Denver Regional Council of Governments

DRAFT

2008 Annual FasTracks Review and Determination Report

August 12, 2009
1. Introduction

Per requirements of State Senate Bill 90-208 (SB-208), the Denver Regional Council of Governments (DRCOG) approved the Regional Transportation District (RTD) FasTracks Plan, including the technologies and method of financing, on April 21, 2004. Resolutions of approval were passed for each of the individual corridors and for the system as a whole. The resolutions stated that an annual review would be conducted through the MPO process to identify any substantial changes from one year to the next and “directed that the DRCOG Board of Directors make a determination if the changes are substantial and require further SB-208 action.” The 2004 DRCOG action is referred to as the original or initial review.

RTD’s 2008 Annual Report to DRCOG on FasTracks (April 2009)

RTD submitted its 2008 annual report to DRCOG in mid-2009. In addition, RTD augmented the report with written responses to questions and provided an addenda and errata sheet.

The report provides information on the topics identified in the DRCOG approval resolutions as annual review subjects:

- Project definition and scope;
- Implementation schedule;
- Operating characteristics;
- Level of bus service; and
- Financial plan, which includes plan and corridor costs and revenue projections.

The report provides detailed project information including scope, costs, and status updates for each corridor. A large portion of this year’s effort is devoted to the results of RTD’s 2009 Annual Program Evaluation (APE) and the challenges presented by, and risk factors associated with, the current economic recession.

RTD's report acknowledges that 2008 presented continuing challenges to its ability to deliver the FasTracks Plan on schedule. Regional, national, and international economic trends negatively affected the cost to deliver FasTracks. Forecast sales tax revenue fell short of the original 2004 projections and even the projections included in the 2007 Annual Report.

Specifically, the estimated capital cost to complete the FasTracks Plan increased by $887 million, or approximately 14.5 percent, since the 2007 Annual Report ($6.1 billion to $7.0 billion in the 2008 Annual Report), and the forecast for future sales and use tax revenues declined by approximately 22.8 percent (from $11.8 billion in the 2007 Annual Report to $9.1 billion in the 2008 Annual Report). If additional revenues are not committed, RTD is estimating a funding gap to construct FasTracks by 2017 of $2.2 billion. To address this gap, RTD developed implementation alternatives during 2008, which included lengthening the construction schedules, adjusting corridor lengths, making service changes, seeking additional funding, or a combination of the alternatives.
To obtain input on the alternatives, RTD solicited public input and worked with the Metro Mayors Caucus task force. The task force made several recommendations including equity for all corridors, completion by 2017, seeking additional potential revenue sources and implementing cost savings strategies. The most significant of the task force’s recommendations was that RTD should seek voter approval of a ballot initiative requesting a 0.4 percent sales tax increase to take effect in 2011.

The RTD Board has decided not to go to the ballot in 2009 for the additional sales tax. Many factors led to this decision, including the uncertainty of the economy, the challenge in generating support for a campaign in an off-year election and the transition of leadership in the agency. The RTD Board will continue to evaluate all of the options for moving FasTracks forward and may decide to pursue the ballot initiative in 2010. The Financial Plan contained in the 2008 Annual Report assumes voter approval of the sales and use tax increase by November 2010, as do the changes presented to scope, implementation schedules, and operating characteristics.

DRCOG staff assessed the changes proposed by RTD in the 2008 Annual Report in relation to the review items established by DRCOG as part of the SB-208 evaluation of the original FasTracks Plan. Proposed changes are assigned to the following categories:

- Substantial changes requiring a new SB-208 finding; examples are changes to technology and funding/financial,
- Substantial changes, but not warranting a new SB-208 finding; examples are changes that modify Regional Transportation Plan (RTP) networks or require a subsequent amendment of the RTP, or
- Not substantial (informational).

Regardless of the magnitude of the change, action on each FasTracks annual report establishes the starting point for reports in following years. The changes proposed by RTD in the 2008 Annual Report and the DRCOG staff assessment follow.

[Note] Because RTD’s full 2008 Annual Report to DRCOG was delayed several months as the RTD Board considered various potential options for the completion of the FasTracks program, RTD submitted an “interim” annual report to DRCOG in January, 2009. That report identified minor, non-SB-208-actionable revisions, some of which required amendments to the Regional Transportation Plan. The DRCOG Board approved the changes identified in the “interim” report, listed in the Appendix, on March 18, 2009.

Summary of Key Staff Assessments and Recommendations

The 2008 Annual FasTracks Review and Determination Report was prepared by DRCOG staff. DRCOG staff was assisted in the review of the FasTracks Financial Plan by a consulting team. Pertinent observations from the 2007 Annual FasTracks Review and Determination Report, also referred to as the 2007 Annual Review, adopted by the DRCOG Board May 21, 2008, are referenced herein as both background and continuity of commentary.
• The 2008 Annual Report includes a revised FasTracks Financial Plan, approved by the RTD Board of Directors April 7, 2009. The revised Financial Plan reflects the capital cost increases and the sales and use tax forecast decreases, and presumes that a ballot initiative will be passed to increase the sales and use tax by 0.4 percent effective January 2011. Its assumptions also include receipt of a Full Funding Grant Agreement (FFGA) for the East Corridor, Gold Line, and Commuter Rail Maintenance Facility in the amount of approximately $1 billion (a slight increase over the previous Annual Report) as well as private sector funding from the Eagle P3 public-private partnership of nearly $900 million (a 60 percent increase from before). The changes to the Financial Plan are substantial and require SB-208 action.

