

## **Technical Memorandum #3**

### **Operating & Maintenance Cost Evaluation**

This document briefly summarizes the methods used to calculate the operating and maintenance (O&M) costs for the transit service options developed for the Red Rock Corridor Alternatives Analysis Update.



October 21, 2013



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## 1. INTRODUCTION

This memo describes the assumptions made and the outcomes of the O&M cost estimation exercise carried out for the Red Rock Corridor AAU. Where possible, cost information was gathered from recent and relevant studies, such as the Gateway Corridor AA, the most recently completed AA in the Minneapolis-St. Paul region. Cost estimates were developed for weekday services only in order to provide consistency among the different options. This does not preclude the possibility of some of the options having weekend service. It should also be noted that the aim of estimating O&M costs at this stage of planning is to compare options. Due to the fact that the actual implementation of an option is still likely many years away, the cost estimates, as well as the schedules they are based on, should be viewed as conceptual only and developed only to the extent needed to compare the options. It is unlikely that any of the schedules would be implemented as is.

A 3.5% annual escalation rate was used to estimate costs in 2013 dollars.

## 2. NO BUILD (CURRENT CONDITIONS) OPTION

### A. BRIEF DESCRIPTION

In the No Build (Current Conditions) Option, the three express bus routes that currently serve the corridor are retained and their schedules are enhanced to meet anticipated 2030 demand.

### B. OPERATING COST DRIVER

The O&M cost driver for this option is revenue hours. The cost per revenue hour is assumed to be \$132.84 per hour, based on operating cost and revenue hour data figures submitted for the National Transit Database for 2011. Those figures have been inflated to reflect a 2013 value.

The revenue hours of this option are based on conceptual schedules of the routes in 2030. These schedules are shown on the next several pages. They reflect the expectation that service levels on Routes 361 and 365 will increase, but the service levels on Route 364 will remain the same. However, a small adjustment will be made to Route 364 so that it will serve the new Park and Ride in Newport. The station-to-station travel times in these conceptual schedules are consistent with the travel times in today's schedules. While this may not be realistic if peak period congestion grows significantly in the corridor, it is possible that roadway measures to mitigate travel time impacts will be implemented by 2030. Regardless, to maintain some level of consistency among the options evaluated in this AAU, the impacts of new congestion on the roadways in the corridor are excluded from all of the options (although congestion impacts were accounted for in the ridership evaluation, described in Technical Memorandum #5). The AAU's scope did not include an extensive study of current and future travel times in the corridor, so the travel times presented for this and following



options should be viewed as conceptual. What is more important for the AAU is relative station-to-station travel time, stop locations, hours of service, and the impact of the vehicle travel time on an individual’s door-to-door travel time.

The No Build (Current Conditions) Option does not include any bus-only shoulder lanes. It also assumes that the Cottage Grove Park and Ride will remain in its current location. It should also be noted that for this option, the express bus routes will continue to bypass Union Depot.

Route 361 currently offers four inbound trips and one outbound trip in the AM peak. One of the inbound trips travels along local roads in Cottage Grove. The conceptual 2030 schedule offers seven inbound trips and one outbound trip in the AM peak, with three of the inbound trips travelling along the local roads in Cottage Grove, as shown in Table 1. In the PM peak, Route 361 offers five outbound trips and one inbound trip, with one of the outbound trips including travel on local streets in Cottage Grove. The conceptual 2030 schedule includes seven outbound trips and one inbound trip in the PM peak, with three of the outbound trips service local roads in Cottage Grove, as shown in Table 2.

For these and all following schedules, PM times are shown in **bold**.

**Table 1 – Conceptual Inbound Schedule – Route 361**

Lv. Ivystone Ave and 80th St	Ar. Cottage Grove PnR	Lv. Cottage Grove PnR	Ar. 6th St and Cedar
		6:16	6:43
6:08	6:28	6:29	6:57
		6:42	7:10
6:48	7:08	7:09	7:38
		7:25	7:54
7:19	7:39	7:40	8:07
		7:54	8:21
		<b>3:45</b>	<b>4:12</b>



