CDOT Conceptual Regional Commuter Bus Plan– White Paper
Transit & Intermodal Committee
December 7, 2012

PROJECT PURPOSE:

As part of CDOT's mission to provide a multimodal transportation system, the Division of Transit & Rail (DTR) is promoting the concept of developing and funding regional-commuter bus (RCB) services on the I-25 corridor between Fort Collins, Denver and Colorado Springs; and on the I-70 mountain corridor between Grand Junction, Glenwood Springs, Vail, Frisco, and Denver. The goal is to focus RCB service in congested, high-volume corridors at peak commuting times. FASTER Statewide Transit funds would be the funding source of RCB operations and maintenance, while the capital expenses of purchasing buses could be made up of a combination of remaining SB-1 Transit Funds, FASTER Statewide Transit funds, and potentially CMAQ funds as part of the local partnership efforts.

Under the RCB plan, CDOT would become the operating entity, purchase the buses, and contract with a private provider for the annual operation and maintenance. The CDOT buses would connect with local transit systems at key intermodal stations thereby linking communities and providing good collection and distribution capabilities (see attached maps, **Figures 1 and 2**). As described in the sections below, regional-commuter transit does not exist within Colorado. This is largely because no entity, except CDOT, has the jurisdiction and authority to provide regional and interregional transit service, nor a stable funding source to pay for multi-jurisdiction transit services.

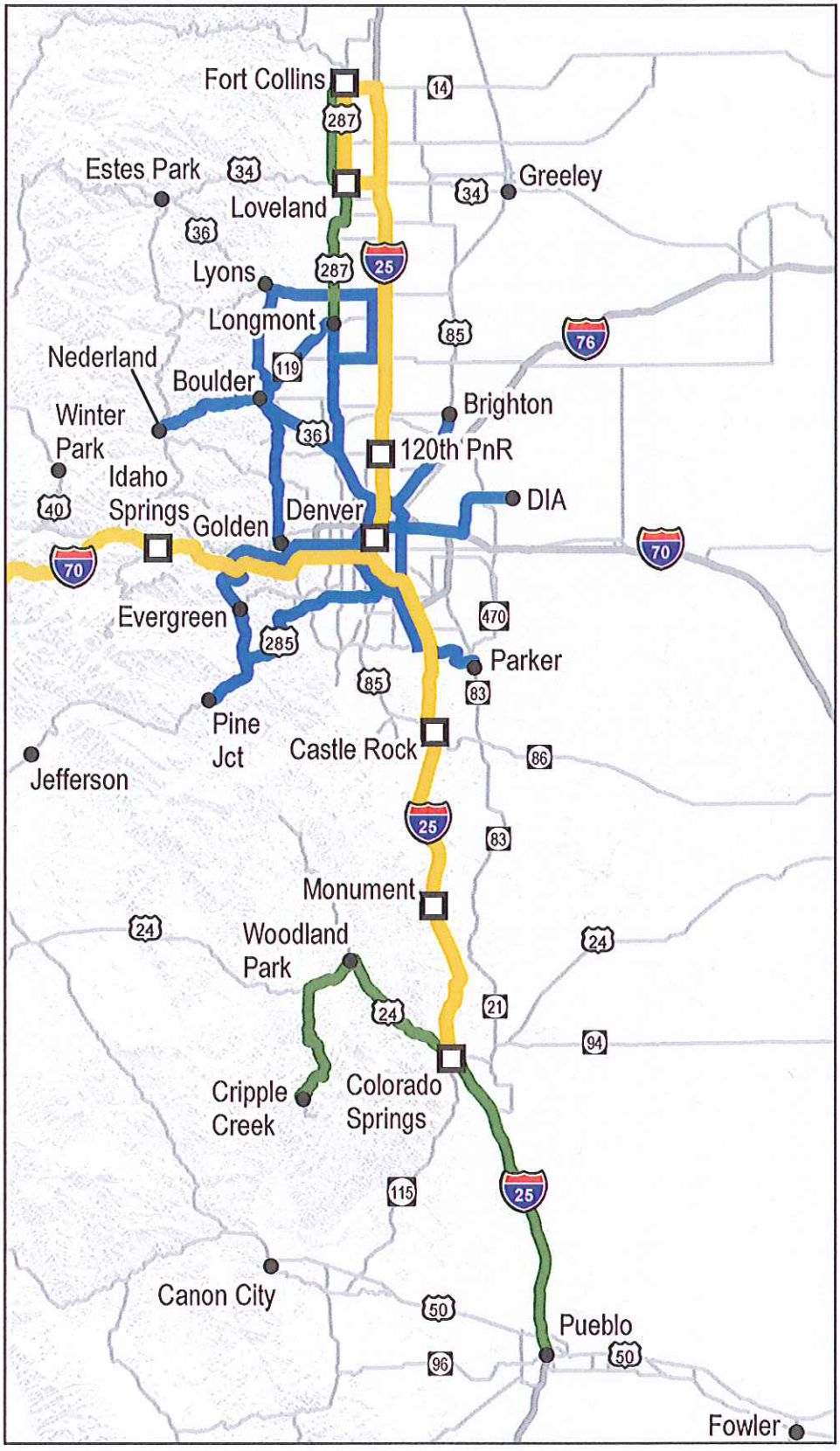
LEGAL AUTHORITY:

Transit operations would be a new endeavor for CDOT. The Colorado statute that created the Division of Transit & Rail - (Senate Bill 09-094) vested the authority in CDOT to be "**responsible** for the planning, development, **operation, and integration** of transit and rail...into the statewide transportation system; shall, in coordination with other transit and rail providers, plan, promote and implement investments in transit and rail services **statewide**..." Specific powers and duties include; "To establish and modify **fares and schedules** for transit, passenger rail, and advanced guideway services **provided directly by the state or contracted for by the state**" and "To administer and **expend state and federal funds that may be dedicated by law**...for the construction, maintenance, and **operation of interregional transit**..."