  - While subject-matter experts may reasonably reach divergent opinions, and this Financial Plan is more conservative than the one in the 2007 Annual Report, DRCOG staff still regards it as optimistic, principally the revenue projections.
  - DRCOG staff recommends the Financial Plan be accepted with the reservations noted (see comments on pages 13 to 21), through a new SB-208 action.
  - DRCOG staff recommends that RTD’s next Financial Plan, submitted in an Annual Report to DRCOG presumably before the needed ballot initiative, be even more conservative in its assumptions, unless actual FasTracks implementation experience bears out RTD’s assumptions.

• The other changes in the 2008 Annual Report categorized as substantial changes are the station relocation on the North Metro Corridor from Globeville-Swansea to either the Coliseum or Stock Show station (this requires an amendment to DRCOG’s RTP) and service changes on West and I-225 Corridors (these require inclusion in the RTP modeling networks). DRCOG staff concurs with RTD’s proposal for these changes (see comments on pages 9 and 11).

• Most of the environmental studies are well behind the original 2004 schedule and many have fallen farther behind since the 2007 Annual Review, when DRCOG commented “to meet opening day objectives, RTD and its partners and stakeholders must conclude on-going environmental studies without further delays.” RTD’s 2008 Annual Report shows most of the environmental efforts coming to conclusion prior to mid-2010 (i.e., within a year), but there is current evidence that at least one of those efforts is delayed beyond the date shown in that report. RTD shows the opening of almost every corridor as the same as or accelerated over the original schedule, but most of this is accomplished by aggressive design-build project delivery after environmental completion. DRCOG staff advises it is imperative RTD bring the environmental studies to conclusion to provide the voter’s confidence in RTD’s ability to complete FasTracks as scheduled (see comments on page 9).

• DRCOG commented in the 2007 Annual Review: “as noted in the original SB-208 finding in 2004, the availability and cost of rights-of-way from the railroads, in particular, is an uncertainty that could affect schedule and cost. RTD must make demonstrable progress with railroad negotiations during 2008.” Because the FasTracks plan relies on both shared track operations through lease agreements and the purchase of railroad-owned land to build commuter rail lines and a maintenance facility, productive negotiation with the railroad companies is critical to successful
implementation. RTD did make major advances in those railroad negotiations since the 2007 Annual Report. **DRCOG staff urges RTD to conclude the needed agreements shortly after completion of necessary environmental clearances.** (See comments on page 10.)
2. Project Definition/Scope

(see Table 1 of the 2004 original review, Table 1 of the 2008 Annual Report)

DRCOG Review: The following summary in Table 1 identifies the project definition/ scope changes included in the 2008 Annual Report. The tables list the changes by corridor. For purposes of examination, DRCOG staff placed scope changes into five categories:

- technology (mode),
- length of corridors,
- station locations and parking,
- track and crossings, and
- support facilities.

A check in one of the two right-hand columns of Table 1 indicates the action required.

<table>
<thead>
<tr>
<th>Corridor</th>
<th>Changes Identified in 2008 Annual Report</th>
<th>SB-208 Actionable (DRCOG Staff)</th>
<th>RTP Conformity Model Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>West Corridor</strong></td>
<td>Double Track segment from the Federal Center to Jefferson County Government Center (pending voter tax increase). This enables a change in service levels.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Northwest Rail</strong></td>
<td>Alignment location refined as a result of railroad negotiations.</td>
<td></td>
<td><img src="%E2%9C%93" alt="" /></td>
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<tr>
<td></td>
<td>Shared stations with Gold Line: 41st Avenue/Fox and Pecos. Stations to be constructed as part of Penta-P project on Gold Line.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BNSF will construct corridor from end of the segment shared with Gold Line, within BNSF ROW.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Gold Line</strong></td>
<td>Change location of station from 38th/Inca to 41st/Fox.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>I-225</strong></td>
<td>No Changes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>East Corridor</strong></td>
<td>No Changes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>North Metro</strong></td>
<td>RTD Board selected EMU as the preferred commuter rail vehicle technology pending ROD.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Change location of station from Globeville-Swansea (in UPRR alignment) to Coliseum OR Stock Show (on BNSF alignment).</td>
<td></td>
<td><img src="%E2%9C%93" alt="" /></td>
</tr>
<tr>
<td><strong>Southeast Corridor Extension</strong></td>
<td>No Changes.</td>
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<td></td>
</tr>
<tr>
<td><strong>Southwest Corridor Extension</strong></td>
<td>No Changes.</td>
<td></td>
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</table>
Table 1
Summary of Project Definition/Scope Changes

<table>
<thead>
<tr>
<th>Corridor</th>
<th>Changes Identified in 2008 Annual Report</th>
<th>SB-208 Actionable (DRCOG Staff)</th>
<th>RTP Conformity Model Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>US 36 Corridor BRT</td>
<td>BRT stations will be on US 36 ramps rather than in the median of US 36.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central Corridor Extension</td>
<td>No Changes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Denver Union Station</td>
<td>No Changes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintenance Facilities</td>
<td>Commuter Rail Maintenance Facility - Preferred location is Fox North Site.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Light Rail Maintenance Facility – No Changes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bus Maintenance Facility – Construction postponed. Existing facility is adequate to support operations until 2020.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Technology (Mode)

A. North Metro Corridor. The RTD Board approved the release of the North Metro Corridor Draft Environmental Impact Statement (DEIS), which will identify Electric Multiple Unit (EMU) as the preferred vehicle technology. This corridor was originally approved for commuter rail and RTD previously proposed utilizing Diesel Multiple Unit (DMU) technology. Increasing fuel prices resulted in RTD changing the preferred vehicle technology to EMU because it is a more economical choice in the long run. RTD acknowledges the slightly higher up-front capital costs for EMU technology but cites lower operating and life-cycle costs than DMU technology over a thirty-year evaluation period. North Metro joins East and Gold as EMU commuter rail corridors.

