

GUANELLA PASS

Scenario 1

- Shuttle buses from Georgetown to Guanella Pass
- Stops by request at the Clear Lake Campground, Guanella Pass Campground, and the Silver Dollar Lake parking area
- Coupled with parking enforcement at Guanella Pass parking lots

Scenario 2

- Shuttle buses from staging area near Guanella Pass (e.g., Clear Lake) to Guanella Pass
- Stops by request at GP Campground and the Silver Dollar Lake parking area (if en route)
- Coupled with parking enforcement at Guanella Pass parking lots

How did we Estimate Ridership?

The visitor survey results show that:

- **41 percent** of visitors would take a shuttle from Georgetown (Scenario 1) if parking congestion prevented them from driving their own vehicles
- **68 percent** would take a shuttle from a lot near the trailhead – up to 15 minutes (Scenario 2) - if parking congestion prevented them from driving their own vehicles
- 95th percentile design day (approximately 1,600 vehicles per day) → visitors *per hour* that park in undesignated roadside parking:
 - **414 passengers per day** (Scenario 1)
 - **687 passengers per day** (Scenario 2)

Where Will the Transit Passengers Park?

The project team has not spoken with the owners of these properties about the feasibility, costs, or constraints involved in using these as transit staging areas 35 days per year. Large land area required for transit and low vehicle turnover represent significant constraints in transit planning.

Scenario 1

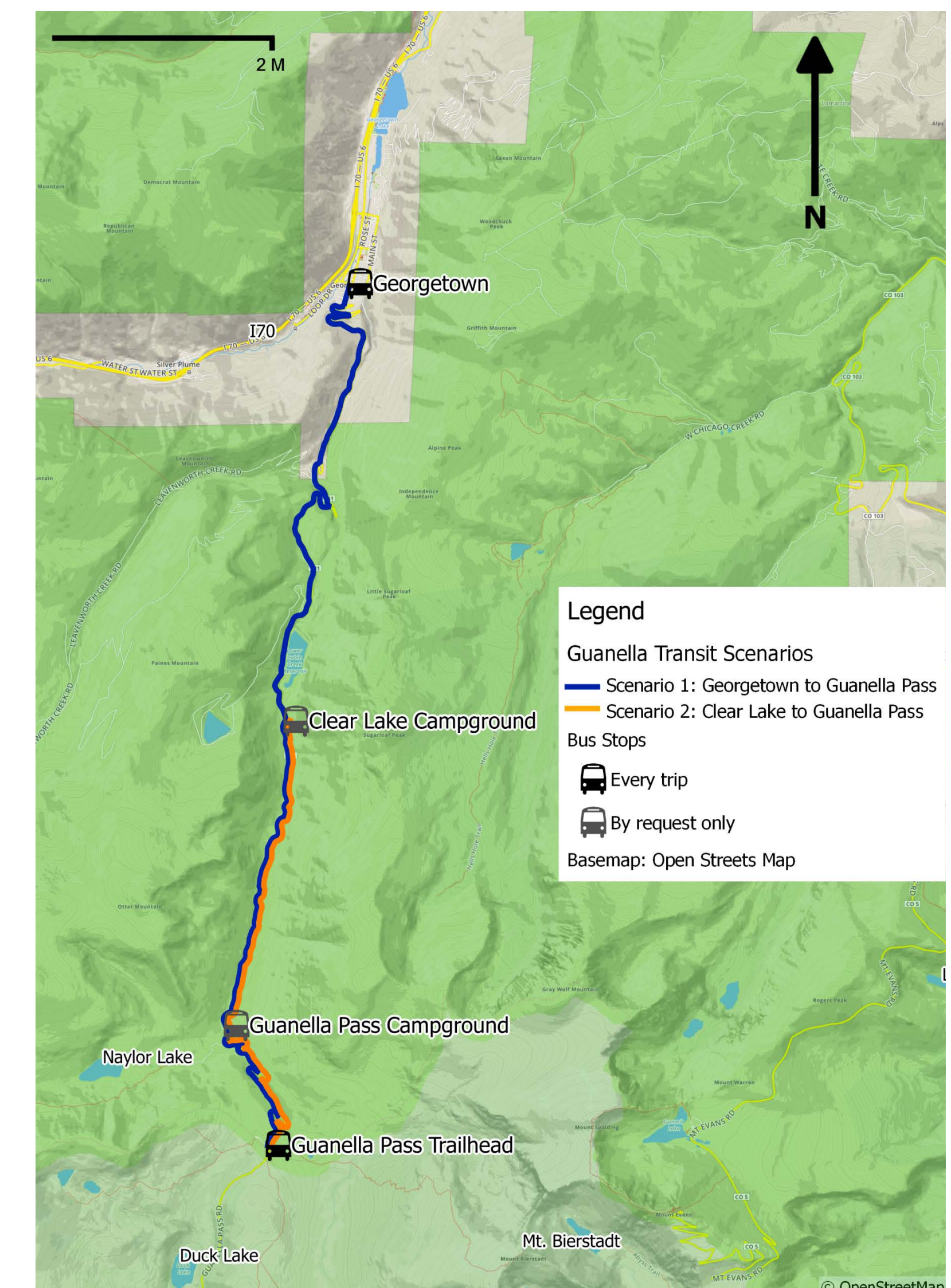
- Use existing lots in Georgetown
- Capacity for at least 130 vehicles
- Options may include:
 - Gateway Visitor Center
 - County government annex lot
 - Town hall lot
 - Gravel lot near reservoir

