6:00P	7:17P	8:33P	–	–	
Santa Fe Depot		6:13A	6:43A	7:45A	9:01A	–	11:16A	6:05P	7:22P	8:38P	–	–	

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ESTACIONES DE TREN		Southbound / rumbo sur										Shown are departure times unless otherwise noted	
TRAIN STATIONS		#501	#503	#507	#509	#511	#513	#515	#101 EXPRESS	#517	#519	#521	
Santa Fe Depot		–	–	5:39A	7:13A	1:02P	–	4:15P	5:04P	5:30P	6:46P	9:00P	
South Capitol		–	–	5:43A	7:18A	1:07P	–	4:20P	5:09P	5:35P	6:51P	9:05P	
Zia Road		–	–	5:49A	7:25A	1:14P	–	4:27P	–	5:42P	6:58P	9:12P	
SF County / NM 599		–	–	6:01A	7:37A	1:26P	–	4:39P	5:26P	5:54P	7:10P	9:24P	
Kewa		–	–	6:19A	7:55A	1:44P	–	4:57P	–	6:12P	7:28P	9:42P	
Sandoval / US 550		–	–	6:38A	8:14A	2:03P	–	5:16P	6:02P	6:31P	7:47P	10:01P	
Downtown Bernalillo		–	–	6:43A	8:18A	2:07P	–	5:20P	–	6:35P	7:51P	10:05P	
Sandia Pueblo		–	–	6:52A	8:27A	2:16P	–	5:29P	–	6:44P	8:00P	10:14P	
Los Ranchos / JC		–	–	6:57A	8:32A	2:21P	–	5:34P	6:14P	6:49P	8:05P	10:19P	
Montaño		–	–	7:02A	8:37A	2:26P	–	5:39P	–	6:54P	8:10P	10:24P	
Downtown ABQ		4:45A	5:30A	7:10A	8:45A	2:37P	4:30P	5:50P	6:25P	7:02P	8:18P	10:32P	
Bernalillo County		4:53A	5:41A	7:19A	–	2:45P	4:38P	5:57P	–	7:09P	–	–	
Isleta Pueblo		5:01A	5:49A	7:27A	–	2:52P	4:45P	6:06P	–	7:17P	–	–	
Los Lunas		5:13A	6:06A	7:39A	–	3:05P	4:58P	6:22P	–	7:31P	–	–	
Belen		5:24A	6:17A	7:50A	–	3:15P	5:08P	6:33P	–	7:42P	–	–	

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Source: RMRD

Appendix C: Weekend Rail Runner Schedules

ESTACIONES DE TREN Northbound Saturday / sábado rumbo norte					
TRAIN STATIONS	#702	#704	#706	#708	#710
Belen	7:50A	12:45P	5:40P	7:43P	10:35P
Los Lunas	8:00A	12:55P	5:50P	7:53P	10:45P
Isleta Pueblo	8:11A	1:06P	6:01P	8:04P	10:56P
Bernalillo County	8:19A	1:14P	6:09P	8:12P	11:03P
Downtown ABQ	8:30A	1:25P	6:20P	8:23P	11:11P
Montaño	8:39A	1:34P	6:29P	8:32P	—
Los Ranchos / JC	8:45A	1:40P	6:35P	8:38P	—
Sandia Pueblo	8:50A	1:45P	6:40P	8:43P	—
Downtown Bernalillo	8:58A	1:53P	6:48P	8:51P	—
Sandoval / US 550	9:02A	1:57P	6:52P	8:55P	—
Kewa	9:20A	2:15P	7:10P	9:13P	—
SF County / NM 599	9:41A	2:36P	7:31P	9:34P	—
Zia Road	9:52A	2:47P	7:42P	9:45P	—
South Capitol	10:00A	2:55P	7:50P	9:53P	—
Santa Fe Depot	10:05A	3:00P	7:55P	9:58P	—

