Appendix D

Total Project Cost and Year of Expenditure Breakdown

Financial Constraint Methodology using Total Project Cost and Year of Expenditure Dollars for the LUTS 2030 MTP Amendment (January 2008)

The Laredo Urban Transportation Study 2030 Metropolitan Transportation Plan as amended remains financially constrained. This determination was made by comparing anticipated total program (highway and transit) funding from recurring and non-recurring sources ($2,757,710,992) to the anticipated total program (highway and transit) costs in year of expenditure dollars ($2,752,365,116) for the projects included in the 2030 MTP. The revenue and cost estimates used in the comparison were developed and applied using the methodology described below.

Step 1. Review and verify base revenue forecasts from the 2030 MTP update in 2005

The revenue estimates developed and published in the 2030 MTP were based on the historical availability of construction dollars over the previous ten program years (1995 – 2004). However, these construction dollars also had unreported companion program dollars made available for LUTS projects for preliminary engineering, construction engineering, contingencies, and indirect categories. To accurately estimate total program revenue growth these collateral program dollars needed to be estimated as well.

Step 2. Revise base revenue estimate to reflect total program dollars available

The base revenue figures reported in 2005 were determined to accurately reflect the anticipated construction related revenue available in constant 2005 dollars.

Highway Funding.. Since TxDOT does not presently have available the historical data on 1995 –2004 total program expenditures (construction, PE, CE, Indirect and Contingency) The program dollars available for the non-construction portion of total program revenue was calculated using the same estimation rates that TxDOT applied in developing Total Program Cost, namely:

- Preliminary engineering program dollars were estimated at 4.9 % of construction dollars
- Construction engineering program dollars were estimated at 5% of construction dollars
- Contingency dollars were estimated at 7.0% of construction program dollars
- Indirect dollars were estimated at 5.68% construction program dollars available

Total construction dollars available from 2005 to 2030 was originally estimated at $967,426,695 in constant 2005-year dollars over the 25 years of the MTP. This amount

was annualized by dividing by 25 to obtain an annual construction only revenue estimate of $37,208,719 per year in constant 2005 dollars. This dollar amount was then adjusted by applying the TxDOT rates for PE, CE, Contingencies, and Indirect using the percentages noted above to develop an estimate of total program revenues. Using this approach, it was estimated that the annual total program dollars available for LUTS projects is $45,610,448 per year in constant 2005 dollars.

Transit Funding.

A similar methodology was used to develop transit total program funding. In the case of transit construction projects, the same multipliers supplied by the transit provider for calculating total project cost were applied to identify total program revenue. (Because non-construction funds such as operating and maintenance are already reported in total program dollars, the TPC multipliers are applied only to construction projects) The transit estimated rates varied only slightly from the highway rates. The transit calculation applied to multiplier categories:

- Professional fees at 10%
- Contingency at 15%

Step 3. Convert constant year 2005 dollars to year of award dollars

Revenue growth for both highway and transit funds were forecast using the policy assumptions developed and adopted by TxDOT, LUTS and the transit provider in consultation with FHWA that revenue growth is anticipated to occur at the same inflation rate (4% compounded) at which costs are anticipated to grow. To calculate the revenue growth at this rate, the annual estimate in constant 2005 dollars was inflated by 4% compounded annually for the life of the plan using the formula

$$YOR\$ = ACYD * (1+0.04)^{\wedge n}$$

Where:
YOR$ = year of receipt dollars
ACY$ = Annualized constant year dollars
n= number of years from base year (2005)

Step 4. Sum annualized / inflated total program funding

The annualized total program dollars inflated at the 4% compound rate of growth were then summed to determine the total program dollars available to fund the 2030 MTP. Based on this methodology the recurring program funds anticipated to be available for LUTS highway and transit projects over the 25-year life of the plan is anticipated to be $2,757,710,992

Reasonableness check – comparison of funding forecast with actual funds

Because the 2030 MTP was adopted in 2005 and there are three years worth of information on revenues actually received for projects in the first years of the plan, it was possible to check the revenue estimates for reasonableness.

Based on TxDOT reported total highway project costs for projects let since the 2005 adoption of the MTP, the total revenue available for MTP projects was $138 million. The revenue estimate for the same period using the methodology described is $142 million. Given that the forecast revenues are within 3% of the actual revenues for the early plan years, the revenue forecast of recurring revenues seems to be reasonable.