DRCOG Staff Assessment: Specifying the “form” of commuter rail technology is an amplification of that technology decision, and is not a “change” per se. Further SB-208 action is not needed.

B. Northwest Rail Corridor. The DMU fleet procurement will not be included in the Eagle project’s EMU procurement.

DRCOG Staff Assessment: This change is not substantial. Further SB-208 action is not needed.

Length of Corridors

No Changes
Station Locations and Parking

A. **Shared Stations.** Two Gold Line stations will be shared by the Northwest Rail Corridor – 41st Avenue and Pecos stations, meaning a direct transfer between the two corridors will be available at these stations. Northwest Rail outbound trains will stop at both stations during the A.M. peak and inbound trains will stop during the P.M. peak. Northwest Rail trains will not stop at 41st or Pecos inbound during the A.M. Peak or outbound during the P.M. peak.

**DRCOG Staff Assessment:** The commuter rail stations at 41st Ave. and at Pecos Street, although not new to the Gold Line, are new to the Northwest Rail Corridor. DRCOG staff concurs with this decision to add operational flexibility to the commuter rail territory. As these are not new stations, this change is not substantial. Further SB-208 action is not needed.

B. **Relocated Stations.** RTD proposed station location revisions to two FasTracks corridors. On the Gold Line, the station at 38th/Inca has been relocated to 41st/Fox.

On the North Metro Corridor, the Globeville-Swansea Station (in UPRR alignment) will be relocated to either the Coliseum OR Stock Show Station location (on BNSF alignment).

**DRCOG Staff Assessment:** The station relocation on the Gold Line from 38th/Inca to 41st/Fox has a minimal affect on DRCOG’s RTP air quality conformity model and is therefore not considered a substantial change. Further SB-208 action is not needed.

The station location change on the North Metro Corridor will require an amendment to the RTP because the Coliseum or Stock Show locations are far removed from the Globeville-Swansea location currently modeled for RTP air quality conformity. This is a substantial change, but it does not require further SB-208 action.

C. **Parking Revisions.** An additional 10 parking spaces will be available on the I-225 Corridor, restoring the corridor’s total parking spaces to 1,250 (not including the shared Peoria/Smith station’s 550 spaces, on the East Corridor). An additional 500 parking spaces will be available on the North Metro Corridor, restoring its total to the original 2004 plan.

**DRCOG Staff Assessment:** These changes are not substantial. Further SB-208 action is not needed.

D. **Other.** The Bus Rapid Transit stations will be on US 36 ramps rather than in the median of US 36.

**DRCOG Staff Assessment:** These changes are not substantial. Further SB-208 action is not needed.
Tracks and Crossings

A. Alignment Changes. The West Corridor segment between the Federal Center and Jefferson County Government Center will be double-tracked if voters approve the tax increase.

The track alignment of the North Metro Corridor is revised so that it no longer shares any portion of track with the East Corridor.

**DRCOG Staff Assessment:** These changes are not substantial. Further SB-208 action is not needed.

B. Grade-separations. Since the 2007 Annual Report, the number of at-grade crossings increased from 13 to 31 on the I-225 Corridor, 14 to 15 on the North Metro Corridor and 0 to 2 on the Southeast Corridor Extension.

**DRCOG Staff Assessment:** The total number of at-grade crossings in the FasTracks Plan has grown from 135 originally to nearly 165 in the 2008 Annual Report. As DRCOG pointed out in the original FasTracks Review, at-grade crossings create delay to users of the roadway network (motor vehicles including buses, pedestrians, and bicyclists), with an estimated one-minute gate time per train, and at-grade crossings have a potential for crashes. Since the original review, each year RTD has added to the number of at-grade crossings, typically as a corridor cost containment strategy, and it is certainly evident there are not sufficient resources to grade-separate all of the crossings. Revising the number of at-grade crossings is not considered a substantial change. Further SB-208 action is not needed.

Support Facilities

A. Light Rail Maintenance Facility. No Change.

B. Commuter Rail Maintenance Facility (CRMF). The preferred site selected is at 48th and Fox Street (Fox North Site). The 2007 preferred CRMF site would have required the relocation of the bus maintenance facility; the currently proposed site negates the need for that. However, the footprint of the preferred CRMF does not have enough space to accommodate the EMU and DMU fleet at full build-out. Some trains will have to be stored at the end-of-line stations and will require additional safety and security measures, and may create stakeholder concerns.

**DRCOG Staff Assessment:** This change is not substantial. Further SB-208 action is not needed.

C. Bus Maintenance Facility. No Change.
3. Implementation Schedule

(see Figure 4 of original 2004 report, Figure 23a of 2008 Annual Report)

**DRCOG Review:**

**A. Environmental Process Schedules.** With the exception of the Southeast and Southwest Corridor Extensions, no FasTracks corridor is meeting the original 2004 schedule to complete environmental studies. The 2008 Annual Report shows:
- Northwest Rail EE is about 4.75 years behind the original schedule;
- Gold Line EIS is 1.75 years behind the original schedule;
- I-225 EA is 2.25 years behind the original schedule;
- East Corridor EIS is 3.75 years behind the original schedule;
- North Metro EIS is 2.5 years behind the original schedule;
- US 36 (BRT) EIS is about 4.25 years behind the original schedule;
- Central Corridor extension EE is 4 years behind the original schedule; and
- Denver Union Station (DUS) EIS was completed about 3.5 years behind the original schedule.