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ESTACIONES DE TREN Southbound Saturday / sábado rumbo sur						
TRAIN STATIONS	#701	#703	#705	#707	#709	#711
Santa Fe Depot	—	10:20A	3:15P	—	8:10P	10:14P
South Capitol	—	10:25A	3:20P	—	8:15P	10:19P
Zia Road	—	10:33A	3:28P	—	8:23P	10:27P
SF County / NM 599	—	10:42A	3:37P	—	8:32P	10:36P
Kewa	—	11:00A	3:55P	—	8:50P	10:54P
Sandoval / US 550	—	11:18A	4:13P	—	9:08P	11:13P
Downtown Bernalillo	—	11:21A	4:16P	—	9:11P	11:16P
Sandia Pueblo	—	11:30A	4:25P	—	9:20P	11:25P
Los Ranchos / JC	—	11:35A	4:30P	—	9:25P	11:30P
Montaño	—	11:41A	4:36P	—	9:31P	11:36P
Downtown ABQ	6:56A	11:51A	4:45P	6:51P	9:41P	11:45P
Bernalillo County	7:06A	12:01P	4:56P	7:01P	9:51P	—
Isleta Pueblo	7:14A	12:09P	5:04P	7:09P	9:59P	—
Los Lunas	7:25A	12:20P	5:15P	7:20P	10:10P	—
Belen	7:35A	12:30P	5:25P	7:30P	10:20P	—

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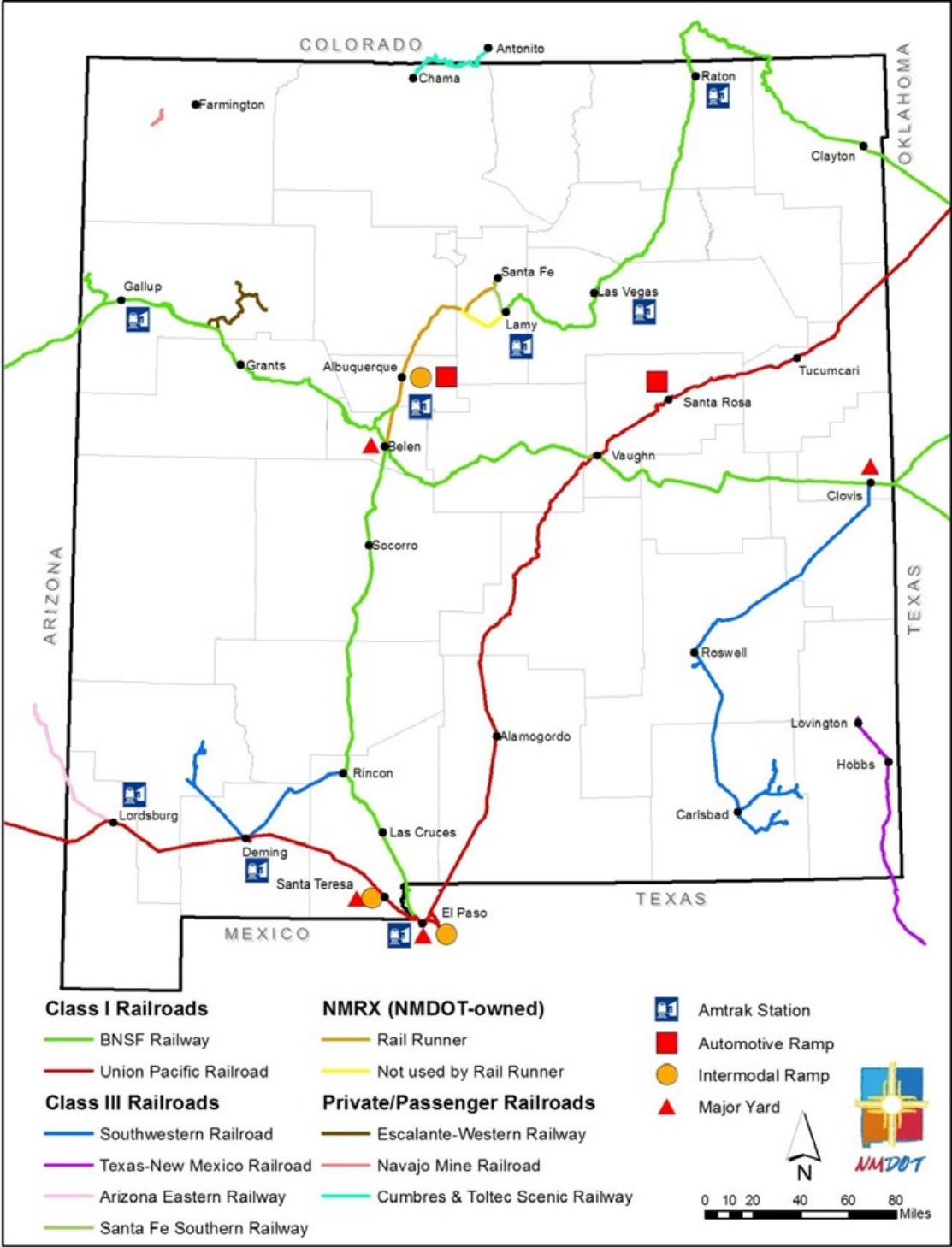
ESTACIONES DE TREN Northbound Sunday / domingo rumbo norte			
TRAIN STATIONS	#702	#704	#706
Belen	7:50A	12:45P	5:40P
Los Lunas	8:00A	12:55P	5:50P
Isleta Pueblo	8:11A	1:06P	6:01P
Bernalillo County	8:19A	1:14P	6:09P
Downtown ABQ	8:30A	1:25P	6:20P
Montaño	8:39A	1:34P	6:29P
Los Ranchos / JC	8:45A	1:40P	6:35P
Sandia Pueblo	8:50A	1:45P	6:40P
Downtown Bernalillo	8:58A	1:53P	6:48P
Sandoval / US 550	9:02A	1:57P	6:52P
Kewa	9:20A	2:15P	7:10P
SF County / NM 599	9:41A	2:36P	7:31P
Zia Road	9:52A	2:47P	7:42P
South Capitol	10:00A	2:55P	7:50P
Santa Fe Depot	10:05A	3:00P	7:55P