The Division of Transit & Rail enabling legislation gives CDOT the responsibility and authority to provide and operate interregional transit. Further, the FASTER legislation (Senate Bill 09-108, Section 43-4-206) directs CDOT to "**expend ten million dollars per year** of the revenues for the planning, designing, engineering, acquisition, installation, construction, repair, reconstruction, **maintenance, operation, or administration** of transit-related projects...needed to **integrate different transportation modes within a multimodal transportation system**, that enhance the safety of state highways for transit users."

The Attorney General's Office has reviewed the RCB plan concept, and agrees that the legislation for both the Division of Transit and Rail and FASTER Transit funds grant CDOT the authority to implement the plan utilizing FASTER Statewide Transit funds. The FASTER funds flow through the Highway Users Trust Fund (HUTF), which is protected by the Constitution, and the AGs office believes the RCB plan and the use of FASTER funds for the plan implementation do not violate the HUTF provisions. Harry Morrow has prepared an opinion in support of the plan.

Figure 1: CDOT Conceptual Regional-Commuter Bus Service on I-25 Corridor



Published: December 5, 2012

The information contained in this map is based on the most currently available data and has been checked for accuracy. CDOT does not guarantee the accuracy of any information presented, is not liable in any respect for any errors or omissions, and is not responsible for determining "fitness for use".

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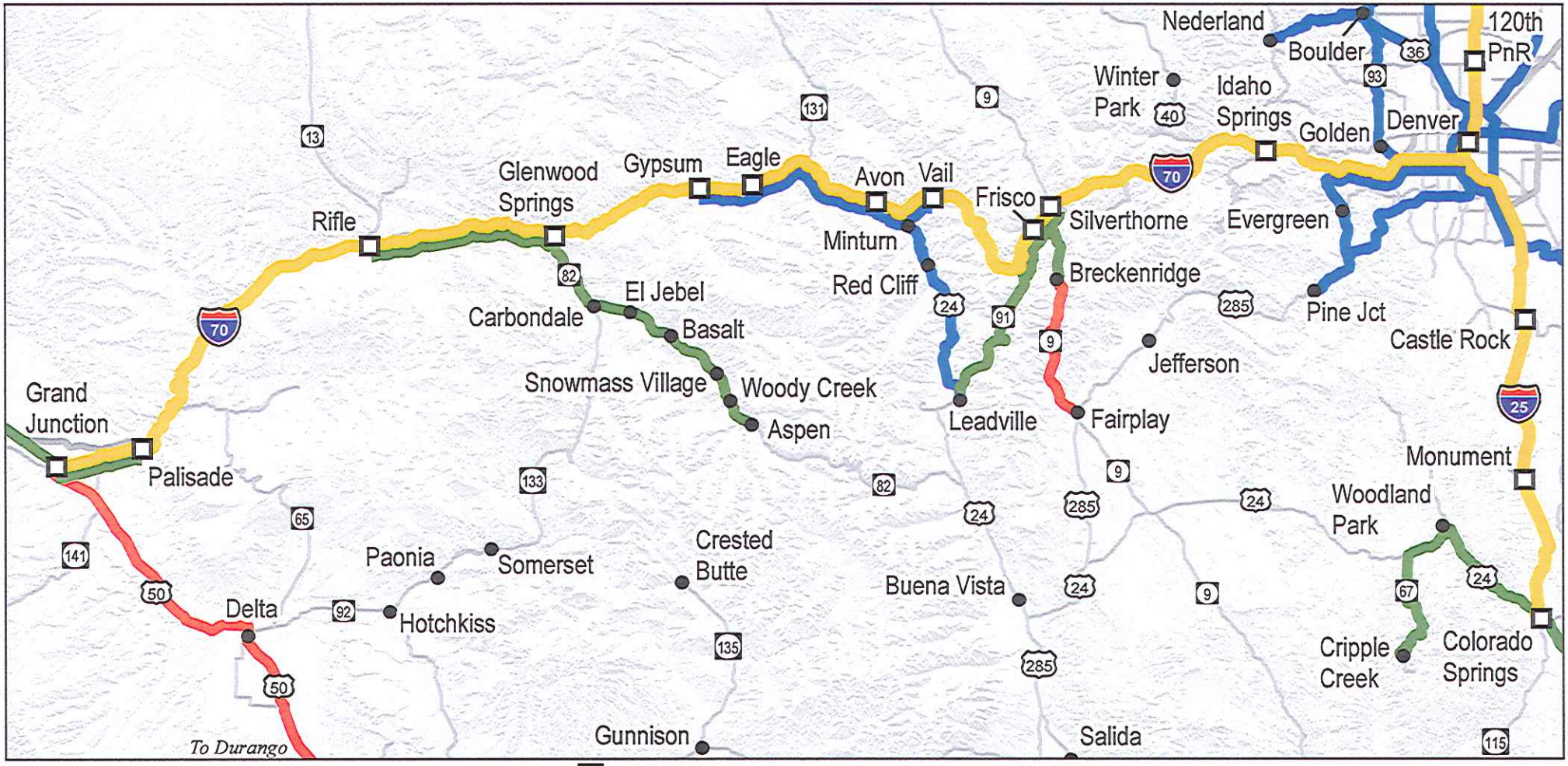
CDOT Station