Step 5. Account for non-recurring special program, TxDOT project cycle and discretionary revenue

Since the 2030 MTP was adopted, in addition to recurring program funds used in the revenue forecasts, LUTS has received special non-recurring competitive grants and special discretionary earmarks due to its role as a border gateway to the US. These items relate primarily to border security and safety issues and are actual revenues received from sources not included in the recurring revenue forecasts. In order to accurately assess fiscal constraint, these revenues should be included in the comparisons of revenue and expenditure.

These funds include $86.6 million in Congressional Earmarks for Border Security and safety highway projects, $ 34,481,648 in Transit Congressional Earmarks, and $98 million in special program funds for Border Security Stations and consultation with TxDOT on the program cycle for larger projects, as well as,which added approximately $323,277,466 in non-recurring funds to the short term element of the plan . These special program revenues bring the grand total of highway and transit funds anticipated to be available to fund the 2030 MTP to $ 2,757,710,992.

Step 6. Estimate Total Project Costs in base year dollars

Total Project Costs in Year of Expenditure Dollars was developed using cost figures for each project supplied by TxDOT and the transit provider. The highway project totals (used directly as reported by TxDOT Laredo District) calculated Total Project Cost by applying percentages for PE (4.9%), CE (5%), Indirect (5.68%) and Contingencies (7.0%) to the base construction cost estimates.

The transit project construction costs (used directly as reported by the transit provider and TxDOT Public Transportation office in the TIP documentation) calculated Total Project Cost by for capital improvement projects, using cost figures for each project based on current transit industry trends and historical cost data. Professional fees were estimated to be 10% of Construction Cost, Contingency was calculated at 15%.

These highway and transit total program costs were then inflated to Year of Expenditure Dollars.

Step 7. Estimate Year of Expenditure dollars

TxDOT has adopted an inflation rate of 4% compounded annually to forecast highway and transit Year of Expenditure dollars. To calculate the total project costs in year of expenditure dollars at this inflation rate, the total project cost for each project calculated in base year dollars was inflated by 4% compounded annually to the anticipated year of project implementation using the following formula.

$$YOR\$ = ACYD * (1+0.04)^{n}$$

Where:
YOR$ = year of receipt dollars
ACY$ = Annualized constant year dollars
n= number of years from base year

The total project cost in year of expenditure dollars for the entire inventory of highway and transit projects identified in the 2030 MTP totals to $2,752,365,116.

Step 8. Compare Total Plan Revenue to Total Plan Costs

A comparison of total program revenues to total project costs was made to insure that total plan revenues equal or exceed total plan costs in year of expenditure dollars. Based on the comparison of anticipated revenues ($2,757,710,992) and anticipated total project cost in year of expenditure dollars ($2,752,365,116), the LUTS 2030 MTP as amended, remains fiscally constrained.