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ESTACIONES DE TREN Southbound Sunday / domingo rumbo sur				
TRAIN STATIONS	#701	#703	#705	#707
Santa Fe Depot	—	10:20A	3:15P	8:10P
South Capitol	—	10:25A	3:20P	8:15P
Zia Road	—	10:33A	3:28P	8:23P
SF County / NM 599	—	10:42A	3:37P	8:32P
Kewa	—	11:00A	3:55P	8:50P
Sandoval / US 550	—	11:18A	4:13P	9:08P
Downtown Bernalillo	—	11:21A	4:16P	9:11P
Sandia Pueblo	—	11:30A	4:25P	9:20P
Los Ranchos / JC	—	11:35A	4:30P	9:25P
Montaño	—	11:41A	4:36P	9:31P
Downtown ABQ	6:56A	11:51A	4:45P	9:41P
Bernalillo County	7:06A	12:01P	4:56P	—
Isleta Pueblo	7:14A	12:09P	5:04P	—
Los Lunas	7:25A	12:20P	5:15P	—
Belen	7:35A	12:30P	5:25P	—

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Appendix D: New Mexico State Rail Map



Source: NMDOT State Rail Plan

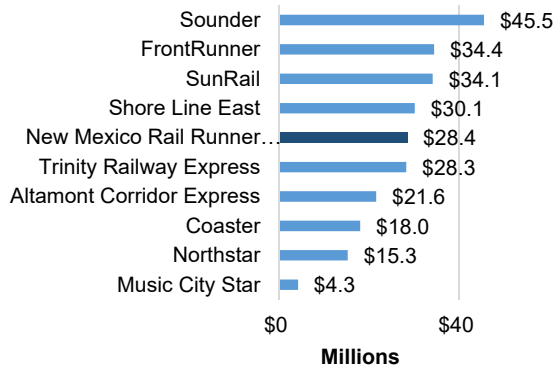
Appendix E: List of Peer Commuter Railroads