Existing Regional Bus Service

CDOT Regional-Commuter Bus

Figure 2: CDOT Conceptual Regional-Commuter Bus Service on I-70 Corridor



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RCB SERVICE PLAN:

Staff has prepared a conceptual plan, presented here, to test the viability of the concept. Our intention is to refine this over the next few months with input from the technical experts involved in the *Statewide Intercity and Regional Bus Study*, examining policy issues, scheduling, ridership forecasts, costs, long-term sustainability, operating issues, etc. Through this process a refined plan will be developed. This conceptual plan is presented to solicit input and direction from the Transportation Commission prior to pursuing the concept with local entities.

I-25/Front Range: The CDOT RCB service would operate 5 days a week between Fort Collins and Colorado Springs during the peak-hours and in the peak direction – generally inbound to Denver in the morning and outbound from Denver in the afternoon. While additional study and detail is needed to identify the appropriate level of service needed to meet demand, the following service levels on I-25 are used to present the basic concept and to estimate annual service costs and revenues:

- Colo. Springs – Denver: 10 daily one-way bus trips/5 daily round trips.
- Fort Collins – Denver: 8 daily one-way bus trips/4 daily round trips.

I-70 Mtn. Corridor: RCB service on I-70 would operate between Grand Junction and Denver with bus trips concentrated in the heaviest commuter segments of the corridor. Generally, RCB service would be concentrated between Glenwood Springs, Vail, and Frisco. Less frequent service would extend to Grand Junction and to the Denver-metro area. With the mountain/resort communities having a high level of service workers, the RCB service would operate 7 days a week; with the exception of the Vail/Summit County service to Denver that would operate 5 days a week. Service would be scaled to the heaviest-traffic segments, time of day, weekday vs. weekend commuter needs, and adjusted seasonally. Given the extent of local/regional bus service currently operating in the I-70 mountain corridor, the CDOT RCB service would be designed to bridge segments currently lacking commuter transit service and to complement, rather than compete with, those local/regional transit services such as ECO Transit.

- Grand Junction-GWS: 4 daily one-way bus trips/2 daily round trips.
- Glenwood Springs-Vail: 6 daily one-way bus trips/3 daily round trips.
- Frisco – Vail: 6 daily one-way bus trips/3 daily round trips.
- Vail – Denver: 4 daily one-way bus trips/2 daily round trips.

The proposed RCB plan requires no local funding for the capital bus purchase nor the operation and maintenance of the system. Instead, CDOT would be looking to the local transit agency partnerships, in cooperation with the local jurisdictions, to provide local integration and access to their systems.

FUNDING AND COST MANAGEMENT:

The proposed RCB plan would utilize up to 25% of the annual FASTER Statewide Transit funds ($2.5 million) and would operate within a fixed annual budget ($2.5 million). CDOT would contract with a private carrier to operate the service, thus being the sole provider and funding entity for the service; no local match would be required. IGAs would be executed with local entities for "in-kind" facility utilization and system integration.

The RCB service would operate within a fixed annual budget of $2.5 million. Under this concept, expansion to add more frequent headways or to add route extensions or new routes would only be considered if fare revenues allow for expansion within the fixed budget.

Service Integration and Local Partnerships:

The most efficient transit systems are the result of well-integrated transit services that together provide a cohesive and viable transit network. While CDOT would be the owner/operator of the RCB service, the plan needs to be implemented, and integrated, with strong local partnerships. Over the winter months, DTR proposes to continue refining the development of a network that is well-integrated with existing service providers and which maintains local involvement in planning of services.