Scenario 2

- Capacity for 250 – 275 vehicles
- 2 acres
- Options may include:
 - Ski area near Duck Lake
 - Clear Lake Recreation Area
 - Xcel Energy Amenity Areas
 - Campgrounds

	Scenario 1	Scenario 2
Travel Time (Roundtrip)	84 minutes	36 minutes
Distance (Roundtrip)	32 miles	10 miles
Hours of Operation	6 a.m. to 7 p.m.	6 a.m. to 7:30 p.m.
Frequency of Service	20-30 minutes	10-20 minutes
Vehicles Required	5	5
Passengers/Day	414	687
Cost to Own/Year	\$166,309	\$123,955
Cost to Own/Year/Rider	\$11.48	\$5.16
Cost to Lease/Year*	\$130,315-\$144,900	\$52,516
Cost to Lease/Year/Rider*	\$8.99 - \$10.00	\$4.36-\$5.17

*Cost range reflects addition of transit-supportive infrastructure (bus shelters, benches, etc.) aggregated over 12 years



GUANELLA PASS

Examples of Vehicles

- The StarTrans HD holds 28 passengers, can be modified with options to improve performance on steep grade roadways, and will cost approximately \$100,000

How Did We Estimate Costs?

- Costs included
 - Transit-supportive infrastructure costs (bus shelters, benches, signage); *additional infrastructure includes road repairs and acquisition of staging areas, which are not included due to uncertainty*
 - Vehicle purchase or lease
 - Start-up costs (marketing, installation, initial promotion, staff training, etc.)
 - Operation costs (annual): fuel, driver costs
 - Maintenance costs (annual)
- Service hours and frequency
 - Ridership estimates and data on peak usage drove determined hours and headways
 - Additional vehicles and capacity included for emergencies and contingencies
- Data sources
 - GSA Auto Choice for vehicle purchase and lease options
 - PEDSAFE – Pedestrian Safety Guide and Countermeasure Selection System
 - Volpe Center Bus Lifecycle Cost Model
 - Maintenance costs (\$1.00/mile) based on good road conditions
 - Fuel costs (\$3.50/gallon) are higher than current prices but reflect projected increases in future years
 - Assume USFS uses existing fueling stations and maintenance facilities



MOUNT EVANS

Scenario 1

- Shuttle buses from Idaho Springs, CO, to the summit of Mt. Evans
- Stops at Echo Lake, Echo Lake Campground, Mt. Goliath Natural Area, and Summit Lake
- Coupled with parking enforcement along Mt. Evans Highway

Scenario 2

- Shuttle buses from MERA Courtesy Station to the summit of Mt. Evans
- Stops at Echo Lake Campground, Mt. Goliath Natural Area, and Summit Lake.
- Coupled with parking enforcement along Mt. Evans Highway

How did We Estimate Ridership?

The visitor survey results show that:

- **23 percent** of visitors would take transit from up to one hour away from MERA (Scenario 1) if congestion prevented them from driving their own vehicles
- **60 percent** would take transit that originated near the MERA entrance station if congestion prevented them from using private vehicles
- 90th percentile design day (approximately 1,000 vehicles per day) → visitors *per hour* that park in undesignated roadside parking:
 - **211 passengers per day** (Scenario 1)
 - **552 passengers per day** (Scenario 2)

Where Will Transit Passengers Park?