The 2008 Annual Report reveals that these environmental study delays (identified above) have increased since the 2007 Annual Report in almost every corridor. Major additional increases since the 2007 Annual Report are: Northwest Rail Corridor (1.25 years), Gold Line (6 mos.), East Corridor (9 mos.), North Metro Corridor (1 year), and US 36 BRT – Phase 2 (1 year).

**DRCOG staff assessment:** DRCOG has raised the issue of lagging environmental studies every year in its review and cannot stress strongly enough the importance of their completion. It is imperative RTD hold to the current stated implementation schedule as further schedule setbacks will very likely delay the opening of certain lines as well as compromise voter confidence.

**B. Construction Completion Schedules.** The 2008 Annual Report accelerates implementation and opening day of the Gold Line from 2016 to mid-2015, and defers opening of East Corridor by six months to mid-2015. Both commuter rail corridors will be delivered under the Eagle P3 project, and they are scheduled to open concurrently.

The West Corridor projected construction completion is deferred 4 months, although it is still accelerated from the 2004 original plan.

The Denver Union Station (DUS) project completion has been extended by one year for the Light Rail Terminal (2010) and by three years for the Commuter Rail Terminal (2014). The light rail terminal completion is two years in advance of the West Corridor opening and the commuter rail terminal is completed is “just in time” for use by the first commuter rail corridor.
The Commuter Rail Maintenance Facility (constructed by the Eagle P3 project) is scheduled for completion mid-2014, unchanged from the 2007 Annual Report and six months in advance of the opening of the first commuter rail corridor. The expansion of the Light Rail Maintenance Facilities is delayed about a year from the 2007 Annual Report but is still completed several years before the first new light rail line is opened.

**DRCOG staff assessment:** It is critical that the maintenance facilities and DUS be completed prior to opening of the pertinent corridors. The DUS commuter rail terminal, in particular, cannot be further delayed. DRCOG staff considers the construction completion schedule changes to be rational. Because the changes do not impact RTP air quality conformity modeling, they are not substantial. Further SB-208 action is not needed.

C. **Negotiations with Railroads** – RTD reported it continued negotiations for right-of-way (ROW) and associated agreements with the railroads. Subsequent to the 2008 Annual Report, RTD entered into a Memorandum of Understanding (MOU) with the Burlington Northern Santa Fe regarding the acquisition of property interests from Denver Union Station to approximately 72nd Street for the Northwest Rail Corridor and the Gold Line.

Union Pacific and RTD reached agreement regarding the reconfiguration of the Burnham Yard Lead (to facilitate West Corridor construction), the track crossing north of C470 / Santa Fe (Southwest Corridor Extension) and most recently the purchase of the Boulder Industrial Lead for the North Metro Corridor.

**DRCOG staff assessment:** DRCOG is pleased to see progress has been made with railroad negotiations and strongly encourages RTD to conclude the remaining agreements needed soon after completion of necessary environmental clearances.
4. Operating Characteristics

(see Table 2 of original 2004 report, Table 4 in 2008 Annual Report; Figure 3 of original 2004 report, Figure 24 of 2008 Annual Report)

A. West Corridor. The original operating plan for the West Corridor included peak 5-minute headways for the entire length of the corridor. This was revised to reflect 15-minute headways from the Federal Center to the Jefferson County Government Center as a cost containment strategy in the 2007 Annual Report. The operating plan for this section of the West Corridor will be restored to original service levels by double-tracking west of the Federal Center Station if the 0.4 percent sales tax is approved.

**DRCOG staff assessment:** While DRCOG’s modeling is consistent with RTD’s and does not demonstrate an absolute need for such a service level, DRCOG staff is cognizant of the corridor agreement reached by RTD and Jefferson County. This change is substantial, but does not require further SB-208 action.

B. I-225 Corridor. Service on the I-225 Corridor will be operated with H and G trains.

The H-Line, which currently runs between central Denver and Nine Mile Station, was previously planned for extension along the I-225 Corridor to the Peoria/Smith Station (the northern end-of-line station). Because the numerous at-grade crossings north of Florida could potentially cause delays for southbound trains reaching the Nine Mile station, and because it is critical to the operation of all light rail lines that the H-trains depart Nine Mile station on schedule, the 2008 Annual Report identifies that the H-line will now terminate at Florida Station, south of the bulk of the at-grade crossings.

To compensate, the frequency of service on the G-Line (Peoria/Smith to Ridgegate Parkway) will be increased to 7.5 minutes during peak operating hours. Travelers between downtown Denver and I-225 stations north of Florida Station will be required to transfer. Florida through Dayton Stations will now have higher peak frequencies than planned in the original 2004 FasTracks Plan.

**DRCOG staff assessment:** DRCOG understands the reasoning and concurs with RTD’s proposed service change. Service changes are substantial as they must be reflected in the model for RTP air quality conformity, but do not require further SB-208 action.

C. Corridor Capacity / Line Loads

1. East Corridor: Revised modeling and loading assumptions show ridership demand can be met with 4-car trains instead of 5-car trains.
2. North Metro Corridor: Revised modeling and loading assumptions show ridership demand can be met by 3-car trains instead of 4-car trains.
3. I-225 Corridor: As mentioned above, part of the corridor will experience 7.5 minute, instead of 15 minute, headways.
4. West Corridor: As previously mentioned, double-tracking will permit 5 minute peak headways.

**DRCOG staff assessment:** The 2004 original operating plan did not provide much additional capacity beyond demand (most major corridors at about 70 percent or more capacity). Since then, estimated peak line loads have been reduced on 6 of the 10 lines but capacity has been increased on 8 of the 10. This results in substantial unused capacity. DRCOG staff questions whether this is warranted and recommends RTD review this in greater detail prior to the next annual report (similar to the assessments reflected this year for East and North Metro Corridors). Service changes are substantial, but do not require further SB-208 action.

