Polk Transportation Planning Organization

I-4 PASSENGER RAIL STATION STUDY
POLK TPO



PASSENGER RAIL STATION CASE STUDIES

August 2026 **DRAFT**

EXAMPLE STATION CASE STUDIES

Passenger stations are designed to fit their surroundings, with each location having unique access, development, and operational needs. Understanding these differences and specific needs can help illustrate how a future intercity passenger rail station along I-4 could serve Polk County and connect to the broader Central Florida rail network.

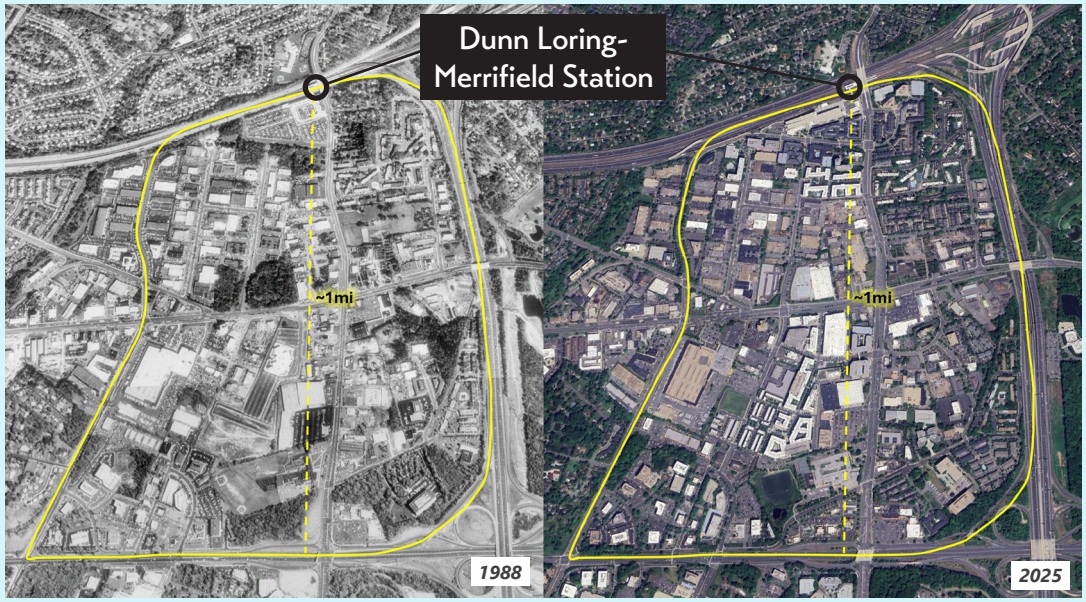
This section highlights five rail stations located within interstate rights-of-way or along major highway corridors:

- Dunn Loring-Merrifield Station - Washington Area Metropolitan Transit Authority (WMATA), Merrifield, Virginia
- West Dublin/Pleasanton Station - Bay Area Regional Transit (BART), Dublin/Pleasanton, California
- Lincoln Station - Regional Transportation District (RTD), Lone Tree, Colorado
- Aventura Station - Brightline, Aventura, Florida
- Victor Valley Station - Brightline West, Apple Valley, California (under development)

While these examples represent different types of passenger rail service, they demonstrate common principles for successful station design. Key lessons including providing safe and convenient passenger access, creating seamless connections to other travel modes, and supporting development around the station. These case studies can help inform future planning for a potential intercity passenger rail station and surrounding development in Polk County.

TOD Example: From Rail Station to Place Creation

The WMATA Dunn Loring-Merrifield Station, part of the Orange Line, is located within the median of I-66 in the Washington, D.C. Metro area. The station opened in June 1986 and has served as a significant catalyst for transit-oriented development (TOD) in the surrounding area. A comparison of aerial imagery from 1988 and 2025 illustrates the transformation of the station area from a predominantly low-density commercial and industrial landscape characterized by large surface parking lots and dispersed development into a denser, more urban environment. Within a half-mile of the station, numerous high-density residential developments and mixed-use projects have been constructed on formerly underutilized parcels, while redevelopment within a one-mile radius has further increased the concentration of housing, employment, and commercial activity. The resulting development pattern reflects the principles of TOD by focusing growth within walking distance of high-capacity transit and creating a more compact, connected, and transit-supportive community.