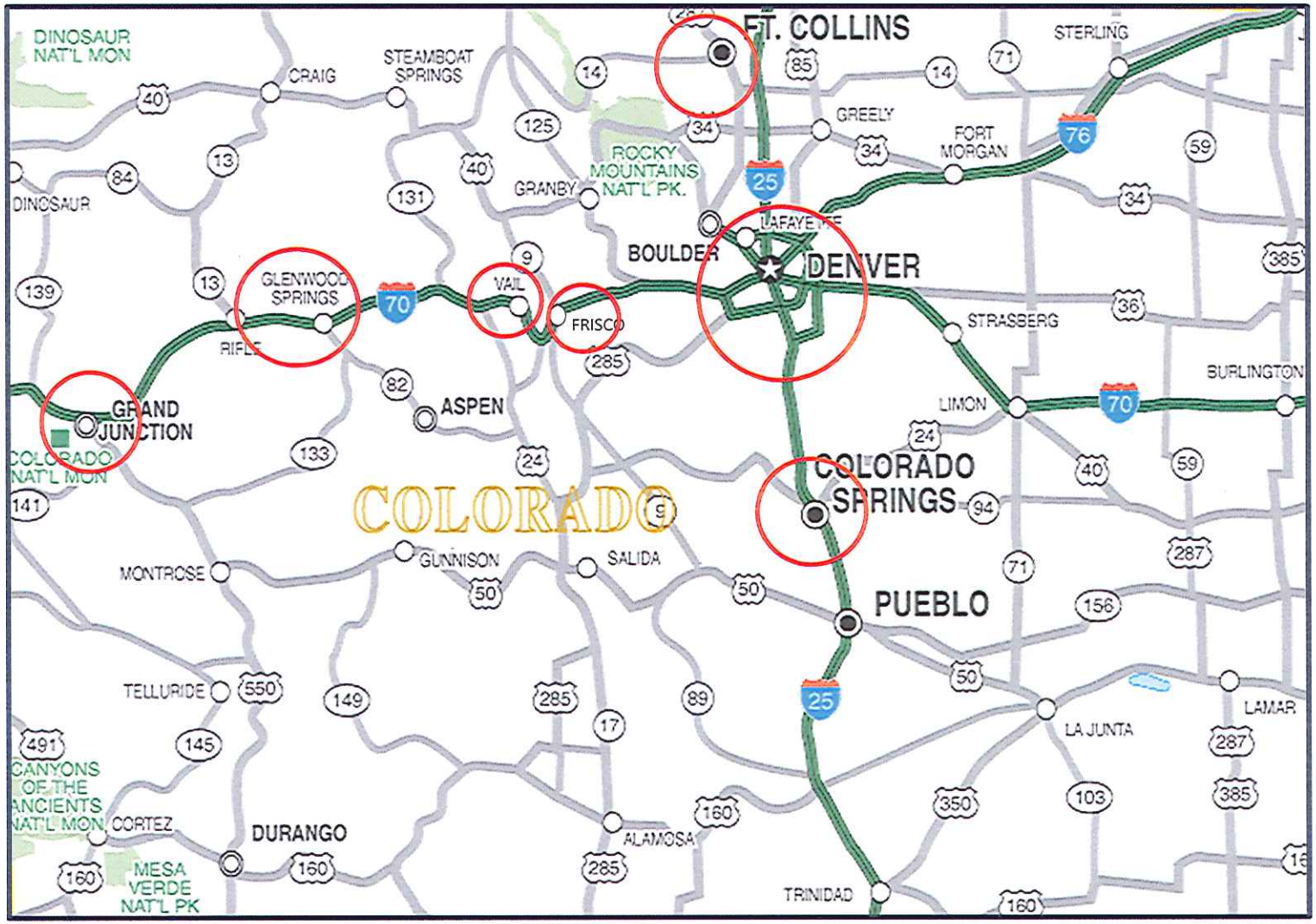
While CDOT would be the owner/operator of the RCB service, the plan needs to implemented, and integrated, with strong local partnerships. Over the winter months, DTR proposes to develop partnership elements and criteria, resulting in IGAs with the local transit systems for "in-kind" services. We envision the "in-kind" services to include items that the local entities can provide to improve the operational efficiency and integration of the RCB service with the local transit systems, and eliminate or reduce costs to CDOT. Items to be discussed and evaluated include station access, park and ride utilization and service integration (transfers to the local system). A Task Force through the Transit & Rail Advisory Committee (TRAC) is pending with representatives from TransFort, RTD, Mountain Metro Transit, RFTA, and Grand Valley Transit. The Task Force will assist in the IGA development and bring forward knowledge and expertise in service planning, service integration, cost validation, and contract options.

Colorado has seen two recent examples of regional bus service along the Front Range with the FREX service between Colorado Springs and Denver and the FLEX service between Fort Collins and Longmont. Both of these services were initiated with CMAQ funds and then required a transition to local funding. In both cases, local funding across multiple jurisdictions was/is problematic. The proposed RCB plan solves the multi-jurisdictional coordination issue, allowing the local transit agencies to partner with CDOT for the integration of the RCB service, and support the integrated programs by providing local collection and distribution.

Statewide Transit System Integration:

Throughout the state there are over 80 transit providers. The RCB system will not only provide regional transit service in the most congested corridors, it will also serve to connect many of the largest transit agencies in the state. Along the Front Range/I-25 Corridor, three transit systems are in large urban areas (populations greater than 200,000) and have comprehensive urban service coverage that the RCB will connect with; Denver (RTD), Colorado Springs (Mountain Metro Transit) and Ft. Collins (TransFort). Among the small urban and rural transit systems, those with the most extensive transit coverage and highest ridership include the Roaring Fork Transit Authority (RFTA), Eagle County (ECO Transit), Summit County (Summit Stage), and Grand Junction (Grand Valley Transit), all along the I-70 Mountain Corridor. **Figure 3** roughly depicts the service coverage areas of these transit systems; also shown in **Figure 3** is that none of these systems have overlaps or connections, thus commuters with trip destinations (jobs) outside of these service areas only have access to the other large employment centers via auto.

Figure 3: Local System Service Coverage Areas



These local transit systems will function as feeder and distribution networks for the RCB. Most significant is RTD, through the FasTracks program, has an extensive distribution network with its hub at the Denver Union Station (DUS) intermodal facility; thereby connecting the I-25 and I-70 RCB service with the entirety of the RTD network.

Both RFTA and TransFort have Bus Rapid Transit (BRT) systems under construction. The RFTA BRT (VelociRFTA) will be the longest, highest, and first rural BRT system in the country connecting Glenwood Springs to Aspen along the SH 82 corridor; the RCB system would connect Summit County, Vail, Gypsum, Rifle and Grand Junction with the high-capacity VelociRFTA at Glenwood Springs. The Ft. Collins BRT (MAX) will connect the current north transit terminal through downtown to a new South Transit Station; the RCB would connect with MAX at the South Transit Station.

