

I-40 / RDU Airport Exchange Station – DRAFT OVERVIEW

Summary

- While the architectural design of the exchange station is very attractive, it is the overall concept of operations and associated design and connection elements that make it truly spectacular for this growing market.
- By locating the station physically on top of I-40, instead of bringing transit to the airport, the exchange station effectively brings the airport to our current and future regional transit network.

Specific benefits of the design for airport travelers

- By allowing buses to briefly pause at the station over the Interstate and then easily return to the freeway, the location allows essentially any current or future bus or transit route that traverses I-40 to become an airport route.
- Locating the station in the center of a roundabout over the freeway, with buses rotating clockwise, ensures that bus or other doors will be on the right side, adjacent to the exchange station – which ensures that transit users can immediately enter the station without either waiting outside or crossing active traffic.

Operational efficiency and flexibility

- The design allows for access via BOSS (bus on shoulder system) ramps along the outside and/or DMSS (dynamic median shoulder system) ramps along the inside.
- The design also simplifies and expedites operations for bus and shuttle drivers by ensuring that pedestrians do not cross the circular roadway.
- The design allows for multiple buses to stop at the exchange station at the same time, and for other buses to pass each other to keep moving.

Benefits to RDU Airport

- By keeping buses on the interstate, and away from the terminals, the location frees up valuable terminal curb space.
- By providing more buses serving the airport, the exchange station increases travel options for airport customers.

Benefits for non-airport transit users, and for the environment

- Since buses only pause briefly without traversing through the airport terminal complex, it saves several minutes of travel time for non-airport travelers that would otherwise be spend traversing the terminal complex.
- By reducing the number of transit routes traveling between I-40 and RDU, overall vehicle miles traveled go down.

Benefits to visitors

- The design simplifies the arrival for out-of-market visitors at RDU, since travelers arriving at the airport terminal only need to look for the RDU exchange station shuttle, rather than a particular bus. Travelers can make their public transit destination selection at the exchange station, a much more comfortable, dedicated location.
- When returning to RDU Airport, multiple local and regional routes will serve the exchange station.

Scalability

- The exchange station will be connected with the terminal area by dedicated, frequent, RDU shuttles that will simplify campus travel. Those shuttles may be electric and/or autonomous.
- The number, frequency, and operating agencies serving the station can change throughout the day/over time
- The station can be served by some or all of the proposed BOSS and DMSS ramps initially. As long as one set of BOSS ramps are in place (e.g., westbound BOSS ramps), the station can activate, with access to I-40 west from the other direction of I-40 and/or from RDU shuttles via the adjacent interchanges/U-turns as needed.

Benefits of iconic appearance

- The attractive appearance of the exchange station is still very important. It will be iconic and prominent, easily visible, and serve as a recognized marker for this connected region and as a point of regional civic pride.
- It will also elevate the interest in public transportation by both transit users and non-users (future users) alike.
- While there won't be a single BRT or transit hub for this polycentric region as it develops a regionwide BRT network, with 10+ BRT corridors along streets, freeways, and arterials, the central, prominent location and iconic appearance of the RDU exchange station will make it a centerpiece of regional transit and transportation.

The bottom line is that this will be a significant benefit for transit – both for those transit users desiring to travel to the airport and those who do not – along with visitors and other travelers.