Source: Google Earth

DUNN LORING-MERRIFIELD STATION (WMATA ORANGE LINE)

Merrifield, Virginia

Located along I-66 in the Washington, D.C. region, Dunn Loring-Merrifield Station demonstrates how a rail station can successfuly serve a major highway corridor. The station is connected to surrounding development, parking, bus stops, and drop-off areas through safe, direct pedestrian routes and bridges. It accommodates passengers arriving by car, bus, bike, and foot.

WHAT STANDS OUT

- Located within the I-66 corridor, this station serves as both a transit hub for the heavy rail transit line and as a park-and-ride facility.
- Pedestrian bridges and dedicated walkways provide safe access across the highway to the station platform.
- Includes parking, bus connections, drop-off areas, bicycle facilities, and pedestrian amenities.
- Integrated within nearby mixed-use development.

WHAT POLK COUNTY CAN LEARN

- Highway-area stations should be planned as multimodal destinations, not just parking lots.
- Walking routes should be direct, visible, and separated from vehicle traffic.
- Parking, transit, bike facilities, and drop-off areas should be designed to support convenient passenger movement.



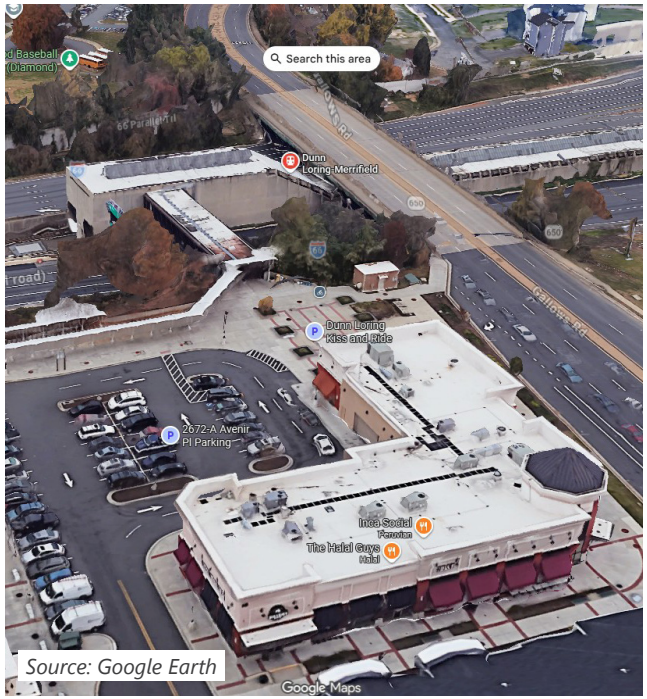

Source: Google Maps

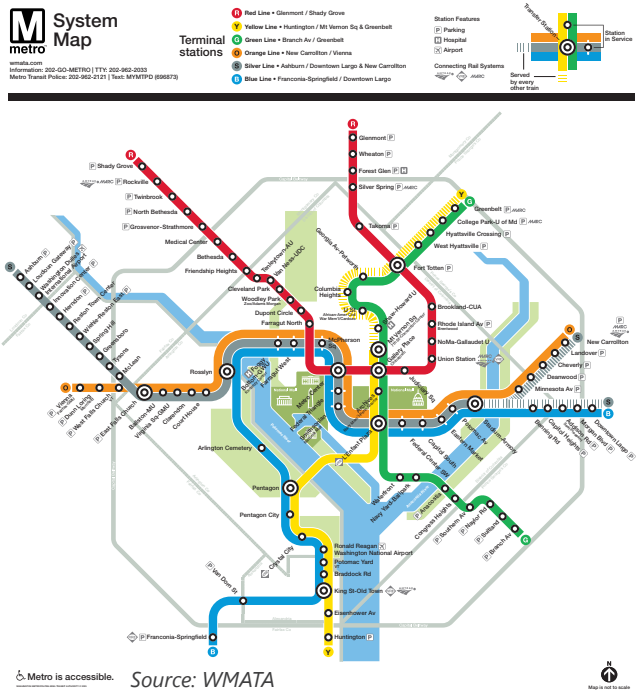






The Dunn Loring-Merrifield station and nearby roadway over I-66 makes it simple and safe for people to move between the train, parking, buses, shuttles, and nearby destinations on both sides of I-66.





WEST DUBLIN / PLEASANTON STATION (BART BLUE LINE)

Dublin/Pleasanton, California

Located within the I-580 corridor in the San Francisco Bay Area at the interchange with I-680, the West Dublin / Pleasanton Station provides access to passengers at a major regional transportation crossroads. The station platform is located in the interstate median and is linked to parking and surrounding development through a series of pedestrian bridges, elevators, and walkways. It serves both park-and-ride users and travelers arriving from nearby residential, office, hotel and mixed use developments.