**Table 2 – Conceptual Outbound Schedule – Route 361**

Lv. 5th St and 7th St	Lv. 5th St and Minnesota St	Ar. Cottage Grove PnR	Lv. Cottage Grove PnR	Ar. Ivystone Ave and 80th St
6:56	7:00	7:25		
<b>3:11</b>	<b>3:15</b>	<b>3:39</b>		
<b>3:42</b>	<b>3:47</b>	<b>4:11</b>	<b>4:12</b>	<b>4:31</b>
<b>3:55</b>	<b>4:00</b>	<b>4:24</b>		
<b>4:10</b>	<b>4:15</b>	<b>4:39</b>	<b>4:40</b>	<b>4:59</b>
<b>4:25</b>	<b>4:30</b>	<b>4:54</b>		
<b>4:42</b>	<b>4:47</b>	<b>5:11</b>	<b>5:12</b>	<b>5:31</b>
<b>4:55</b>	<b>5:00</b>	<b>5:24</b>		

Today’s Route 364 has a scheduled travel time between Hadley Ave /80<sup>th</sup> St to 6<sup>th</sup> St / Cedar of 41 minutes. Due to the new stop at the Newport Park and Ride, the scheduled travel time in the conceptual 2030 schedule is adjusted to 44 minutes. Both the existing and conceptual 2030 schedules include three trips in the peak direction during both the AM and PM peak periods as shown in Tables 3 and 4.

**Table 3 - Conceptual Inbound Schedule – Route 364**

Lv. Hadley Ave and 80th St	Ar. Newport PnR	Lv. Newport PnR	Ar. 6th St and Cedar
6:01	6:25	6:26	6:45
6:41	7:23	7:24	7:25
7:11	7:38	7:39	7:55

**Table 4 – Conceptual Outbound schedule – Route 364**

Lv. 5th St and 7th St	Lv. 5th St and Minnesota St	Ar. Newport PnR	Lv. Newport PnR	Ar. Hadley Ave and 80th St.
<b>4:05</b>	<b>4:10</b>	<b>4:29</b>	<b>4:30</b>	<b>4:50</b>
<b>4:35</b>	<b>4:40</b>	<b>4:59</b>	<b>5:00</b>	<b>5:20</b>
<b>5:20</b>	<b>5:25</b>	<b>5:44</b>	<b>5:45</b>	<b>6:05</b>



Today's Route 365 includes 10 inbound trips in the AM peak and 10 outbound trips in the PM peak. The conceptual 2030 schedules include 17 inbound trips in the AM peak and 17 outbound trips in the PM peak as shown in Tables 5 and 6.

**Table 5 - Conceptual Inbound Schedule – Route 365**

Lv. Cottage Grove PnR	Ar. Lower Afton Rd	Lv. Lower Afton Rd.	Ar. 7th St and Hennepin
5:46	5:57	5:58	6:25
5:56	6:07	6:08	6:35
6:06	6:17	6:18	6:45
6:15	6:25	6:26	6:56
6:24	6:35	6:36	7:06
6:28	5:38	5:39	7:11
6:37	6:48	6:49	7:20
6:42	6:53	6:54	7:28
6:47	6:58	6:59	7:33
6:52	7:03	7:04	7:40
6:57	7:08	7:09	7:45
7:02	7:13	7:14	7:50
7:07	7:18	7:19	7:55
7:15	7:26	7:27	8:05
7:24	7:35	7:36	8:14
7:37	7:48	7:49	8:25
7:58	-	-	8:45