CSJ	Facility	Description	Construction	YOE	PE COST	ROW	CE	CONTINGENCIES	INDIRECT	Total
	US 83	Reconstruct roadway	$4,036,408		$197,784	$77,499	$201,820	$282,549	$229,268	$5,025,328
	US 83	Realign and grade separate intersection	$16,693,663		$817,989	320,518	834,683	1,168,556	948,200	$20,783,610
008601052	US 83	Construct RR grade separation and approaches	$18,500,000	$19,240,000	$942,760	$8,537,500	$962,000	$1,346,800	$1,092,832	$32,121,892
	US 83	Construct overpass	$5,000,000	$5,849,293	$286,615		$292,465	$409,450	$332,240	$7,170,063
	SH 359	Realign intersection	$12,862,871		$630,281	$246,967	$643,144	$900,401	$730,611	$16,014,274
092233024	Outer Loop	Construct 2 lane intersection with shoulder, and RR grade separation (Phase I)	$24,975,348	$28,093,870	$1,376,600	$1,800,000	$1,404,693	$1,966,571	$1,595,732	$36,237,466
092233039	Outer Loop	Construct 4 lane divided facility with an interchange at US 83 (Phase I)	$34,000,000	$36,774,400	$1,801,946	$672,000	$1,470,976	$2,206,464	$2,088,786	$45,014,572
092233022	Outer Loop	Construct 2 lane intersection with shoulder (Phase I)	$24,842,599	$27,944,545	$1,369,283	$2,300,000	$1,397,227	$1,676,673	$1,587,250	$36,274,978
092233924	Outer Loop	Construct 4 lane section w/ shoulder (phase II)	$23,931,700	$29,116,572	$1,426,712		$1,455,829	$2,038,160	$1,653,821	$35,691,094
092233108	Outer Loop	Construction of an interchange	$20,000,000	$22,497,280	$1,102,367		$899,891	$1,349,837	$1,277,846	$27,127,220
	Outer Loop	For the Construction of an Interchange	$20,000,000	$21,632,000	$1,059,968		$1,081,600	$1,514,240	$1,228,698	$26,516,506
	Outer Loop	Construct 2-lane section w/shoulder, and an interchange at Loop 20 (Phase I)	$60,000,000	$70,191,514	$3,439,384		$2,807,661	$4,211,491	$3,986,878	$84,636,927
	Loop 20	For the construction of a diamond interchange	$19,208,212		$941,202	$368,798	$960,411	$1,344,575	$1,091,026	$23,914,224
008614046	Loop 20	Widen to 4 lanes and upgrade intersection at Spur 400 and construct on overpass	$27,969,640	$31,462,041	$1,541,640		$1,258,482	$1,887,722	$1,787,044	$37,936,929

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Total Project Cost and Year of Expenditure Breakdown

CSJ	Facility	Description	Construction	YOE	PE COST	ROW	CE	CONTINGENCIES	INDIRECT	Total
	Loop 20	For the construction of an interchange facility	$22,701,476	$22,701,476	$1,112,372	$5,080,315	$1,135,074	$1,589,103	$1,289,444	$32,907,784
	IH 35	Add right turn lanes	$798,403		$39,122	$15,329	$39,920	$55,888	$45,349	$994,011
001806136	IH 35	Widen NB and SB mainlines to 3 lanes each direction and RR grade separation	$40,000,000	$43,264,000	$2,119,936		$1,730,560	$2,595,840	$2,457,395	$52,167,731
	IH 35	For the construction of Direct Connector #7	$12,871,282		$630,693	$247,129	$643,564	$900,990	$731,089	$16,024,746
	IH 35	Construct frontage road with exit and entrance ramps for NB IH 35	$3,819,699		$187,165	$73,338	$190,985	$267,379	$216,959	$4,755,525
0922-33-122	Cuatro Vientos	For the construction of a new location 4 lane divided roadway	30,151,200	30,151,200	1,477,409	0	1,206,048	1,809,072	1,721,634	36,365,362
092233043	Cuatro Vientos	For the construction of a new location 4 lane divided roadway	49,831,340	57,281,340	2,441,736	7,450,000	1,993,254	2,989,880	2,845,370	67,551,580
092233096	Cuatro Vientos	For the construction of a new location 4 lane divided roadway	$7,173,616	$7,460,561	$365,567	$801,600	$373,028	$522,239	$423,760	$9,946,755
092233066	Cuatro Vientos	Loop 20, extension of Cuatro Vientos - Construct 2 lane rural section	$8,250,000	$8,580,000	$420,420	$2,660,000	$429,000	$600,600	$487,344	$13,177,364
	US 83	Install raised median	$1,168,736		$57,268	$22,440	$58,437	$81,812	$66,384	$1,455,076
	US 59	Install raised median	$1,168,736		$57,268	$22,440	$58,437	$81,812	$66,384	$1,455,076
	Loop 20	Install raised median	$1,626,007		$79,674	$31,219	$81,300	$113,820	$92,357	$2,024,379
	FM 1472	Install raised median	$4,515,304		$221,250	$86,694	$225,765	$316,071	$256,469	$5,621,553
092200024	Various	For the construction of a border safety inspection facility	$45,000,000	$46,800,000	$2,293,200	$10,500,000	$1,872,000	$2,808,000	$2,658,240	$66,931,440