5. Level of Bus Service

(Chapter 6 of original 2004 report, Chapter 4 of 2008 Annual Report)

No Changes.
6. Financial Plan

**DRCOG Review:** Since 2005, RTD has been updating the Financial Plan annually to reflect the latest available information and assumptions. This is a prudent approach in an environment of ever-evolving cost and economic conditions. In its review of the 2007 Annual Report, the DRCOG Board “informed RTD that the next Financial Plan it submits in an Annual Report include less optimistic, more conservative assumptions unless actual FasTracks implementation experience bears out RTD’s assumptions. At a minimum, this specifically includes:

- Capital costs;
- FTA New Starts revenues;
- Sales and use tax revenues; and
- Benefits (costs and revenues) of public-private partnerships.”

The 2008 Annual Report, containing the 2009 Financial Plan, includes new capital and operating cost estimates and significant revenue revisions, all of which are substantially revised from the 2007 Annual Report. DRCOG retained the services of a consultant to assist in the review of RTD’s Financial Plan. This section first reviews cost elements, then key revenue assumptions, before assessing the overall Financial Plan.

**Plan and Corridor Costs**

(see Table 1 of the 2004 original review, Table 1a of the 2008 Annual Report, Table 13 of the 2004 original report, no comparable table provided in the 2008 Annual Report).

**A. Capital Costs.** In the 2008 Annual Report, RTD presented updated costs based on the 2009 Annual Program Evaluation (APE) as shown below in Table 2. The table also includes the 2007 Annual Report values.
### Table 2
**FasTracks Capital Program Costs**

(Millions of Inflated Dollars)

<table>
<thead>
<tr>
<th>Sources</th>
<th>2004 &quot;208 Review&quot; Report Table 1</th>
<th>2007 Annual Report Table 2</th>
<th>2008 Annual Report Table 1a</th>
<th>Difference 2007 to 2008</th>
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</thead>
<tbody>
<tr>
<td>West Corridor</td>
<td>$511.8</td>
<td>$664.4</td>
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<td>Northwest Rail</td>
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<td>I-225 Corridor</td>
<td>$442.3</td>
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<td>East Corridor</td>
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<td>Other FasTracks Costs</td>
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<td>$571.8</td>
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<td><strong>Totals</strong></td>
<td><strong>$4,717.1</strong></td>
<td><strong>$6,112.7</strong></td>
<td><strong>$6,999.8</strong></td>
<td><strong>$887.1</strong></td>
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</table>

The corridor costs escalated in the 2007 Annual Report from $4.7 billion to $6.1 billion and continued to increase in the 2008 Annual Report to nearly $7 billion, a 14.5 percent increase from the 2007 Annual Report. The key factors contributing to the increased capital costs include 1) material, labor and right-of-way escalation, 2) changes with respect to stations and park-n-Rides and vehicle technology, 3) changes resulting from negotiations with railroads for right of way needed for the program and, 4) scope changes/clarifications.

**Construction Costs**

The consultant evaluated the construction unit item costs and estimating methodology RTD used to develop the unit costs. To gauge whether the component unit costs accurately reflect prevailing market prices, the consultant independently established a range of prices and evaluated where RTD’s unit cost estimates fell within the range. The results are:

- RTD unit costs lower than Consultant’s Range: 0 percent
- RTD unit costs within Consultant’s Range: 45 percent
- RTD unit costs higher than Consultant’s Range: 55 percent

Because DRCOG staff only reviewed unit costs, it cannot comment authoritatively about total cost. However, the consultant’s comparison of unit costs indicated RTD’s unit costs are now, on average, higher than the consultant’s independent estimates.
This is a major change from the review of the 2007 Annual Report. The unit costs are now considered to be conservative.

The consultant also found RTD’s overall cost estimating methodology to be valid and an improvement over the methodology used in the previous financial plan.

Other Costs

- The consultant believes the cost methodologies for both the EMU and DMU vehicles are reasonable. The consultant recommends RTD add a small level of contingency (10-15 percent) to the railcar cost estimate, due to the limited number of railcar manufacturers worldwide, complexity of meeting FRA technical requirements, and the potential forthcoming worldwide demand for railcar deliveries.
- The consultant considers RTD’s engineering/design, construction management/inspection, and project insurance costs to be reasonable by industry standards.
- For right-of-way and property acquisition, RTD reports its actual costs incurred to date on the West Corridor are true to the estimates. The consultant suggests RTD’s “over-the-fence” estimating methodology for remaining corridors cannot be faulted, but property acquisitions are typically subject to a degree of variability so the consultant recommends RTD add a small amount of additional contingency.
- The consultant found RTD’s rates for construction cost escalation to be rational for the outer years of the FasTracks construction (from 2012 to 2017). For the immediate years, 2010 and 2011, RTD proposes a lower rate, which the consultant categorizes as “more speculative”. The consultant recommends RTD increase the material escalation rates in 2010 and 2011 to match the outer years.

Contingency

RTD applied an average of 25 percent contingency to estimated corridor construction costs. The consultant suggests RTD’s amount “may be too low for the design stage of most of the corridors,” based on emerging FTA risk management thinking which shows contingency levels at above 30 percent for projects at the “entry to Preliminary Engineering stage.”

Also, RTD applied no contingency to design, construction management/inspection, insurance or overhead and indirect amounts. The consultant recommends RTD do so. And, as noted above, the consultant recommends RTD apply a small additional amount of contingency to property acquisitions and vehicle procurement.