In addition to connecting the largest transit systems in the state, the RCB will also integrate and complement the Colorado's intercity bus network. Historically, CDOT receives roughly $1.3 million per year in "intercity bus" funding (Section 5311-f) from the FTA. These funds must be spent on intercity bus operations, capital, administration, or planning, and currently fund operations of seven distinct routes in the state. Intercity bus service is defined by FTA as longer-distance service that connects rural areas to urban areas (requiring a rural stop) and often operates between states and between pairs of large urban areas. The FTA definition of intercity bus specifically excludes "commuter bus" service - that which operates primarily in peak-hour service over shorter distances. Thus typical intercity bus service operates in an inter-state fashion and does not meet commuter needs but rather is intended for the long-distance travel market. CDOT, with FTA Section 5311-f, currently contributes funding to the following intercity bus routes:

1. Denver to/from Salt Lake City, UT via US 40; Greyhound.
2. Denver to/from Omaha via I-76; Black Hills Stage Lines.
3. Alamosa/Gunnison to/from Denver via US 285; Black Hills Stage Lines.
4. Pueblo to/from Wichita, KS via US 50; Prestige Bus Lines.
5. Salida to/from Pueblo via US 50; Chaffee Shuttle.
6. Durango to/from Grand Junction via US 550; Southern Ute Community Action Program (SUCAP).
    - New service to begin May, 2013.
7. Fairplay to/from Breckenridge via SH 9; Park County.
    - New service to begin January, 2013.

Regular Section 5311 funds (rural transit operations) are available for commuter bus service. However, these funds require serving rural areas, and they are currently fully utilized for local transit services; they also are problematic when trying to fund multi-jurisdiction services. DTR is very sensitive to the local and rural area transit needs, and in no way will the proposed RCB plan compromise the funding streams dedicated to those areas.

CORRIDOR GROWTH:

The RCB service would provide travel options for regional commuters and some relief to the congested highway network as soon as the service begins, however the RCB benefits will only increase as the population and employment increases along the I-25 and I-70 corridors. **Table 1** shows the 2010 and 2035 population and percent growth over the 25 year period for each of these urban and resort communities. As can be seen in the table, population is expected to grow between 29% and 88%, with the mountain corridor seeing the largest growth.

Table 1: Population

Area	2010 Population	2035 Population	Percent Growth*
Fort Collins	143,986	217,419	51%
Denver	600,158	773,898	29%
Colorado Springs	416,427	607,983	46%
Grand Junction	58,566	84,335	44%
Glenwood Springs	9,614	17,305	80%
Vail	5,305	9,390	77%
Frisco	2,683	5,044	88%

* Estimate based on DOLA's projected County growth over the 25 year period

Table 2 shows the growth in the labor force from 2010 to 2030 (2035 projections were not available). Similar to population growth, the labor force is also projected to experience considerable growth.

Table 2: Labor Force*

Area	2010 Labor Force	2030 Labor Force	Percent Growth
Denver County	441,735	528,957	20%
Eagle County	42,764	65,689	51%
El Paso County	449,868	590,225	31%
Garfield County	43,436	72,157	66%
Larimer County	233,399	350,698	50%
Mesa County	110,503	171,276	55%
Summit County	26,299	41,436	58%

*Note: Civilian non-institutional population 16+

Source: Colorado Department of Local Affairs

With the expected growth in population and labor force, more people will be commuting for work necessitating the need for travel options as highways become increasingly congested. Many residents commute to jobs outside their county of residence. For example, over 2,000 people commute into Denver from Larimer County and approximately the same number from El Paso County. Nearly 2,000 people live in Garfield County and work in Eagle County. These numbers are likely to increase over the next few years as these counties continue to grow in both population and labor. The RCB service plan would connect these vital employment centers, provide transit access options, and a mode choice to those commuting outside of their home town.

ESTIMATING RIDERSHIP AND CORRIDORS CHARACTERISTICS:

Ridership estimates have not been developed at this time. If given the approval to further develop the RCB plan, DTR will use the *Statewide Intercity and Regional Bus Study* to develop detailed estimates over the winter. This study will consider transit demand estimation modeling, population, existing and projected traffic volumes, existing intercity bus ridership, existing local transit ridership in parts of the I-25 and I-70 corridors, and similar regional commuter bus operations in other states. However, we believe there is significant demand in all of the RCB corridors to support the level of proposed service. We base this upon the following:

- The current and future forecasts for population and employment,

- The high traffic volumes and congestion during peak commuting periods,
- The ridership history of the FREX, FLEX, and RTD regional routes.
- The demand for intercity bus services (i.e. Greyhound).

For the purposes of the current analysis and plan development, DTR created four scenarios of average ridership per bus trip and the resulting fare revenue (low, medium-low, medium-high, and high ridership) which assumed 8, 10, 14, and 19 passengers per bus trip respectively. Ridership at these levels would result in a range of 156-342 daily rides in the I-25 Corridor (Colorado Springs to Ft. Collins) and a range of 173-380 daily riders in the I-70 Mountain Corridor (Grand Junction to Denver).

In order to more accurately estimate potential ridership and fare revenue over the winter, traffic volumes (AADT) will be analyzed by route segment to identify traffic volume by direction of travel, time of day, weekday vs. weekend travel, and seasonal fluctuations. RCB service would then be focused to meet transit needs in the most congested segments and in the peak period and peak direction of travel. **Table 3** shows current AADT, by highway segment, for the potential RCB routes and associated RCB Capacity.