**Table 6 – Conceptual Outbound Schedule – Route 365**

Lv. Ramp B / 5th St Transit Center	Lv. 6th Street and Hennepin	Ar. Lower Afton Rd	Lv. Lower Afton Rd	Ar. Cottage Grove PnR
<b>3:12</b>	<b>3:15</b>	<b>3:41</b>	<b>3:42</b>	<b>3:57</b>
<b>3:27</b>	<b>3:30</b>	<b>3:56</b>	<b>4:57</b>	<b>4:12</b>
<b>3:42</b>	<b>3:45</b>	<b>4:11</b>	<b>4:12</b>	<b>4:27</b>
<b>3:52</b>	<b>3:55</b>	<b>4:22</b>	<b>4:23</b>	<b>4:38</b>
<b>4:02</b>	<b>4:05</b>	<b>4:32</b>	<b>4:33</b>	<b>4:48</b>
<b>4:09</b>	<b>4:12</b>	<b>4:39</b>	<b>4:40</b>	<b>4:55</b>
<b>4:15</b>	<b>4:18</b>	<b>4:45</b>	<b>4:46</b>	<b>5:01</b>
<b>4:22</b>	<b>4:25</b>	<b>4:52</b>	<b>4:53</b>	<b>5:10</b>
<b>4:29</b>	<b>4:32</b>	<b>5:01</b>	<b>5:02</b>	<b>5:17</b>
<b>4:35</b>	<b>4:38</b>	<b>5:07</b>	<b>5:08</b>	<b>5:24</b>
<b>4:41</b>	<b>4:44</b>	<b>5:14</b>	<b>5:15</b>	<b>5:30</b>
<b>4:51</b>	<b>4:54</b>	<b>5:25</b>	<b>5:26</b>	<b>5:42</b>
<b>5:01</b>	<b>5:04</b>	<b>5:36</b>	<b>5:37</b>	<b>5:52</b>
<b>5:08</b>	<b>5:11</b>	<b>5:43</b>	<b>5:44</b>	<b>5:59</b>
<b>5:15</b>	<b>5:18</b>	<b>5:50</b>	<b>5:51</b>	<b>6:06</b>
<b>5:36</b>	<b>5:39</b>	<b>6:07</b>	<b>6:08</b>	<b>6:23</b>
<b>6:07</b>	<b>6:10</b>	<b>6:36</b>	<b>6:37</b>	<b>6:52</b>



The summary of this option is provided in Table 7.

**Table 7 - Summary – No Build (Current Conditions) Option**

	<b>Route 361</b>	<b>Route 364</b>	<b>Route 365</b>
Route Description	Express route connecting Cottage Grove PnR to Downtown St. Paul via Lower Afton Rd.	Express route connecting Newport PnR to Downtown St. Paul	Express route connecting Cottage Grove to Downtown Minneapolis via Lower Afton Rd.
Hours of Service	AM and PM Peak	AM and PM Peak	AM and PM Peak
Trips per Weekday	18	6	34
Active Service Vehicles Required	6	3	14
Spares Required	2	1	2
Approximate One-way Travel Time	28 minutes	45 minutes	48 minutes
Average Loading at the Peak Load Point (2030)	34	15	18
Weekday Revenue Hours	9.3	4.5	26.7
Annual Revenue Hours	2333	1125	6663
Recovery	n/a	n/a	n/a
Annual O&M Cost	\$310,000	\$150,000	\$890,000
<b>TOTAL</b>	<b>\$1,340,000</b>		

\*Numbers may not sum due to rounding

Note that recovery is not provided because most of the trips are one-way trips. Average loading at the peak load point is shown as a test of the ability of the schedule to meet demand and avoid overcrowding or pass-ups on the bus service. Assuming that buses with capacities of about 50 passengers are used, it appears that the average loadings are acceptable. The spare ratio is about 22%.

### 3. EXPRESS BUS OPTION

#### A. BRIEF DESCRIPTION

In this option, a new express bus route is provided as an overlay on the express routes described in the No Build (Current Conditions) Option. This additional route would serve Red Wing, Prairie Island, Hastings, and Newport. Bus-only shoulder lanes will be constructed in this option to improve schedule reliability.





**B. OPERATING COST DRIVER**

The cost driver for the O&M costs of this option is revenue hours. The cost per revenue hour is assumed to be \$132.84 per hour, based on operating cost and revenue hour data figures submitted for the National Transit Database for 2011. Those figures have been inflated to reflect a 2013 value.

The conceptual schedule for the proposed new express bus route is shown in Table 8. It would be an overlay service on top of the express routes described in the No Build (Current Conditions) Option and shown in the schedules in Tables 1 to 6. The schedule is designed to bring passengers to the downtown areas around the 0:15 and 0:45 times of the hour so that they can get to their destinations at typical work start times of 0:00 and 0:30 past the hour.