The project team has not spoken with the owners of these properties about the feasibility, costs, or constraints involved in using these as transit staging areas 35 days per year

Scenario 1

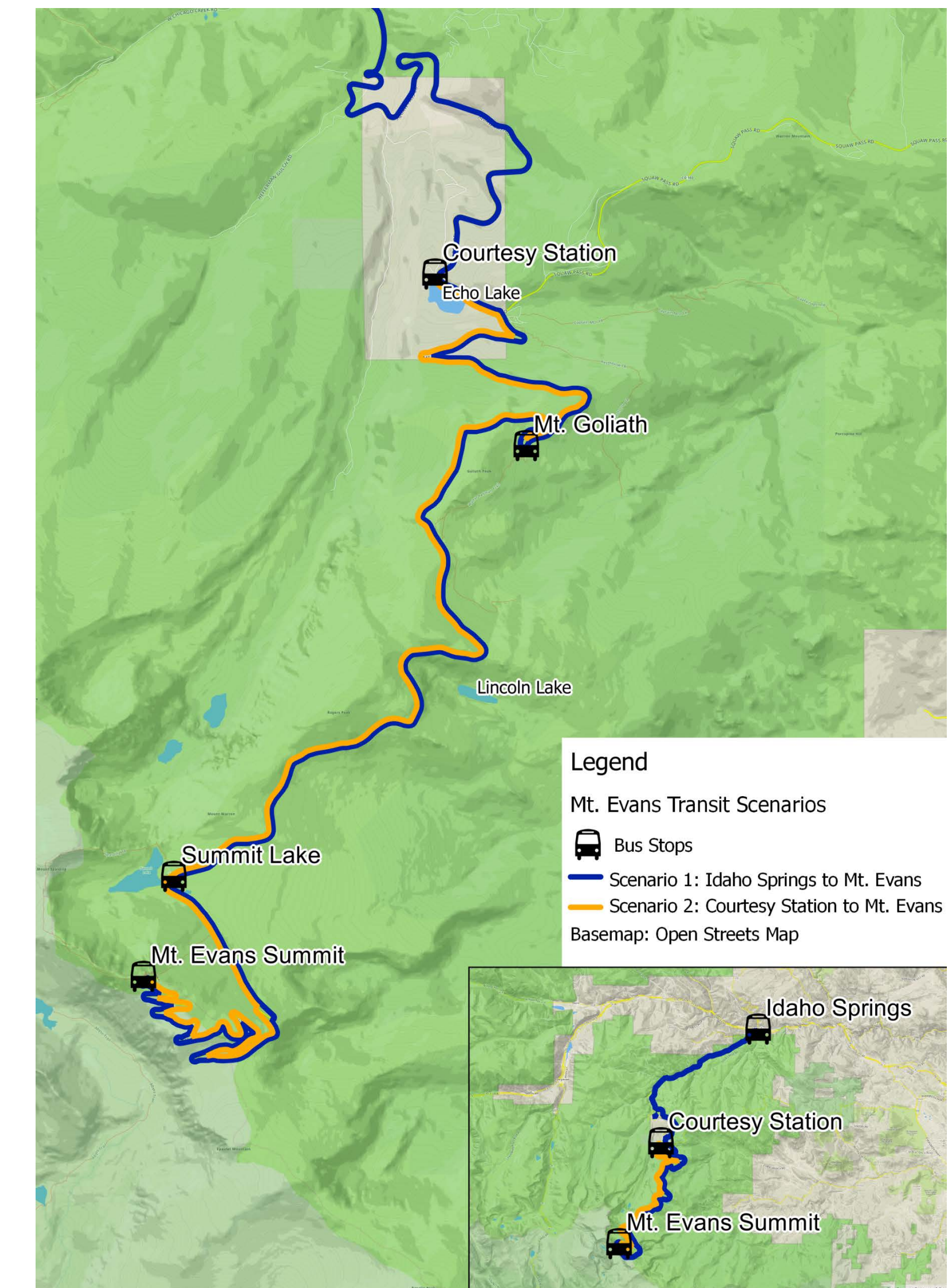
- Use existing lots in Idaho Springs
- Lots generally owned by multiple (non-USFS) owners
- Options may include:
 - Idaho Springs High School or school offices
 - USFS Visitor Center
 - Fairgrounds/rodeo along I-70

Scenario 2

- Capacity for at least 120 vehicles
- 36,000 square feet (0.75 acres)
- Options may include:
 - Property adjacent to Echo Lake Lodge and Campground
 - Old Echo Lake Ski Area (5.5 miles east of the lodge on CO 103)

	Scenario 1	Scenario 2
Travel Time (Roundtrip)	160 minutes	108 minutes
Distance (Roundtrip)	55 miles	30 miles
Hours of Operation	10am to 7pm	10am to 8pm
Frequency of Service	20 minutes	12-15 minutes
Vehicles Required	9	10
Passengers/Day	211	552
Cost to Own/Year	\$245,954	\$269,888
Cost to Own/Year/Rider	\$33.30	\$13.82
Cost to Lease/Year	\$111,012	\$112,432
Cost to Lease/Year/Rider*	\$29.19-\$31.38	\$11.91-\$12.68