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CSJ	Facility	Description	Construction	YOE	PE COST	ROW	CE	CONTINGENCIES	INDIRECT	Total
	Various	Develop an ITS regional architecture and ITS deployment plan	$1,750,000		$85,750	$33,600	$87,500	$122,500	$99,400	$2,178,750
092200025	Various	For the construction of a border safety inspection facility	$24,514,009	$24,514,009	$1,201,186	$582,555	$1,225,700	$1,715,981	$1,392,396	$30,631,827
092233062	Various	For the construction of the installation of weigh-in-motion and automated vehicle identification devices and a host computer system	$1,500,000	$1,622,400	$79,498		$97,344	$113,568	$92,152	$2,004,962
092233100	City street	For the construction of a hike and bike trail at Chacon Creek in Laredo	$4,125,000	$4,461,600	$218,618		$267,696	$312,312	$253,419	$5,513,645
001805067	IH 35	Installation of roadway illumination	$1,000,000	$1,081,600	$52,998		$64,896	$75,712	$61,435	$1,336,641
001806156	IH 35	Installation of roadway illumination	$1,000,000	$1,081,600	$52,998		$64,896	$75,712	$61,435	$1,336,641
054201056	US 59	For the construction of the replacement of an existing bridge	$9,410,440	$11,008,884	$539,435		$550,444	$770,622	$625,305	$13,494,690
001806906	IH 35	Construct railroad grade separation street and approaches	$4,000,000	$4,866,612	$238,464		$291,997	$340,663	$276,424	$6,014,159
	FM 1472	Construction of railroad grade separation street and approaches	$31,017,780		$1,519,871	$595,541	$1,550,889	$2,171,245	$1,761,810	$38,617,136

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CSJ	Facility	Description	Construction	YOE	PE COST	ROW	CE	CONTINGENCIES	INDIRECT	Total
092233116	Various	Industrial park street reconstruction projects	$20,000,000	$20,000,000	$980,000		$1,000,000	$1,400,000	$1,136,000	$24,516,000
092233114	Various	Construct 7 federal inspection booths	$4,041,400	$4,041,400	$198,029		$242,484	$282,898	$229,552	$4,994,362
092233099	City street	For the construction of railroad grade separation	$6,500,000	$7,030,400	$344,490		$351,520	$492,128	$399,327	$8,617,864
092233104	City street	Replace bridge and approaches	$4,112,598	$4,448,186	$217,961		$266,891	$311,373	$252,657	$5,497,068
092233071	City street	For the construction of a new location 3-lane roadway	$4,469,250	$4,648,020	$227,753		$278,881	$325,361	$264,008	$5,744,023
092233076	City street	For the realignment of Flecha Lane/Las Cruces along FM 1472 and for the PE work of a grade separation at Calton Road/Santa Maria intersection	$3,881,150	$4,036,396	$197,783		$242,184	$282,548	$229,267	$4,988,178
092233093	City street	For the construction of a grade separation at Calton/Santa Maria intersection	$24,100,608	$25,064,632	$1,228,167	$1,002,928	$1,253,232	$1,754,524	$1,423,671	$31,727,154
	Jefferson	RR Grade Separation	$6,000,000		$294,000	$30,000	$300,000	$420,000	$340,800	$7,384,800
092233XXX	Various	Construction of two direct connectors	$18,000,000	$42,658,538	$2,090,268		$2,132,927	$2,986,098	$2,423,005	$52,290,836
092233XXX	Various	Construction of direct connector	$9,000,000	$21,329,269	$1,045,134		$1,066,463	$1,493,049	$1,211,502	$26,145,418
008601XXX	US 83	IH 35	$6,600,000	$15,641,464	$766,432		$782,073	$1,094,902	$888,435	$19,173,307
008601XXX	US 83	IH 35	$6,600,000	$15,641,464	$766,432		$782,073	$1,094,902	$888,435	$19,173,307
008601XXX	US 83	Construct overpass	$5,000,000	$11,849,594	$580,630		$592,480	$829,472	$673,057	$14,525,232
054201XXX	US 59	3.3 mi east of Arkansas Street	$20,700,000	$49,057,319	$2,403,809		$2,452,866	$3,434,012	$2,786,456	$60,134,462