**Table 8 - Conceptual Inbound/Outbound Schedule – Express Bus Overlay Route – Express Bus Option**

Station	Morning / Inbound Schedules				PM / Routing from E2	AM / Routing from E1	Evening / Outbound Schedules			
	E1 Leave	E3 Leave	E5 Leave	E7 Leave	E9 Leave	E10 Arrive	E2 Arrive	E4 Arrive	E6 Arrive	E8 Arrive
Red Wing	5:43	6:13	6:43	7:13	<b>4:54</b>	9:07	<b>4:47</b>	<b>5:17</b>	<b>5:47</b>	<b>6:17</b>
Prairie Island	6:00	6:30	7:00	7:30	<b>5:11</b>	8:51	<b>4:31</b>	<b>5:01</b>	<b>5:31</b>	<b>6:01</b>
Hastings	6:22	6:52	7:22	7:52	<b>5:33</b>	8:29	<b>4:09</b>	<b>4:39</b>	<b>5:09</b>	<b>5:39</b>
Newport	6:41	7:11	7:41	8:11	<b>5:52</b>	8:10	<b>3:50</b>	<b>4:20</b>	<b>4:50</b>	<b>5:20</b>
Union Depot	6:55	7:25	7:55	8:25	<b>6:06</b>	7:56	<b>3:36</b>	<b>4:06</b>	<b>4:36</b>	<b>5:06</b>
Minneapolis	7:15	7:45	8:15	8:45	<b>6:26</b>	7:35	<b>3:15</b>	<b>3:45</b>	<b>4:15</b>	<b>4:45</b>
	Arrive	Arrive	Arrive	Arrive	Arrive	Leave	Leave	Leave	Leave	Leave

The summary of this option is shown in Table 9.



**Table 9 - Summary – Express Bus Overlay Route Option**

	<b>Route 361</b>	<b>Route 364</b>	<b>Route 365</b>	<b>New Overlay Express Route</b>
Route Description	Express route connecting Cottage Grove PnR to Downtown St. Paul via Lower Afton Rd.	Express route connecting Newport PnR to Downtown St. Paul	Express route connecting Cottage Grove to Downtown Minneapolis via Lower Afton Rd.	Express route connecting Red Wing to Minneapolis via Union Depot
Hours of Service	AM and PM Peak	AM and PM Peak	AM and PM Peak	AM and PM Peak
Trips per Weekday	18	6	34	10
Active Service Vehicles Required	6	3	14	4
Spares Required	2	1	2	1
Approximate One-way Travel Time	28 minutes	45 minutes	48 minutes	92 minutes
Average Loading at the Peak Load Point (2030)	34	15	18	29
Weekday Revenue Hours	9.3	4.5	26.7	15.3
Annual Revenue Hours	2333	1125	6663	3833
Recovery	n/a	n/a	n/a	n/a
Annual Cost	\$310,000	\$150,000	\$890,000	\$510,000
<b>TOTAL</b>	<b>\$1,850,000</b>			

\*Numbers may not sum due to rounding

A spare ratio of 20% is assumed for the new express bus route. Recovery time is not calculated because the majority of trips are one-way trips.

#### 4. BRT OPTION

##### A. BRIEF DESCRIPTION

In this option, there is BRT service connecting Hastings to Union Depot. This service has intermediate stops in Cottage Grove, Newport, and Lower Afton Road. Various enhancements are provided for bus services, including dedicated bus ramps at Cottage Grove and Lower Afton Road Stations. This service is provided in conjunction with the services described in the No Build (Current Conditions) Options and shown in Tables 1 to 6. The preservation of these express routes will retain direct service to Downtown Minneapolis and 6th and Cedar in Downtown St. Paul in the peak periods.



The express bus services would be able to make use of the special ramps built for the BRT services, too. The option includes bus-only shoulder lanes to improve schedule reliability.

As indicated in the introduction, the O&M costs are only developed for weekday services for the sake of comparability among the options. In all likelihood, there would be strong pressure from the community and from policy makers to provide weekend service, particularly with the BRT Option.

## **B. OPERATING COST DRIVER**

The cost driver for the O&M costs of this option is revenue hours. The cost per revenue hour is assumed to be \$132.84 per hour, based on operating cost and revenue hour data figures submitted for the National Transit Database for 2011. Those figures have been inflated to reflect a 2013 value.

There have been some early indications that operating costs for the Red Line are 15-25% higher than regular bus services, on a per revenue hour basis. The Red Line service is new, so it may be too early to know if this is a long term trend or an aberration tied to the start up of a new service.

These conceptual schedules assume that the Cottage Grove Park and Ride would remain in its existing location, but even if it were to move to the proposed new location in Langdon Village, the end-to-end travel times of the BRT service would not be affected.





The summary of this option is shown in Table 11.