*Cost range reflects addition of transit-supportive infrastructure (bus shelters, benches, etc.) aggregated over 12 years



MOUNT EVANS

Examples of Vehicles

- The Goshen Coach GCII FD holds 20 passengers, has all-wheel drive, and costs approximately \$100,000 (when equipped with features needed for USFS transit service)
- The StarTrans HD holds 28 passengers, can be modified with options to improve performance on steep grade roadways, and will cost approximately \$100,000

How Did We Estimate Costs?

- Costs included
 - Transit-supportive infrastructure costs (bus shelters, benches, signage); *additional infrastructure includes road repairs and acquisition of staging areas, which are not included due to uncertainty*
 - Vehicle purchase or lease
 - Start-up costs (marketing, installation, initial promotion, staff training, etc.)
 - Operation costs (annual): fuel, driver costs
 - Maintenance costs (annual)
- Service hours and frequency
 - Ridership estimates and data on peak usage drove determined hours and headways
 - Additional vehicles and capacity included for emergencies and contingencies
- Data sources
 - GSA Auto Choice for vehicle purchase and lease options
 - PEDSAFE – Pedestrian Safety Guide and Countermeasure Selection System
 - Volpe Center Bus Lifecycle Cost Model
 - Maintenance costs (\$1.50/mile) based on poor and steep mountain highway conditions
 - Fuel costs (\$3.50/gallon) are higher than current prices but reflect projected increases in future years
 - Assume USFS uses existing fueling stations and maintenance facilities



BRAINARD LAKE

Scenario 1

- Shuttle buses from Nederland to Trailhead Lots
- Stops at Gateway Lot, Day Use Lot, Long Lake TH, and Mitchell Lake TH

Scenario 2.1

- Shuttle buses from Nederland to Gateway Lot

Scenario 2.2/Scenario 3

- Shuttle buses from Gateway Lot to Trailhead Lots
- Stops at Gateway Lot, Day Use Lot, Niwot Mountain Lot, Long Lake TH, and Mitchell Lake TH

Scenario 4

- Shuttle buses from Gateway Lot to Day Use Lot

Note: All scenarios assume continued parking management practices/policies

	Scenario 1	Scenario 2.1	Scenario 2.2/ Scenario 3	Scenario 4
Travel Time (Roundtrip)	98 minutes	52 minutes	53 minutes	20 minutes
Distance (Roundtrip)	35.8 miles	28.6 miles	7.2 miles	4.4 miles
Hours of Operation	7am to 7pm	7am to 7pm	7am to 6pm	7am to 6pm
Frequency of Service	20 minutes	30 minutes	20 minutes	20 minutes
Vehicles Required	5	2	3	1
Passengers/Day	208	13	195	195
Cost to Own/Year	\$114,980	\$49,460	\$53,747	\$21,695
Cost to Own/Year/Rider	\$15.79	\$108.70	\$7.88	\$3.18
Cost to Lease/Year*	\$126,744	\$51,422	\$67,810	\$26,967
Cost to Lease/Year/Rider*	\$17.41	\$113.02	\$9.94	\$3.95

*Cost range reflects addition of transit-supportive infrastructure (bus shelters, benches, etc.) aggregated over 12 years