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CSJ	Facility	Description	Construction	YOE	PE COST	ROW	CE	CONTINGENCIES	INDIRECT	Total
054201XXX	US 59	Outer Loop, construct 2 lane section w/ shoulder and RR grade separation (phase I)	$14,000,000	$33,178,863	$1,625,764		$1,658,943	$2,322,520	$1,884,559	$40,670,650
008614XXX	SL 400	Construct 5 lane urban section of roadway	$35,075,000	$83,124,902	$4,073,120		$4,156,245	$5,818,743	$4,721,494	$101,894,504
008614XXX	Loop 20	Construct eastbound mainlanes	$12,000,000	$28,439,025	$1,393,512		$1,421,951	$1,990,732	$1,615,337	$34,860,557
008614XXX	Loop 20	Construct roadway and interchange at IH 35	$40,000,000	$94,796,752	$4,645,041		$4,739,838	$6,635,773	$5,384,455	$116,201,858
008614XXX	Loop 20	Construction of mainlanes	$6,000,000	$14,219,513	$696,756		$710,976	$995,366	$807,668	$17,430,279
008614XXX	Loop 20	Construct overpass	$5,000,000	$11,849,594	$580,630		$592,480	$829,472	$673,057	$14,525,232
008614XXX	Loop 20	Construct overpass	$5,000,000	$11,849,594	$580,630		$592,480	$829,472	$673,057	$14,525,232
008614031	Loop 20	Interchange facility to include mainlanes & interchange at McPherson	$44,535,141	$71,302,196	$3,493,808		$2,852,088	$4,278,132	$4,049,965	$85,976,187
008614922	Loop 20	Construct overpass at Spur 400	$20,000,000	$32,020,644	$1,569,012		$1,601,032	$2,241,445	$1,818,773	$39,250,906
001806XXX	IH 35	Construction of an interchange facility to include mainlanes and interchange at McPherson	$8,000,000	$18,959,350	$929,008		$947,968	$1,327,155	$1,076,891	$23,240,372
008614XXX	Loop 20	Construct overpass	$19,000,000	$30,419,612	$1,490,561		$1,216,784	$1,825,177	$1,727,834	$36,679,968
008614XXX	Loop 20	Construct overpass	$18,000,000	$28,818,580	$1,412,110		$1,152,743	$1,729,115	$1,636,895	$34,749,444
008614921	Loop 20	Widen roadway	$25,000,000	$40,025,805	$1,961,264		$2,001,290	$2,801,806	$2,273,466	$49,063,632
001808013	BI 35-A	Construct railroad grade separation street and approaches	$4,000,000	$5,061,276	$248,003		$303,677	$354,289	$287,480	$6,254,725

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CSJ	Facility	Description	Construction	YOE	PE COST	ROW	CE	CONTINGENCIES	INDIRECT	Total
001806907	IH 35	Construct railroad grade separation street and approaches	$4,000,000	$5,263,727	$257,923		$315,824	$368,461	$298,980	$6,504,914
001806XXX	IH 35	Construction of Direct Connector #3	$9,000,000	$21,329,269	$1,045,134		$1,066,463	$1,493,049	$1,211,502	$26,145,418
001806XXX	IH 35	Construction of Direct Connector #4	$9,000,000	$21,329,269	$1,045,134		$1,066,463	$1,493,049	$1,211,502	$26,145,418
001806XXX	IH 35	Construction of Direct Connector #5	$9,000,000	$21,329,269	$1,045,134		$1,066,463	$1,493,049	$1,211,502	$26,145,418
001806XXX	IH 35	Construction of Direct Connector #6	$9,000,000	$21,329,269	$1,045,134		$1,066,463	$1,493,049	$1,211,502	$26,145,418
001806XXX	IH 35	Construction of Direct Connector #8	$9,000,000	$21,329,269	$1,045,134		$1,066,463	$1,493,049	$1,211,502	$26,145,418
092233XXX	Cuatro Vientos	Widen to 6 lane urban section with median	$20,000,000	$47,398,376	$2,322,520		$2,369,919	$3,317,886	$2,692,228	$58,100,929
092233XXX	Cuatro Vientos	Construct overpass at Southgate Blvd.	$15,676,749	$37,152,622	$1,820,478		$1,857,631	$2,600,684	$2,110,269	$45,541,684
092233XXX	Cuatro Vientos	Construct overpass at unnamed minor arterial	$14,988,111	$35,520,606	$1,740,510		$1,776,030	$2,486,442	$2,017,570	$43,541,159
092233XXX	Cuatro Vientos	Construct overpass at Cielito Lindo Rd and Sierra Vista Rd	$25,475,759	$60,375,480	$2,958,399		$3,018,774	$4,226,284	$3,429,327	$74,008,263