**Table 11 - Summary – BRT Option**

	<b>Route 361</b>	<b>Route 364</b>	<b>Route 365</b>	<b>BRT Route</b>
Route Description	Express route connecting Cottage Grove PnR to Downtown St. Paul via Lower Afton Rd.	Express route connecting Newport PnR to Downtown St. Paul	Express route connecting Cottage Grove to Downtown Minneapolis via Lower Afton Rd.	BRT Route – Hastings to Union Depot
Hours of Service	AM and PM Peak	AM and PM Peak	AM and PM Peak	All Day
Trips per Weekday	18	6	34	114
Active Service Vehicles Required	6	3	14	6
Spares Required	2	1	2	2
Approximate One-way Travel Time	28 minutes	45 minutes	48 minutes	39 minutes
Average Loading at the Peak Load Point (2030)	13	15	18	17
Weekday Revenue Hours	9.3	4.5	26.7	74.1
Annual Revenue Hours	2333	1125	6663	18,525
Recovery	n/a	n/a	n/a	13%
Annual Cost	\$310,000	\$150,000	\$890,000	\$2,460,000
<b>TOTAL</b>	<b>\$3,810,000</b>			

The spare ratio for the BRT vehicles is 25% and the spare ratio for all vehicles is 19%. The recovery time in the conceptual BRT schedule is 13%. Note that the passenger loading figures for Routes 361, 364, and 365 are different than those from the No Build (Current Conditions) Option because the passengers are split among a greater number of trips with the addition of BRT service.

## 5. COMMUTER RAIL OPTION

### A. BRIEF DESCRIPTION

In the commuter rail option, a commuter rail service would replace the three express bus routes in the No Build (Existing Conditions) Option. The service would operate in the peak periods only and include four inbound trains in the AM peak and four outbound trains in the PM peak, as well one train in the off-peak direction for both the AM and PM peak. In total, there would be five inbound trips and five outbound trips each weekday.



As indicated in the introduction, the O&M costs are only developed for weekday services for the sake of comparability among the options. In all likelihood, there would be strong pressure from the community and from policy makers to provide weekend service, in part because weekend services is offered by Northstar Commuter Rail.

**B. OPERATING COST DRIVERS**

In order to be consistent with the Gateway Corridor AA, it is assumed that revenue hours, revenue miles, and number of vehicles will be the cost drivers of the commuter rail option. The Red Rock AAU uses the same method as the Gateway Corridor AA to determine the unit cost of these cost drivers. This method can be described as follows:

1. Start with 2010 O&M data from the National Transit Database (NTD) for the Northstar Commuter Rail.
2. Assign each cost element to a cost driver.
3. Develop a unit cost for each of these cost drivers.

**Table 12 - Unit Costs for Revenue Hours, Revenue Miles and Vehicles**

	Revenue Hours Unit Cost	Revenue Miles Unit Cost	Vehicles Unit Cost
\$2010	\$264.06	\$4.12	\$368,049.08
\$2013	\$292.77	\$4.56	\$408,062.60

The total annual O&M costs for the commuter rail service will be estimated using the following formula:

$$\text{Total Annual O\&M Costs} = \$292.77 \times \text{Annual Revenue Hours} + \$4.56 \times \text{Annual Revenue Miles} + \$408,062 \times \text{Vehicles}$$

4. Determine the vehicles, annual revenue hours, and annual revenue miles of the Red Rock commuter rail option.
5. Apply the unit costs to these values to estimate the annual O&M costs for the commuter rail option.

While this method will result in a fairly accurate estimate of the direct O&M costs of a commuter rail service, it does not incorporate indirect recurring costs associated with service in the corridor. Indirect recurring costs may include elements such as debt service or access fees to the railroad owners. Therefore, the cost estimates developed for the commuter rail O&M costs in this memo should be viewed as minimums. Development of estimates for financing charges or access fees is likely premature without a clear understanding of how the project will be financed or what the railroad



owners would request in exchange for providing a commuter rail service with access to one of their most heavily congested lines.

The schedule is derived in part from the 2007 Red Rock AA which provided station-to-station travel times for the Hastings to Union Depot section. Travel times south of Hastings were estimated assuming average train travel speeds of 44 mph. Travel times between Union Depot and Target Field Station were consistent with the Gateway Corridor AA, assuming 25 mph average travel speeds and through routing at Union Depot.