Table 3: AADT by Segment and Associated Ridership Capacity:

Route	Avg. AADT	Low AADT	High AADT	RCB Capacity	% of Ave. AADT
I-25: Denver – Fort Collins	120,281	30,000	240,000	400	0.33%
I-25: Denver – Colorado Springs	134,309	52,000	249,000	500	0.37%
I-70: Denver – Frisco	69,300	27,000	137,000	200	0.29%
I-70: Frisco – Vail	24,000	18,000	28,000	300	1.25%
I-70: Vail – Glenwood Springs	24,300	14,000	29,000	300	1.23%
I-70: Glenwood Springs – Grand Junction	19,059	14,000	26,000	200	1.05%

Source: CDOT

Additionally, DTR will compare similar regional commuter bus routes in Colorado and other states. Finally, existing EIS's and the current Interregional Connectivity Study ridership forecasting methodologies will be reviewed for pertinent travel demand data in order to better estimate projected ridership.

Annual Operating Costs and Revenue:

Appendix A gives a full description of the annual operating cost and revenue methodologies used for this preliminary analysis. As with ridership estimates, if given the approval to further develop the RCB plan, DTR will use the *Statewide Intercity and Regional Bus Study* to develop detailed annual operating costs and revenue estimates over the winter; tasks and budget exist in this consultant contract.

In summary, the preliminary analysis identifies an annual RCB operating expense range of between **$459,060** and **$2,448, 320**. As shown in **Appendix A**, annual operating costs were estimated under three

scenarios; low, medium and high. Similarly, annual fare revenues also were estimated under the four scenarios of average ridership per bus (low, medium-low, medium-high, and high) depicted above. This analysis yields a matrix of 12 operating expense/revenue scenarios. DTR believes that once RCB ridership has matured and stabilized during the first year, that a net annual operating expense of **$1,874,495** (operating cost minus fare revenue) can be achieved; this represents the medium operating cost scenario of $3.02 million and the medium-high fare box revenue scenario of $1.6 million.

The analysis indicates that the RCB service plan as defined above can be funded within the proposed $2.5 million, or 25% of the $10 million annual FASTER Statewide Transit fund allocation.

Capital Costs – Vehicles:

A total of **14** coaches (50 seats each) are needed for the identified I-25 and I-70 services. At $535,000 each, the total estimated capital cost is **$7.49M**. These buses have a 12-year/700,000 mile useful life. The buses would be over-the-road coaches with high-back reclining seats, drop down work tables, under-bay and overhead luggage racks, restrooms, and Wi-Fi connections. Buses would include safety features such as drop-down chains, brake retarders, and passenger seat belts. Over the winter, the vehicle fleet size and type, including CNG potential, will be explored further.

It is proposed to fund the purchase of buses using the remaining SB 1 funds reserved for transit ($2.1M), the FREX escrow and bus sale funds ($500K), and exploring any new federal funding options identified in MAP-21. In addition, as part of the local partnership efforts, we would explore the possibilities of applying for and utilizing CMAQ funds to assist in the purchase of buses for use along the Front Range. Any residual bus capital needs would be covered by FASTER Statewide Transit funds.

Service Contract – RFP:

If the RCB plan moves forward, DTR will develop and issue an RFP to contract with a private operator for both the I-25 and I-70 routes. It is envisioned that the RFP would cover an initial 3-year period with options to renew the contract on an annual basis. The RFP and subsequent contract would require the contractor to provide the annual service, maintain the vehicles, and provide its own insurance at specified levels. Details of the RFP structure will be developed once the detailed service plan is developed.

Analysis of Peer Regional Commuter Bus Services:

In order to compare the proposed RCB concept, DTR is continuing to gather information from similar regional commuter bus operations both within Colorado and in other states. An initial scan will look at similar services to identify the policy framework, service levels, operating costs, ridership and revenue, funding structure, performance evaluation, and operating agreement structures. The agencies/services identified to date include:

- RTD regional bus routes.
- Washington State DOT.
- Maryland DOT.
- UTA regional bus service.
- New Mexico DOT Park and Ride bus service.
- Amtrak California Thruway buses.

- ECO
- RFTA
- Northern Arizona

NEXT STEPS:

- Over the winter, further develop, refine and finalize the RCB Plan. Part of the winter effort will be to convene a Task Force of local operators (TRAC representatives) and to meet with the local transit systems to solidify the operating plan and the IGA terms. DTR will take next steps to refine the ridership, costs and revenues (during the *Statewide Intercity and Regional Bus Network Study*), identify station and park and ride needs, develop partnerships with local transit providers to connect services and refine schedules.

- In the spring of 2013, present the final RCB plan to the TC and request approval to implement the plan; i.e. prepare and issue an RFP for contracted service, purchase/order buses, and hire a CDOT Bus Operations Manager (new FTE).