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	Transit Project Name	Construction Cost in Constant 2008 Dollars	Total Project Cost in Constant 2008 Dollars	Total Project Cost in YOE Dollars
2008	Operating assistance bus operations and maintenance.		$ 4,975,684	$ 4,975,684
2008	North Laredo Transit Hub- Bus Maintenance Facility.	$ 680,130	$ 850,162	$ 850,162
2008	North Laredo Transit Hub- Bus Maintenance Facility	$ 1,943,557	$ 2,429,446	$ 2,429,446
2008	Bus Replacement finance through local sales tax.		$ 3,460,000	$ 3,460,000
2008	Laredo Intermodal Center First Floor Rehab	$ 120,000	$ 150,000	$ 150,000
2008	North Laredo Transit Hub- Bus Maintenance Facility	$ 714,000	$ 892,500	$ 892,500
2008	ADA Sidewalks	$ 300,000	$ 375,000	$ 375,000
2009	Operating assistance bus operations and maintenance.		$ 4,784,312	$ 4,975,684
2009	North Laredo Transit Hub- Bus Maintenance Facility	$ 746,154	$ 932,692	$ 970,000
2009	Paratransit Vans Replacement		$ 1,125,000	$ 1,170,000
2009	North Laredo Transit Hub- Bus Maintenance Facility	$ 9,726,569	$ 12,158,212	$ 12,644,540
2010	Operating Assistance		$ 4,634,635	$ 5,012,821
2010	Transit Center Intermodal Addition	$ 11,094,675	$ 13,868,343	$ 15,000,000
2011	Operating Assistance for operations and maintenance.	$ 3,565,104	$ 4,456,380	$ 5,012,821
	Subtotal TIP (2008-2011)	**$ 28,890,188**	**$ 50,116,681**	**$ 52,942,974**
2012	Operating Assistance for operations and maintenance		$ 4,975,684	$ 5,820,847
2013	Operating Assistance for operations and maintenance		$ 4,975,684	$ 6,053,680
2014	Operating Assistance for operations and maintenance		$ 4,975,684	$ 6,295,828
2015	Operating Assistance for operations and maintenance		$ 4,975,684	$ 6,547,661
2016	Operating Assistance for operations and maintenance		$ 4,975,684	$ 6,809,567

	Transit Project Name	Construction Cost in Constant 2008 Dollars	Total Project Cost in Constant 2008 Dollars	Total Project Cost in YOE Dollars
2017	Operating Assistance for operations and maintenance		$ 4,975,684	$ 7,081,950
2018	Operating Assistance for operations and maintenance		$ 4,975,684	$ 7,365,228
2019	Operating Assistance for operations and maintenance		$ 4,975,684	$ 7,659,837
2020	Operating Assistance for operations and maintenance		$ 4,975,684	$ 7,966,230
2021	Operating Assistance for operations and maintenance		$ 4,975,684	$ 8,284,880
2022	Operating Assistance for operations and maintenance		$ 4,975,684	$ 8,616,275
2023	Operating Assistance for operations and maintenance		$ 4,975,684	$ 8,960,926
2024	Operating Assistance for operations and maintenance		$ 4,975,684	$ 9,319,363
2025	Operating Assistance for operations and maintenance		$ 4,975,684	$ 9,692,137
2026	Operating Assistance for operations and maintenance		$ 4,975,684	$ 10,079,823
2027	Operating Assistance for operations and maintenance		$ 4,975,684	$ 10,483,016
2028	Operating Assistance for operations and maintenance		$ 4,975,684	$ 10,902,336
2029	Operating Assistance for operations and maintenance		$ 4,975,684	$ 11,338,430
2030	Operating Assistance for operations and maintenance		$ 4,975,684	$ 11,791,967
	Subtotal Long-range (2012-2030)		**$ 94,537,996**	**$ 161,069,979**
	Total MTP Horizon (2008-2030)		**$ 144,654,677**	**$ 214,012,953**