WHAT STANDS OUT

- Located in the median of I-580 between the cities of Dublin and Pleasanton.
- Pedestrian bridges connect the station to both sides of the highway.
- Includes parking garages, elevators, stairs, and dedicated pedestrian facilities.
- The station supports park-and-ride access while connecting to local bus routes and office, hotel, residential, retail and mixed-use areas.

WHAT POLK COUNTY CAN LEARN

- When stations are separated from nearby destinations by a highway, pedestrian connections become a critical part of the station experience.
- Bridges, elevators, stairs, signs, lighting, and security should be planned as essential station elements.
- Clear and convenient access should be provided from parking, drop-off areas, and adjacent development, especially in areas with highway corridors that create barriers.



Source: Google Earth


Source: Google Maps





Stations near a major interstate interchange should still be planned for a safe and comfortable user experience, including access to parking, drop off areas, and adjacent development from both sides of the highway.


Source: BART



Source: BART

LINCOLN STATION (RTD E & R LINE)

Lone Tree, Colorado

RTD's Lincoln Station is a suburban light-rail station in the Denver metropolitan area located along the west side of I-25. The station area design demonstrates how a growing suburban area can be connected to a rail station by bus routes, a signature pedestrian bridge that spans the entire width of the interstate. It was designed to accommodate strong park-and-ride demand while allowing for long-term growth around the station.

WHAT STANDS OUT

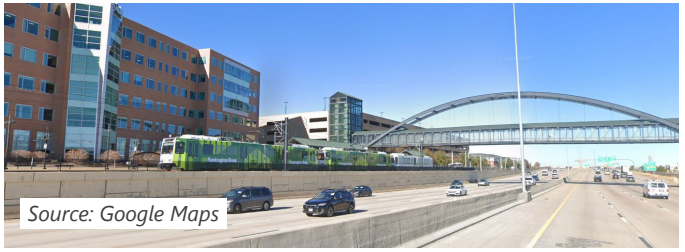
- Located along the I-25 corridor with high visibility and regional access.
- Connected by a pedestrian bridge spanning the interstate and a multi-use trail on the east side of the interstate.
- Supports park-and-ride activity and connections to local transit services. to feeder transit.
- Surrounded by office, institutional, and redevelopment opportunities.