Appendix A: Service Levels and Operating Cost and Revenue Projections:

SERVICE LEVELS ON I-25 AND I-70:

The proposed CDOT Regional Commuter Bus (RCB) service on I-25 would operate on weekdays with 10 one-way bus trips/5 round trips/day between Colorado Springs and Denver and 8 one-way bus trips/4 round trips/day between Fort Collins and Denver. On I-70, the proposed RCB service would operate 7 days/week between Grand Junction and Vail, providing a total of 16 one-way bus trips/day or 8 round trips/day, and 4 one-way bus trips/day or 2 round trips between Vail/Summit County and downtown Denver. Table A1 summarizes the days of operation per week, the number of bus trips/day, the one-way route miles, and the annual bus miles of both the I-25 and I-70 RCB services:

Table A1: Regional Commuter Bus Service Levels on I-70 and I-25:

Route	Operating Days/Week	One-way Bus Trips/Day	Route Miles	Annual Bus Miles
DEN-COS-5	5	10	71	185,310
DEN-FTC-5	5	8	70	146,160
GJC-GWS-7	7	4	89	129,940
GWS-Vail-7	7	6	63	137,970
Frisco-Vail-7	7	6	28	61,320
Vail-DEN-5	5	4	100	104,400
Total		**38**	**421**	**765,100**

ANNUAL OPERATING COST AND REVENUE:

Service cost and revenue figures are presented in the industry standard "per bus-mile" format. **Table A2** presents a service cost matrix that considers a range of low, medium, and high service **costs**. The "low" service cost of $3.40/bus mile represents the costs experienced by the Black Hills Stage Line Service on the route from Alamosa/Gunnison to Denver. This low cost level assumes that the capital (buses) are provided by CDOT. The "medium" service cost of $3.95/bus mile represents the Black Hills Stage Lines cost of operating a 50-seat coach between Denver and Omaha, which includes the cost of capital (buses). A "high" service cost of $4.50/bus mile represents Greyhound's fully allocated intercity bus average cost per mile. This "high" cost includes operations, bus capital, and other overhead (i.e., stations). Similar to the service costs, the estimated revenue is presented in a revenue per mile format. **Table A2** shows **revenue levels** of: "low" ($1.30/mile), "medium-low" ($1.50/mile), "medium-high" ($2.10) and "high" ($2.80/mile). **Table A2** multiplies the low, medium, and high costs per mile times the annual bus miles in Table A1 (765,100) to get the annual costs. The low, medium-low, medium-high, and high revenue per mile is likewise multiplied by the annual bus miles (765,100) to get the annual revenue. The annual revenues are then subtracted from the annual costs, resulting in 12 combinations of CDOT annual operating expense figures. The resulting CDOT annual operating expense thus ranges from $459,060 (low cost/high revenue) to $2,448,320 (high cost/low revenue).

The calculation of annual operating costs minus the annual fare revenues gives the Annual Operating Deficit (**Table A2**). For example, the medium cost per mile assumes that the operating cost of operating

a bus for each mile is $3.95. Thus the annual cost of operating 765,100 annual bus miles is $3.022 million ($3.95 x 765,100) – assuming no revenue. As fare revenue is collected, the annual operating deficit would decline. For example, if a medium-low fare revenue per bus mile is achieved ($1.50), the annual revenues would be $1,147,650. Assuming a medium annual cost ($3,022,145) minus the annual medium-low revenue ($1,147,650) results in an Annual Operating Deficit of $1,874,495. This Annual Operating Deficit would be the CDOT Annual Operating Expense (as reported in the main body of the White Paper).

Table A2: I-70 and I-25 RCB Service - Matrix of Costs and Revenues:

Cost Level	Cost per Mile	Annual Cost	Revenue per Mile	Annual Revenue	CDOT Annual Operating Expense Matrix:			
					LowRev	MedLowRev	MedHighRev	HighRev
			$1.30	$994,630.00	$1.30	$1.50	$2.10	$2.80
Low Cost	$3.40	$2,601,340	$1.50	$1,147,650	$1,606,710	$1,453,690	$994,630	$459,060
Medium Cost	$3.95	$3,022,145	$2.10	$1,606,710	$2,027,515	$1,874,495	$1,415,435	$879,865
High Cost	$4.50	$3,442,950	$2.80	$2,142,280	$2,448,320	$2,295,300	$1,836,240	$1,300,670

Ridership and Fare Revenue:

To estimate fare revenue, a simple fare of $0.15/mile is used. This per mile fare is within the industry standard for these types of regional service and similar to the fare charged on the FREX service between Colorado Springs and Denver where the one-way fare would be $10.50. This fare of $0.15/mile is also similar to the Black Hills Stage Lines service between Alamosa/Gunnison and Denver. Table A3 shows how many passengers (at a fare of $0.15/mile) would be needed to achieve the estimated revenue/mile figures used in the matrix above (**Table A2**).

Table A3: Number of Passengers Required to Achieve Revenue/Mile:

Fare/mile* =	$0.15	$0.15	$0.15	$0.15
Rev/mile =	$1.30	$1.50	$2.10	$2.80
Passengers =	8.67	10	14	19

* An individual fare of $0.15/mile is assumed.

While a $0.15/mile fare is typical for regional commuter bus services, fares might change based on promotions, monthly or annual pass rates, employer-funded passes, multi-ride discounts, travel packages, and combinations with intercity bus fares. It is assumed that CDOT would pay a negotiated commission to designated "ticket agents" or CDOT might seek to have ticket sales be provided as an in-kind service donated by local governments in exchange for the benefit of CDOT providing RCB service.

Within the Statewide ICB Study, CDOT will identify an appropriate fare level, refine ridership estimates, and compare fares and revenue estimates with similar services. Further, the Study will analyze the potential fiscal impact of implementing RCB service on existing intercity bus carriers that provide long-distance intercity bus service.

Annual Operating and Capital Expenses:

For the identified conceptual services on I-25 and I-70, there would be a total of 19 round trips per day (38 one-way bus trips/day) with a total annual operating cost estimate of $3,022,145 (medium cost) and total annual fare revenue of $1,147,650 (medium-low revenue), resulting in a CDOT annual operating expense of **$1,874,495 (Table A2)**.