B. Operating Costs. RTD still indicates it intends to:

- Use private contractors to operate the paratransit fleet and fixed-route service up to the legislatively-mandated cap,
- Operate existing and new light rail service with in-house employees, and
- Use the private sector to operate commuter rail service. For East and Gold Line Corridors, this will be part of the public-private partnership. For Northwest and North Metro Corridors, details have not been established.
The consultant states RTD’s methodology for developing the commuter rail operating and maintenance (O & M) costs is well thought out and very thorough. Further, the consultant states the model used for light rail and bus operations provides a reasonable projection of O&M costs. The consultant identified two substantive areas of potential O&M cost risk as:

- Labor rates for commuter rail operators may be higher than those for light rail operators (the rate used in the methodology).
- Energy costs are estimated to be about 15-17 percent of future O&M costs and this may be insufficient if, for example, energy costs spike again or proposed federal measures addressing climate change and energy independence raise energy costs significantly.

The consultant recommends RTD add some level of contingency to the estimates for operating and maintenance costs on new and added service lines.

C. Cost Savings from Public-Private Partnerships (P3). RTD’s perspectives on this have changed little since the 2007 Annual Report. RTD intends to use various forms of P3 on almost every corridor, and one reason for doing so is potential cost savings.

The Denver region is very familiar with design/build (DB), where the public agency contracts with a private company to design and construct a project based on requirements from the public agency. RTD intends to use this extensively because of DB’s ability to deliver projects more quickly. RTD’s revised implementation schedule and its year-of-expenditure cost estimates reflect this. Further, RTD expects that by using DB, it can take advantage of the private sector’s experience and innovation and realize actual cost savings in construction.

For at least the Gold Line and East Corridors, and maybe other commuter rail corridors as well, RTD intends to use the private sector to operate and maintain (OM) the service once construction is completed. RTD expects that the private sector can operate and maintain the commuter rail lines discernibly less expensively than the public sector.

As stated in the 2007 Annual Review, “balancing risk transfers will be key to realizing OM cost savings. Whether RTD can realize the level of cost savings in the commuter rail operations (the private partner would be selected for a very long term in a one time procurement process, with periodic reassessment of OM costs) that it has achieved with its private bus services (competitive process every few years) is uncertain.”

DRCOG’s perspective about P3 OM remains unchanged.

D. DRCOG staff conclusion on costs: Overall, DRCOG considers the capital construction estimate of $7.0 billion to be reasonable. RTD’s capital cost estimating methodology is reasonable, well-substantiated, and perhaps (now) a little conservative. However, DRCOG staff recommends RTD revise the very-near term rates of cost escalation and add in additional contingencies for several items. DRCOG staff considers RTD’s assumptions for operating costs generally
reasonable, except the wage rate for commuter rail operators, and recommends RTD include some contingency to address the uncertainty about future energy costs.

As stated in the 2007 Annual Review, “a key to achieving cost savings in DBFOM is appropriately defining the amount of risk to be transferred to the private sector and the cost the private sector will charge for assuming that risk, which will directly affect total project cost.” While RTD has made substantial progress on the P3 since the time of the 2007 Annual Review, it is still not at the stage of having specifics. DRCOG staff continues to support RTD use of public-private partnerships when and if feasible to implement FasTracks and recognizes P3s as a critical component of the FasTracks Financial Plan and overall system implementation.

Revenue Projections

(see Table 1 of the 2007 Annual Report’s Financial Plan; Table 1 of the 2008 Annual Report’s Financial Plan).

The updated Financial Plan in the 2008 Annual Report reflects new revenue forecasts. Table 3 below shows the revisions proposed by RTD to fund the capital program. RTD has assumed (in this financial plan) a sales and use tax increase of 0.4 percent.

Table 3
FasTracks Capital Program Revenues
(millions of year of expenditure dollars)

<table>
<thead>
<tr>
<th>Sources</th>
<th>2007 Annual Report Table 2</th>
<th>2008 Annual Report Table 2</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales and Use Tax (&quot;Pay as you go&quot; funds)</td>
<td>$1,414.47</td>
<td>$1,824.09</td>
<td>$409.6</td>
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<tr>
<td>Revenue Bonds</td>
<td>$1,976.14</td>
<td>$2,085.77</td>
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<td>Certificates of Participation (COPs)</td>
<td>$379.92</td>
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<tr>
<td>TIFIA Loan</td>
<td>$212.41</td>
<td>$308.09</td>
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<tr>
<td>Other Federal Grants</td>
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<td>$114.0</td>
</tr>
<tr>
<td>FTA New Start Grant Program</td>
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<tr>
<td>Local Funding</td>
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<tr>
<td>Other Local Funding</td>
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</tr>
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<td>Public-Private Partnerships</td>
<td>$547.82</td>
<td>$897.81</td>
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</tr>
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<td><strong>Total FasTracks Program Funding</strong></td>
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<td><strong>$6,982.67</strong></td>
<td><strong>$899.6</strong></td>
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<td>3rd Party Funded Projects</td>
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<td>$17.10</td>
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<td><strong>Total FasTracks Financial Plan</strong></td>
<td><strong>$6,112.80</strong></td>
<td><strong>$6,999.77</strong></td>
<td><strong>$887.0</strong></td>
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</table>

The key revenue elements warranting discussion are:
- RTD Sales and Use tax;
- the FTA New Starts Grant Program; and
- Private sector financial contribution.
As a backdrop to these discussions, it is important to restate an observation from the 2007 Annual Review: “there is substantial uncertainty inherent in all of the… key revenue elements. Subject-matter experts may reasonably reach divergent opinions.”