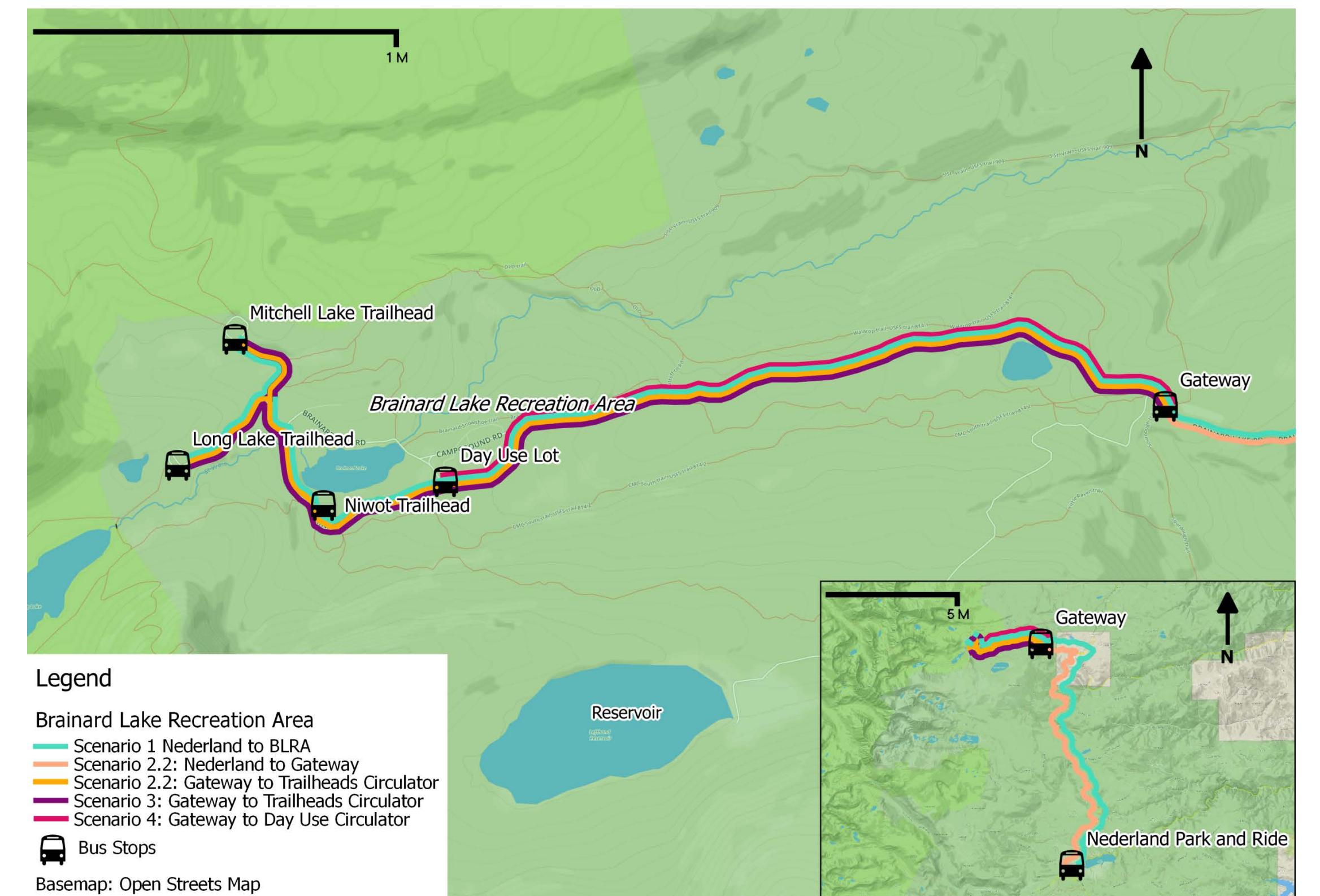
How did we estimate ridership?

The project team assumed that:

- **2 percent** of visitors would take a voluntary shuttle from Nederland to BLRA

The visitor survey results show that:

- **76 percent** would take a short shuttle ride from the Gateway Lot to BLRA destinations (approx. 25 minutes) if parking congestion prevented them from driving their own vehicles
- 92nd percentile design day (approximately 737 vehicles per day)
 - **208 passengers per day** (Scenario 1)
 - **13 passengers per day** (Scenario 2.1)
 - **195 passengers per day** (Scenario 2.2/Scenario 3)
 - **195 passengers per day** (Scenario 4)



BRAINARD LAKE

Where will Transit Passengers Park?

The project team has not spoken with the owners of these properties about the feasibility, costs, or constraints involved in using these as transit staging areas 35 days per year

Scenarios 1 and 2.1

- Nederland RTD Park-N-Ride Lot: 79 lined spots
- Nederland Middle-Senior High School: 46 lined spots

Scenarios 2.2/3 and 4

- Gateway Lot

Examples of Vehicles

- 12-Passenger Ford Transit Wagon Long-Wheelbase Model with High Roof - \$32,132
- Masters Transportation Promaster 2500 Wheelchair Van - \$55,737

How Did we Estimate Costs?

- Costs include
 - Vehicle purchase or lease
 - Start-up costs (marketing, installation, initial promotion, staff training, etc.)
 - Operation costs (annual): fuel, driver costs
 - Maintenance costs (annual)
- Service hours and frequency
 - Ridership estimates and data on peak usage determined hours and headways
- Data sources
 - GSA Auto Choice for vehicle purchase and lease options
 - Volpe Center Bus Lifecycle Cost Model
 - Maintenance costs (\$1.00/mile)
 - Fuel costs (\$3.50/gallon) are higher than current prices but reflect projected increases in future years
 - Assume USFS uses existing fueling stations and maintenance facilities