Capital expenses (buses) are considered separate from operating expenses. The 50-seat coaches contemplated cost roughly $535,000 each. It is estimated that 14 coaches will be needed to operate the identified service. These coaches have a 12-year/700,000 mile useful life. If the capital expenses were amortized over 12 years, the resulting combined annual operating deficit minus the amortized annual capital expenses are listed below in **Table A4**.

Table A4: Total Annual Operating Expense Matrix (Cost-Revenue):

	LowCost-VeryHighRev	MedCost-LowRev	MedCost-MedLowRev	HighCost-LowRev
Annual Operating Deficit	**$459,060**	**$2,027,515**	**$1,874,495**	**$2,448,320**
Vehicles - 14 Coaches	$7,490,000	$7,490,000	$7,490,000	$7,490,000
Cost per Bus	$535,000	$535,000	$535,000	$535,000
12-year Amortization	$624,167	$624,166.67	$624,167	$624,167
Total Op and Cap(12)	**$1,083,227**	**$2,651,682**	**$2,498,662**	**$3,072,487**

Appendix B: Other Regional Bus Services:

Staff has begun to research regional and regional-commuter bus service in other states and transit authorities. Appendix B will be completed over the winter months, and be part of the analysis as the RCB Plan is refined and finalized.

1. **Washington State DOT**
2. **Maryland DOT**
3. **UTA in Salt Lake City**
4. **New Mexico DOT Park and Rides**
5. **Amtrak California Thruway Service**
6. **RTD Regional services**
7. **GRETA in Atlanta**
8. **New England: Concord Coach, Dartmouth Coach, Boston Express**
9. **Connecticut DOT**
10. **NJ Transit**

Appendix C: Topics for Further Consideration:

VEHICLES:

It is proposed that CDOT would fund and own the required capital (buses). However, RCB service could be initiated with only a few buses owned by CDOT while the remaining fleet need is leased from a third party. CDOT could also include in its RFP the need for a private operator to provide some or all of the required buses. Other opportunities such as CNG fueling exist. The RCB service could be the catalyst to develop Compressed Natural Gas (CNG) fueling stations through a public-private partnership, providing a known quantity of fuel demand.

STATIONS AND STATION NEEDS:

Connections with existing local transit services at key stations where both a physical and ticketing connections can be made will be critical to the success of the RCB service. Along I-25, there are existing intermodal stations that can accommodate the CDOT RCB service include DUS and Fort Collins. An intermodal station connection would be needed in Colorado Springs.

Along the I-70 existing corridor, intermodal stations currently exist in Frisco, Vail, and Grand Junction. Connections can also be made in Rifle, Glenwood Springs, Gypsum, Edwards, and Eagle – though no specific intermodal stations are presently available.

SERVICE COORDINATION:

While DTR would invest in the buses and annual operating expenses of the RCB service, DTR would look to communities that have stations/stops for local support and in-kind contributions. DTR would develop IGA's with local governments to help lower costs and enhance the RCB service through free local station access, ticket sales, vehicle maintenance, station security, emergency response, and breakdown response. Further, DTR would interface the RCB service with existing intercity bus services that cover more of the long-distance bus trips, in attempts of coordinating service rather than providing duplication. While these intercity bus services (such as Greyhound) focus on a different market, DTR would seek to combine intercity and RCB service at intermodal stations so that transfer between services can be made and so that passengers would have more options in choosing transit services.

As corridor-based services, the RCB routes will rely heavily on good connections with local transit systems. These local systems will provide a feeder and distributor system for those riding the RCB, thereby extending the reach and vitality of the regional system. Likewise, the regional system will extend the usefulness of local systems when they connect with the regional system. These two systems will interface at key intermodal stations, allowing for easy connections between modes. Ideally, transfer between systems will be facilitated by smart-card technology or, at minimum, free transfers.

SERVICE MODIFICATIONS:

While the identified RCB plan is considered to be a viable regional-commuter system, it is possible that service modifications will be needed. If ridership fell short of estimations, the operator contract would allow for service cuts or modifications. If ridership exceeded estimations, service expansion may be considered if, and only if, collected fare revenue allowed for service expansion within the annual fixed budget; thus no additional revenue would be requested. The contract with a private operator would be scalable and define a unit cost of expansion.

Over the winter, as the proposed RCB plan is finalized, a TC policy recommendation would be developed to guide any potential service reduction or expansion based upon identified performance metrics. Policy determinations would be needed to establish what levels of cost recovery or other metrics warrant expansion, and how to prioritize service expansions between existing route segments vs. new routes or route extensions.

In the Front Range corridor, Phase 2 would initiate service between Greeley and Denver and also extend service from Colorado Springs south to Pueblo. The North I-25 EIS calls for RCB service between Greeley and Denver and would be initiated to address the EIS determinations. In the I-70 corridor, Phase 2 might entail the expansion of service frequencies in the segments with the highest ridership, additional trips to Denver, and express service to DIA.

SERVICE CONTRACT – RFP:

Some initial questions about the RFP include whether to bid the project as one package or as two separate corridors, where different operators could be chosen. Also, would a public-transit agency be allowed to bid on a corridor or full package? Could a private operator combine RCB service with its own privately-funded service? Could a private operator add private service onto the ends of a RCB route or add additional privately-funded trips to RCB segment.