

# Why Bus Rapid Transit?

Analysis from RTD Northwest Area Mobility Study (NAMS)



## What is Bus Rapid Transit (BRT)?

Bus rapid transit is a high-quality service that operates much like light rail, BRT can have a range of feature, including limited stops, faster travel times, prepayment level-boarding, improved boarding access and exclusive bus-only travel lanes.

## City of Boulder

The City of Boulder considers a full range of options to offer a high-quality customer experience, and maximize fast, frequent, and reliable transit service in the most cost-effective way possible.

The city, in partnership with RTD, Via, Transfort/ City of Fort Collins, and Boulder County studies existing and future ridership levels and then matches the type of transit technology (bus, Bus Rapid Transit, light rail, passenger rail, etc.) based on this ridership demand. Our focus is on enhancing freedom of travel by making as much of the city as possible accessible by high quality, frequent and reliable transit service, and matching the transit type to the level of demand.

This type of analysis was done by RTD as part of the [Northwest Area Mobility Study](#) (NAMS) which includes East Arapahoe/SH7 and the Diagonal/SH119 corridors. The NAMS study identifies arterial Bus Rapid Transit (BRT) as the best fit for the regional corridors, recognizing these BRT corridors would be part of a larger, long-term transit system that someday will include passenger rail service as envisioned in FasTracks.

## Characteristics of light rail and BRT

Light rail transit is typically a better fit for much higher density, major metropolitan areas and urban cities such as Denver, and not applicable in the Northwest corridor communities given the lower density land use and more dispersed travel patterns. The cost comparisons vary from year to year and case by case, but based on recent BRT and light rail corridor development costs in the United States, on average, BRT can be 7 times more affordable than light rail, per mile. That's 25 miles of BRT infrastructure for the same cost of less than 4 miles of light rail.



High quality BRT, as identified in NAMS, can achieve our local and regional mobility goals – and often, BRT is referred to around the country – as shown in this article from Portland - as "[rubber tire light rail](#)" because it can be designed to offer all of the passenger amenities and quality experience as rail-based transit. The [EmX BRT](#) in Eugene, Oregon is an example of a BRT system emulating light rail and an example closer to Boulder is Fort Collins' [MAX BRT](#), which is built to operate very similar to light rail, for a fraction of the cost.

# Boulder's Community Transit Network (CTN)

For a city of our size, the optimal type of transit is typically rubber-tired transit, such as the Community Transit Network routes (HOP, SKIP, JUMP, etc.) and arterial/regional Bus Rapid Transit (BRT) being planned for East Arapahoe/SH7 and the Diagonal/SH119 as a result of RTD's NAMS.

In Boulder, we are able to provide frequent and reliable service with uniquely branded CTN buses and continue to look at ways to enhance customer experience through more direct routing, enhanced transit stops and locations, queue jumps, transit signal priority, and other bus enhancement strategies. The regional BRT corridor studies are intended to create fast, frequent, and reliable service that competes with driving a car by providing dedicated transit lanes, off board fare payment, and level-boarding. Through improvements, such as dedicated transit lanes and station enhancements, the perception of permanence and attractiveness of bus rapid transit corridors can rival light rail and street car, and support our community's broad range of sustainability goals in a way that is tailored to Boulder and the surrounding region.

The city's experience with the success of the CTN routes, as well as state and national examples of high quality BRT, demonstrate that these types of rubber-tired transit technologies can achieve the city's goals of high quality customer experience, frequency, and reliability through a more cost effective transit solution.



RTD light rail in Denver

Photo: Buffie



Higher construction cost

**206**

Passengers per vehicle



Subsidy per boarding

**100**

Percent in its own right-of-way



MAX bus rapid transit in Fort Collins



Lower construction cost

**55**

Passengers per vehicle



Subsidy per boarding

**50-80**

Percent in its own right-of-way