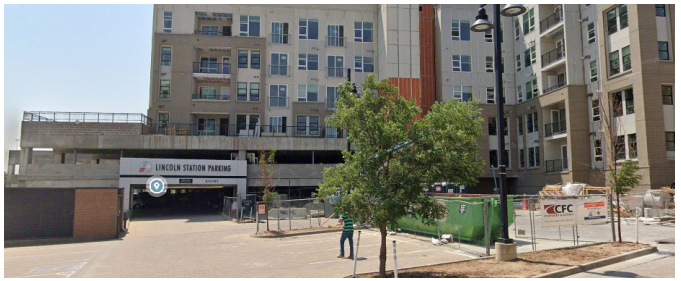
WHAT POLK COUNTY CAN LEARN

- Parking should be planned as part of a larger station area strategy, not the station's primary purpose.
- Station areas can be designed to meet today's travel needs while allowing for future growth and development. Surface parking lots can later transition to structured parking, shared parking, development, or other passenger facilities.
- Multiple access points may be needed for pedestrians, bikes, parking, buses, shuttles, and drop-off activity.



Source: Google Earth

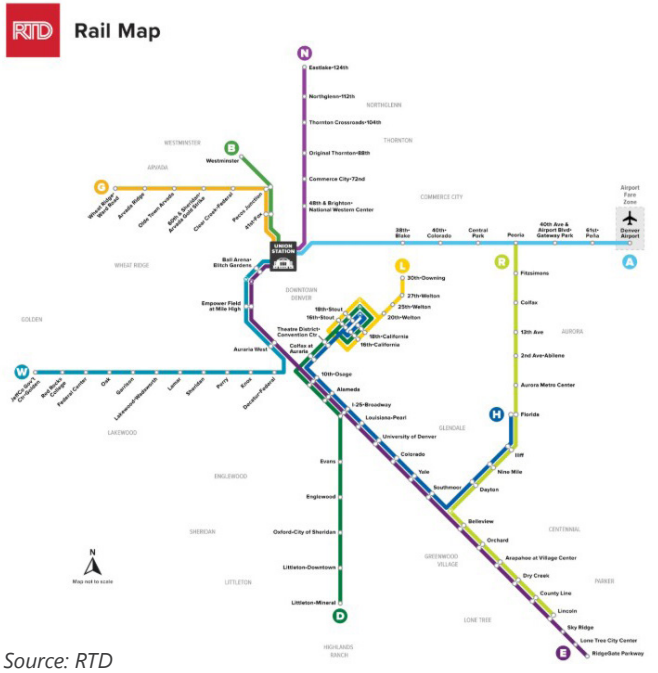

Source: Google Maps



Parking can be planned to adapt over time from surface lots to structured garages as travel needs change and to support future growth and development around the station.



Source: Google Earth



Source: RTD

AVENTURA STATION (BRIGHTLINE)

Aventura, Florida

Brightline's Aventura Station is an intercity rail station located in northeast Miami-Dade County near Aventura Mall and several major regional roadways. This station serves a major activity center and functions as a regional transportation hub where Dixie Highway and U.S. 1 (Biscayne Boulevard) converge. Access to the platform is limited to the station from the west side of the highway. U.S. 1 and the rail line remain a significant barrier to destinations on the eastside.

WHAT STANDS OUT

- Located along U.S. 1 near a major retail and employment activity center with strong regional visibility.
- Supports access by personal vehicle, rideshare, buses, shuttles and other transportation options.
- Connects intercity rail service with some surrounding destinations, but does not currently span both sides of U.S. 1.
- Serves as both a transportation hub and gateway to the surrounding area.

WHAT POLK COUNTY CAN LEARN

- Stations should be designed around the entire passenger journey, from arrival to final destination.
- Walking routes should be direct, comfortable, easy to navigate, and shaded between the station and destinations to make rail a more attractive travel option.
- Parking and drop-off areas should be organized to minimize conflicts and improve passenger experience.
- Wide roads, rail corridors, and large parking areas can make access more difficult.