A. Revenues from Sales and Use Tax. RTD’s financial plan describes sales and use tax forecasts as being based upon the following:

- **2009 – 2012**, the Colorado Legislative Council statewide forecasts, adjusted downward to reflect recent trends; and
- **2013 – 2035**, RTD’s 20-year average historical sales tax growth rate, adjusted for the forecast growth in CPI and DRCOG population growth forecasts.

RTD’s FasTracks Plan is heavily dependent on the strength of the local economy and its collections of sales and use taxes. RTD’s current financial plan includes a major revision to its sales and use tax projection to reflect the recent economic recession. Its 2005 - 2035 tax revenue forecast decreased from $11.8 billion (2007 forecast) to $9.1 billion (2009 forecast) – a 22.8 percent decrease. This decrease is significant and RTD, as a result, is estimating a funding gap of approximately $2.2 billion. **RTD must find additional revenue to fill this gap if it is to complete the FasTracks program by 2017.**

The financial plan identifies a ballot initiative to seek a 0.4 percent increase in the sales and use tax, with 0.1 percent reductions (sunsetting) proposed in 2025, 2030, 2035 and 2040. **The financial plan assumes that the vote is passed and becomes effective in January 2011.** Per unit of sales tax, RTD is estimates slow to modest growth until 2015 (3 to 4 percent per year on average). This is substantially lower than the rates estimated in the 2007 Annual Report (5.3 to 5.5 percent). Growth after 2015 is projected at approximately the level of average annual sales tax growth over the past 20 years (5.3 percent). This is slightly less than the rate proposed in the 2007 Annual Report (about 5.5 percent).

While RTD’s current forecasts are now less optimistic than previously, and the consultant agrees RTD’s computations show that, if approved, the 0.4 percent increase could adequately fund the projected shortfall if the sales tax generates the revenues RTD projects, **DRCOG staff and the consultant are concerned that RTD’s projections are still optimistic.** Sales/use tax receipts in 2009 are reported as being less than RTD had estimated in the financial plan, and how quickly the nation and the Denver region will work their way out of the current recession is a topic of substantial speculation. Achieving long-term annual per unit sales tax growth at above the 5 percent level is also viewed as a challenge. The 2007 Annual Report stated “sales tax growth on the order of 4.5 per cent per year would provide a more conservative perspective.” Little has transpired in the past year that leads credence to a more optimistic view.

B. The FTA New Starts Grant Program. In the 2008 Annual Report, RTD’s Financial Plan assumes approximately $1.3 billion of FTA New Starts funds will be made available for the FasTracks program – a $77 million (or 6.1 percent) increase over the 2007 Financial Plan. Early in 2009, RTD received a full funding grant agreement for the West corridor for $308.7 million, securing those New Starts funds.
RTD is seeking approximately 59 percent of the estimated project cost for the East Corridor and about 41 percent of the estimated project cost of the Gold Line, for a total request of $1.03 billion from the federal government. The percentages and amounts of New Starts funding provided by the FTA vary substantially by project. The consultant stated that based on full funding grant agreements awarded to date, the highest percentage that a project should expect to receive is about 60 percent, so the percentage RTD is proposing (about 50 percent for the two corridors combined) is within the range.

As chronicled in the 2007 Annual Review, RTD’s original 2004 Financial Plan proposed New Starts funding of about $100 million annually, but DRCOG staff was not comfortable recommending that level of funding. RTD adjusted its original Financial Plan to the DRCOG-endorsed level of approximately $80 million annually (about $800 million total).

In the 2007 Annual Report, RTD asserted its ability to secure $450 million in additional FTA New Starts funding during approximately the same time period (until 2018), a more than 50 percent increase. The 2007 Annual Review stated RTD’s optimism was based on:

- **“Excellent FTA/RTD relationship.”** RTD has had stability at a senior staff level for many years and a consistent and focused Board. RTD knows how to submit projects for New Starts consideration, how to work with Congress and the administration to garner support for such projects, and how to deliver quality projects on time once funds are obtained. RTD is counting on that past performance as a good indicator of future success.

- **Near execution of full funding grant agreement (FFGA) for West Corridor.**

- **Approval of RTD to participate in FTA’s public-private partnership pilot program (Penta-P) for the combined Gold Line, East, and Commuter Rail maintenance facility projects.** RTD is one of only three transit agencies selected to participate in the Penta-P program, which is designed to demonstrate the benefits of public-private partnerships. In addition to other benefits, RTD believes having FTA as an enthusiastic partner in these projects may ultimately translate into an increased level of federal New Starts funding for them.”

Since the 2007 Annual Report, RTD has lost senior-level staff. But more favorably, the West Corridor FFGA has been executed, FTA authorized RTD to enter Preliminary Engineering for the Eagle P3 project, and RTD is the only Penta-P participant to be moving forward in the program. RTD indicates FTA’s FY2010 Annual New Starts Report (February, 2009) acknowledges RTD’s assumption of approximately $1 billion in New Starts funds for the East and Gold Line corridors.

At the time of the 2007 Annual Review, there was substantial uncertainty about the future of all federal programs once SAFETEA-LU expires, and a high interest nationally in competing for New Starts funds. The 2007 Annual Review stated: “for RTD to achieve its revised New Starts funding objective, either the federal funds available for New Starts must grow or RTD’s success rate must increase substantially.” The 2007 Annual Review concluded with the DRCOG Board
recommending RTD take a less optimistic, more conservative stance on obtaining New Starts funds in its next Annual Report.