Commuter Railroad	Operating Agency	Location	Route Length (Miles)	Number of Stations	Number of Weekday Trains	2017 Passenger Trips	2017 Vehicle Revenue Hours	2017 Vehicle Revenue Miles
Altamont Corridor Express (ACE)	San Joaquin Regional Rail Commission	Stockton-San Jose, CA	86	10	8	1,299,717	28,013	1,084,966
Coaster	North County Transit District	San Diego-Oceanside, CA	41	8	22	1,454,865	34,422	1,360,510
FrontRunner	Utah Transit Authority	Salt Lake City-Ogden-Provo, UT	87	15	63	4,854,099	154,744	5,349,524
Music City Star	Regional Transportation Authority	Nashville-Lebanon, TN	31	7	12	294,389	7,890	203,497
New Mexico Rail Runner Express	Rio Metro Regional Transit District	Albuquerque-Belen-Santa Fe, NM	97	15	22	835,561	35,706	1,366,739
Northstar	Metro Transit	Minneapolis-Big Lake, MN	39	7	12	793,798	14,482	556,323
Shore Line East	Connecticut Department of Transportation	New Haven-New London, CT	51	9	36	800,356	38,230	1,705,456
Sounder	Central Puget Sound Regional Transit Authority	Seattle-Everett-Lakewood, WA	82	12	34	4,445,568	63,935	1,919,660
SunRail	Central Florida Commuter Rail Commission	Orlando-Kissimmee-Sanford, FL	49	16	40	901,156	25,678	652,532
Trinity Railway Express (TRE)	Dallas Area Rapid Transit	Dallas-Fort Worth, TX	36	10	72	2,097,999	72,469	1,630,259

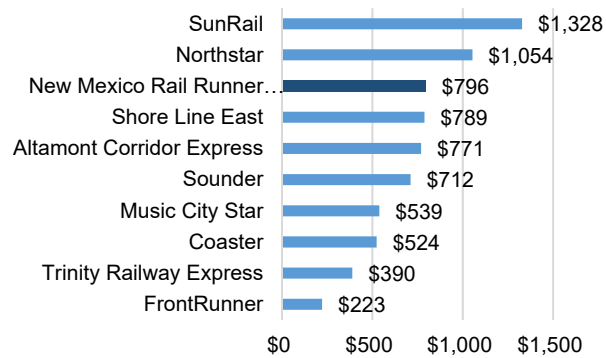
Source: National Transit Database and individual commuter railroads

Appendix F: Peer Railroad Operating Cost Comparison

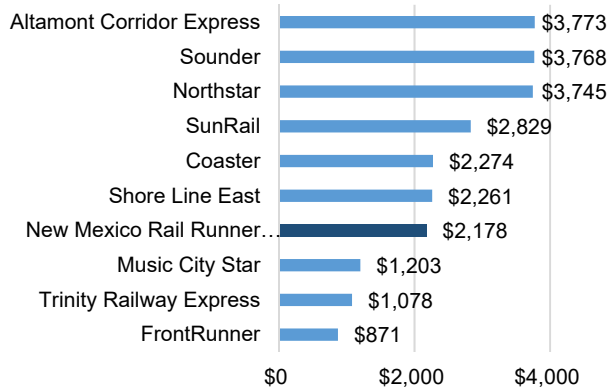
Total Operating Costs, 2017
(\$ in Millions)



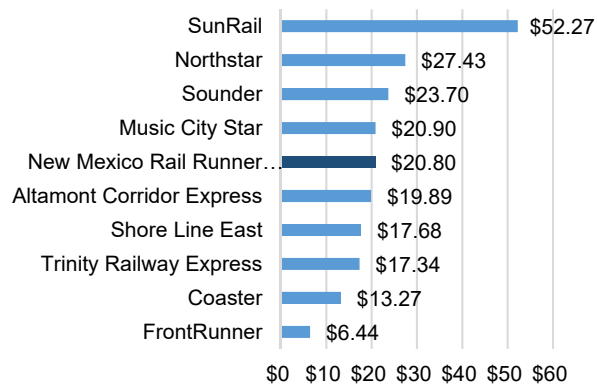
Operating Cost per Vehicle Revenue Hour, 2017