The schedule was designed to bring passengers to the downtown areas around the 0:15 and 0:45 times of the hour so that they could get to their destination at typical work start times of 0:00 and 0:30 times of the hour. The schedule is shown in Table 13.

The conceptual schedule meets the minimum requirements of commuter rail service per the Metropolitan Council's Regional Transitway Guidelines, which requires 30-minute peak period headways and at least 5 trips each peak period.

This option assumes a station at a new Park and Ride site in Cottage Grove, a new station in Prairie Island near Sturgeon Lake Road, and the use of the existing Amtrak station in Red Wing. It would share the station used by the Northstar Commuter Rail in downtown Minneapolis.

**Table 13 - Conceptual Inbound/Outbound Schedule – Commuter Rail Option**

Station	Morning / Inbound Schedules				PM / Routing from RR2	AM / Routing from RR1	Evening / Outbound Schedules			
	RR1 Leave	RR3 Leave	RR5 Leave	RR7 Leave	RR9 Leave	RR10 Arrive	RR2 Arrive	RR4 Arrive	RR6 Arrive	RR8 Arrive
Red Wing	5:50	6:20	6:50	7:20	<b>4:54</b>	8:52	<b>4:44</b>	<b>5:14</b>	<b>5:44</b>	<b>6:14</b>
Prairie Island	6:02	6:32	7:02	7:42	<b>5:06</b>	8:35	<b>4:27</b>	<b>4:57</b>	<b>5:27</b>	<b>5:57</b>
Hastings	6:20	6:50	7:20	7:50	<b>5:24</b>	8:23	<b>4:15</b>	<b>4:45</b>	<b>5:15</b>	<b>5:45</b>
Cottage Grove/Langdon Village	6:30	7:00	7:30	8:00	<b>5:34</b>	8:13	<b>4:05</b>	<b>4:35</b>	<b>5:05</b>	<b>5:35</b>
Newport	6:36	7:06	7:36	8:06	<b>5:40</b>	8:07	<b>3:59</b>	<b>4:29</b>	<b>4:59</b>	<b>5:29</b>
Lower Afton Road	6:40	7:10	7:40	8:10	<b>5:44</b>	8:03	<b>3:55</b>	<b>4:25</b>	<b>4:55</b>	<b>5:25</b>
Union Depot	6:47	7:17	7:47	8:17	<b>5:51</b>	7:56	<b>3:48</b>	<b>4:18</b>	<b>4:48</b>	<b>5:18</b>
Minneapolis	7:16	7:46	8:16	8:46	<b>6:20</b>	7:26	<b>3:18</b>	<b>3:48</b>	<b>4:18</b>	<b>4:48</b>
	Arrive	Arrive	Arrive	Arrive	Arrive	Leave	Leave	Leave	Leave	Leave

A summary of this option is shown in Table 14.





**Table 14 - Summary – Commuter Rail Option**

	<b>Commuter Rail</b>
One-way Distance (miles)	52
One-way Travel Time (minutes)	86
Trips per Weekday	10
Days of Service Per Year	250
Active Service Passenger Vehicles Required	8
Passenger Vehicle Spares Required	2
Annual Revenue Hours	3583
Annual Revenue Miles	128,750
Recovery	n/a
Average Loading at the Peak Load Point	173
<b>Annual O&amp;M Costs</b>	<b>\$5,700,000</b>

Recovery is not provided due to the fact that most trips are one way. The average loading at the peak load point is provided as a test that the proposed train schedule will meet the demand anticipated in 2030. Given the assumption that each passenger car has a capacity of 150, and that each train will have two passenger cars, it is assumed that the capacity is sufficient. The spare ratio of the passenger cars (and locomotives) is 20%.

## 6. OVERALL SUMMARY

Table 15 summarizes the O&M cost estimates of the four options carried forward in the AAU. It should be emphasized that these estimates only reflect weekday service.

**Table 15 - Summary of Annual O&M Cost Estimates**

	<b>No Build (Current Conditions)</b>	<b>Express Bus</b>	<b>BRT</b>	<b>Commuter Rail</b>
<b>Annual O&amp;M Cost</b>	<b>\$1,340,000</b>	<b>\$1,850,000</b>	<b>\$3,810,000</b>	<b>\$5,700,000</b>