Source: Google Earth

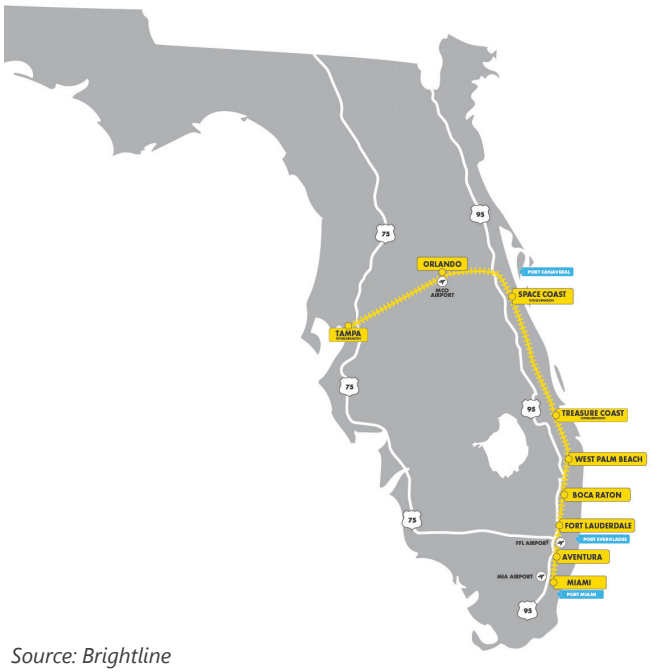

Source: Google Maps



A station near a regional activity center needs to provide direct, comfortable connections to key adjacent destinations and coordinated parking, drop-off, rideshare, bus, and shuttle access.



Source: Brightline



Source: Brightline

VICTOR VALLEY STATION (BRIGHTLINE WEST)

Apple Valley, California

The future Brightline West Victor Valley Station in Southern California will be the first high-speed passenger rail system constructed within an interstate corridor in the U.S. The planned station is part of the 218-mile long Brightline West system, which will link Las Vegas and the Metrolink Regional Rail station in Rancho Cucamonga, California.

The planned station includes a platform designed within the interstate right-of-way. Access will be provided through a grade-separated underpass, providing safe and efficient connections for passengers.

WHAT STANDS OUT

- The 300-acre station area is located in an undeveloped area near the interchange of I-15 and Dale Evans Parkway.
- Station platforms are planned within the median with grade-separated pedestrian access under shifted and raised northbound I-15 lanes.

WHAT POLK COUNTY CAN LEARN

- Grade-separated connections can help provide safe and convenient passenger access.
- Rail stations within highway corridors require careful planning for access, maintenance, safety, and emergency response.
- Major projects may involve extensive environmental review, permitting and agency coordination.
- While highway corridors can offer regional access and visibility, they can also introduce additional design and implementation challenges.



Source: Brightline West

Even where right-of-way width allows, some changes to the interstate may be needed to allow safe and convenient access between the station and the platform within the median.



Source: Brightline West



KEY TAKEAWAYS FOR POLK COUNTY

Plan the station as a complete access system

- Stations are more than a platform and parking lot.
- Plan for safe, clear station access.
- Include sidewalks, crossings, bridges, elevators, and stairs.
- Coordinate areas for drop-off, bus, and shuttle connections early to allow seamless connections.

Treat parking as one part of the station, not the whole station

- Parking should support opening-day needs while allowing for future development, pedestrian connections, and station expansion.
- Access to parking areas should be well-marked from the surrounding area to reduce traffic impacts.

Make walking routes direct, visible, and comfortable

- Nearby destinations may still feel far if roads, parking lots, rail lines, or highways create barriers.
- Direct paths, clear signs, lighting, shade, safe crossings, and visible entrances can improve the station experience.

Design for both opening-day conditions and long-term change

- Station areas can evolve over time.
- Design should work well on opening day.
- Plan for future walkability, connectivity, and redevelopment potential.

Coordinate early around complex infrastructure

- Highway-adjacent stations can be complex.
- Plan early for access, safety, maintenance, funding, and future roadway needs.
- Coordinate responsibilities with key partners.