RTD has not done that, and indeed has increased its expected receipt of New Starts funds (although over a somewhat longer time period). Some of this increased optimism can be attributed to the many bills being considered by Congress in 2009 that would provide a greater emphasis on transit. In addition, RTD was recently awarded discretionary ARRA New Starts funds for the West Corridor, advancing (but not increasing) the delivery funds committed in the FFGA, which can also be viewed as a sign of continued FTA comfort with RTD. Also, RTD has run some alternative funding scenarios demonstrating FasTracks could still be delivered by 2017 without having FFGA’s for the Eagle P3 project.

DRCOG staff is encouraged by most of the New Starts-related activities over the past year, and concurs that the 2004-endorsed level of $800 million is overly conservative. However, the $1.34 billion level is viewed as optimistic.

C. Public-Private Partnership (P3). The Eagle P3 project covers the East Corridor, Gold Line and the Commuter Rail Maintenance Facility. RTD’s revised financial plan includes anticipated private investment by the selected concessionaire of almost $900 million, approximately $350 million more than in the 2007 Annual Report. RTD has “short-listed” three consortia through a request for qualifications process and has been working with those three to address issues in a draft request for proposals released in December 2008. RTD reports each of the three remains very interested and actively engaged in the process.

RTD recently disclosed that their underlying assumption is the private sector contribution will be constituted 75 percent by debt with an underlying 7.5 percent interest rate and 25 percent by equity with an underlying 12 percent rate of return. RTD will work with the selected private partner to explore ways to make tax-exempt private activity bonds available to lower the financing costs.

DRCOG’s consultant indicates that the assumed cost of debt and return on equity appear reasonable for an availability payment structure. The consultant points out the 75/25 ratio of debt to equity, which may have appeared conservative 12 months ago, may now be a bit aggressive. The consultant notes RTD will need to work with the P3 concessionaires to assure them it has sufficient and reliable sources of funding to make availability payments (issues include timing/passing of the sales and use tax initiative, timing of receipt of New Starts funding, and the credit quality of RTD’s availability payments).

As in the review of the 2007 Annual Report, the specific benefits of the financial portion of the design-build-finance-operate-maintain (DBFOM) P3 model remain unproven locally and RTD has numerous details to work out in the coming months.

D. DRCOG staff conclusion on revenues: RTD has made significant revisions to its sales and use tax projections reflective of the current economic conditions. However, DRCOG staff continues to have reservations about RTD’s New Starts revenue.
expectations (which have increased since the last review) and RTD’s sales and use tax forecasts. Staff recognizes the potential benefits of P3 funding, the amount of which has increased substantially in this year’s financial plan, but at this time the amount and true benefits remain speculative.

There is still substantial uncertainty in all the key elements of the FasTracks revenue stream. Overall, DRCOG staff considers the revenue element of the Financial Plan to be optimistic.

**DRCOG Staff Overall Assessment of the Financial Plan**

The changes to the Financial Plan are substantial and require new action under SB-208. DRCOG staff and consultant concerns are discussed in previous pages. While DRCOG staff finds the current Financial Plan to be a vast improvement over the 2007 Financial Plan, staff still regards the Financial Plan as optimistic, principally the revenues. That said, DRCOG staff recommends acceptance of the Financial Plan with the reservations noted. This includes the system and corridor costs and the revenue elements.

Assuming that the RTD Board will look to obtain voter support for a sales and use tax increase before 2011, to achieve the funding needed for 2017 implementation, DRCOG expects RTD will prepare another financial plan for DRCOG consideration prior to that vote. RTD must convince voters the next increase will be the last increase. Given this, staff recommends the DRCOG Board call for RTD, in the next Financial Plan it submits in an Annual Report, to be more conservative in the assumptions it uses (than in the current Financial Plan) unless actual FasTracks implementation experience bears out the current assumptions. At a minimum, this specifically includes:

- Costs (adjustments of near-term inflation and inclusion of additional contingencies);
- FTA New Starts revenues;
- Sales and use tax revenues; and
- Benefits (costs and revenues) of public-private partnerships.
APPENDIX

RTD’s 2008 Interim Annual Report to DRCOG on FasTracks (Jan. 2009)

RTD’s full 2008 Annual Report to DRCOG was delayed several months as the RTD Board considered various potential options for the completion of the FasTracks program. In January 2009, RTD submitted its fourth annual report to DRCOG in the form of an “interim” report.” The interim report identified minor, non-SB-208 actionable revisions, some of which required amendments to the Regional Transportation Plan. DRCOG approved the following changes:

1. Central and East Corridor: Change location of the 40th/40th station to 38th /Blake (200 parking spaces at opening, 500 in 2035)
2. East Corridor: Change location of the Stapleton p-n-Ride station to Central Park Boulevard (1,500 parking spaces)
3. East Corridor: Increase the number of parking spaces at the Colorado Boulevard station from 1,700 to 1,800
4. I-25 Corridor: Add station at 13th Avenue (250 parking spaces at opening, 690 spaces in 2035)
5. I-25 Corridor: Reduce the number of parking spaces at the Colfax station lot from 600 to zero (previously known as the Fitzsimons South Station)
6. I-25 Corridor: Increase number of parking spaces at the Iliff station from 450 to 600 at opening and 910 in 2035
7. I-25 Corridor: Change location of the Exposition station to Florida (no parking)
8. I-25 Corridor: Change to location of the 4th Avenue station to 2nd Avenue /Abilene (200 parking spaces)
9. Change the alignment of the tracks from the median of I-225 to the east side of I-225 from Nine Mile Station to Exposition Station; change the location of the crossing to the west side of I-225 from Colfax Avenue to the 13th Avenue Underpass.