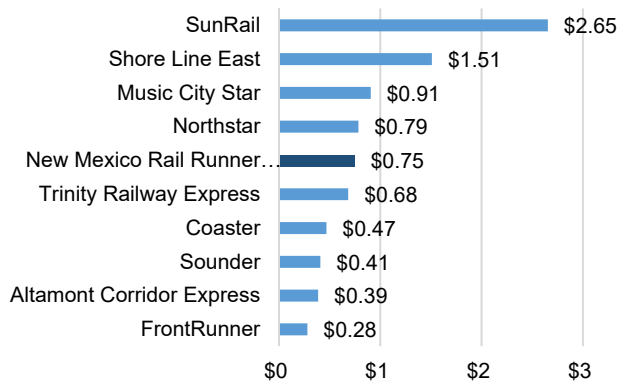
Operating Cost per Train Hour, 2017



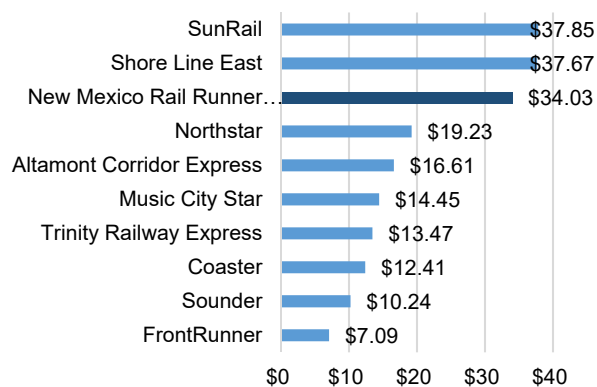
Operating Cost per Vehicle Revenue Mile, 2017



Operating Cost per Passenger Mile, 2017



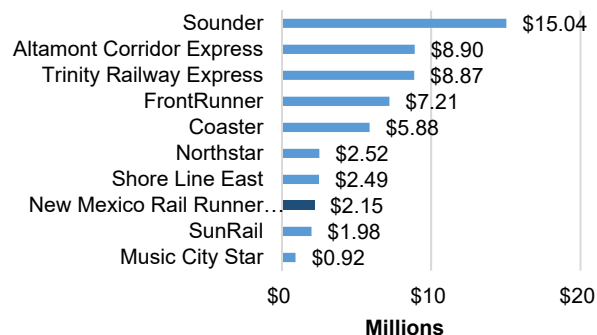
Operating Cost per Passenger Trip, 2017



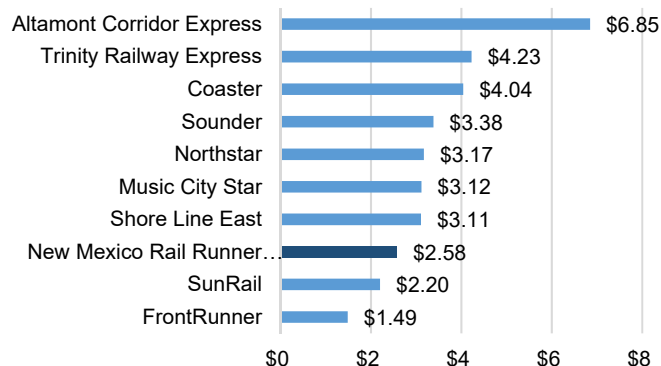
Source: LFC analysis of National Transit Database

Appendix G: Peer Railroad Fare Comparison

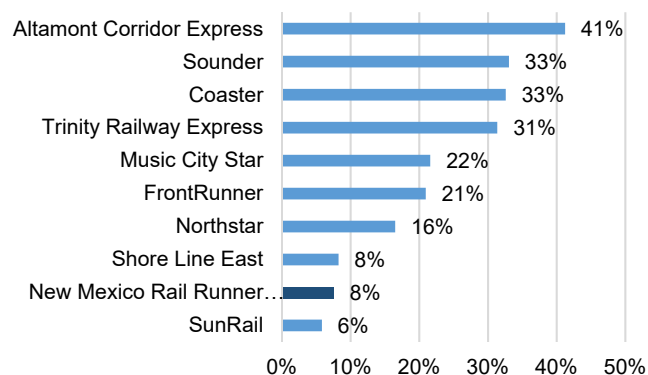
Fare Revenues Earned, 2017
(\$ in Millions)



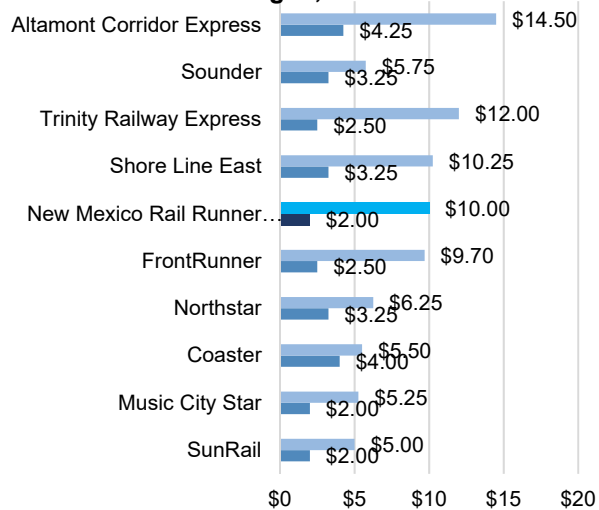
Fare Revenues per Unlinked Passenger Trip, 2017



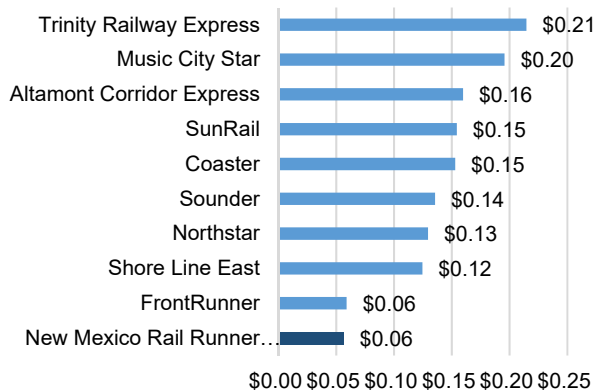
Fare Revenues per Total Operating Expense (Recovery Ratio), 2017



Regular Weekday One-Way Fares Charged, 2018



Fare Revenues per Passenger Mile, 2017

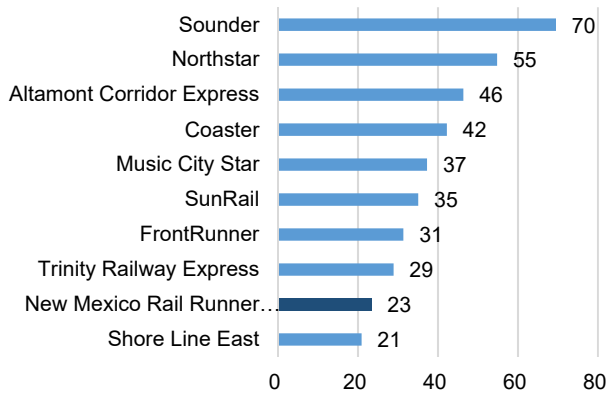


■ Maximum Regular Weekday One-Way Fare
■ Minimum Regular Weekday One-Way Fare

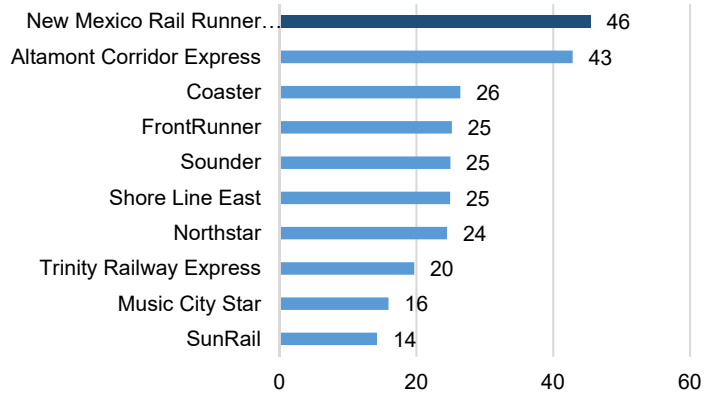
Source: LFC analysis of National Transit Database, individual railroad fare charts

Appendix H: Peer Railroad Ridership Comparison

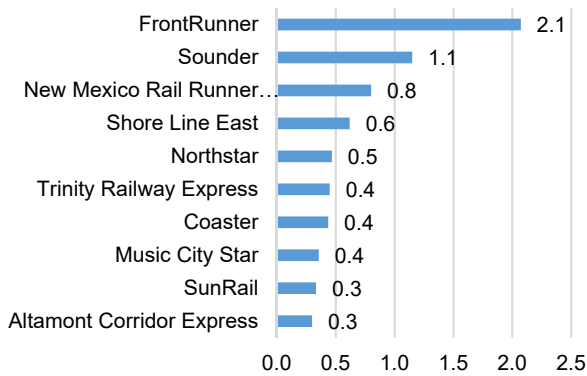
Passengers per Vehicle Revenue Hour, 2017



Average Miles per Trip, 2017

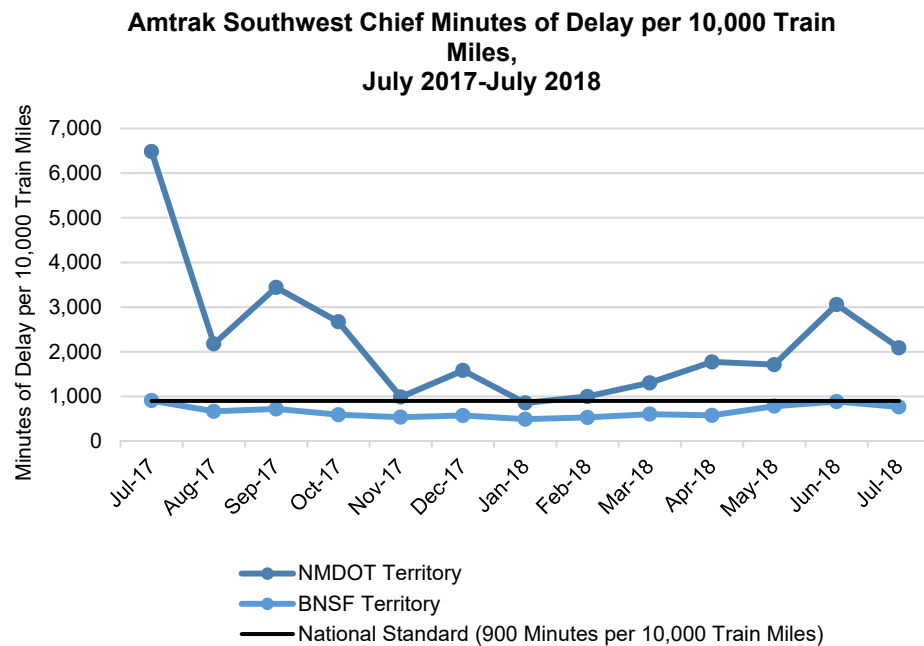


Passenger Trips per Capita in Counties Served, 2017



Source: LFC analysis of National Transit Database

Appendix I: Southwest Chief Delays in NMRX Territory



Source: Amtrak Host Railroad Reports