

2045 High Capacity Transit Task Force Vision Plan - Capital Cost Scenarios

NOTE: The High Capacity Transit Task Force Vision Network is intended to be high-level and conceptual in nature. The Vision Network focuses on service types, rather than technologies. However, for the purpose of providing cost estimates, some assumptions regarding transit technologies (e.g. light rail, commuter rail, bus rapid transit, etc.) and alignments (e.g. grade-separated or at-grade) were made. These cost estimates, and the unit cost assumptions upon which they are based, are preliminary and are subject to further revision and adjustment. Vehicle costs for HCT rolling stock is included in the guideway cost for each scenario.

The **HIGH** Scenario makes the following assumptions with regards to guideway:

- HCT All Day services are fully grade-separated, and stations are spaced approximately ½ mile apart. Light Rail Transit (LRT) is assumed to be the preferred mode within HCT All Day corridors.
- This scenario includes a subway alignment between downtown and the Texas Medical Center, replacing the existing at-grade Main Street LRT alignment.
- The region's existing HOV/HOT network is converted to grade-separated HCT All Day service, with elevated stations every 1/2 mile apart.
- HCT Peak Period services can be either at-grade Commuter Rail on existing railroads or grade-separated LRT. Stations are spaced every three to five miles.
- Bus priority measures, such as signals, queue jumps and semi-exclusive lanes, are provided along Signature Bus lines and most Express Bus services.
- New two-way, all-day HOV facilities are provided for Express Bus services along SH 6 West, US 90 East, SH 225, IH-69 north of Kingwood and and IH-10 west of Katy.

Guideway costs for the **HIGH** Scenario is **\$92.707 Billion**; total cost (including capital and operating facilities and fleet expansion and replacement) for the **HIGH** Scenario is **\$100.402 Billion**.

The **MEDIUM HIGH** Scenario makes the following assumptions with regards to guideway:

- HCT All Day services are mostly grade-separated but have some at-grade alignments, and stations are spaced approximately ½ mile apart. Light Rail Transit (LRT) is assumed to be the preferred mode within HCT All Day corridors, although there are some corridors served by Bus Rapid Transit (BRT).
- The region's existing HOV/HOT network is converted to grade-separated HCT All Day service, with elevated stations every 1/2 mile apart.
- HCT Peak Period services can be either at-grade Commuter Rail on existing railroads, grade-separated BRT or at-grade LRT. Stations are spaced every three to five miles.
- Bus priority measures, such as signals, queue jumps and semi-exclusive lanes, are provided along Signature Bus lines and some Express Bus services.
- New two-way, all-day HOV facilities are provided for Express Bus services along SH 6 West, US 90 East, SH 225, IH-69 north of Kingwood and and IH-10 west of Katy.

Guideway cost for the **MEDIUM HIGH** Scenario is **\$73.630 Billion**; total cost (including capital and operating facilities and fleet expansion and replacement) for the **MEDIUM HIGH** Scenario is **\$81.326 Billion**.

The **MEDIUM LOW** Scenario makes the following assumptions with regards to guideway:

- HCT All Day services are mostly at-grade, and stations are spaced approximately ½ mile apart. HCT All Day corridors are served by a mixture of Light Rail Transit (BRT) and Bus Rapid Transit (BRT).
- The region's existing HOV/HOT network is converted to two-way, all-day in-freeway BRT service with "online" stations providing transfer opportunities and T-ramps providing access to park and ride facilities.
- HCT Peak Period services can be either at-grade Commuter Rail on existing railroads, grade-separated or in-freeway BRT or at-grade LRT. Stations are spaced every three to five miles.
- Bus priority measures, such as signals, queue jumps and semi-exclusive lanes, are provided along Signature Bus lines and some Express Bus services.
- **This scenario most closely resembles the draft METRONext Vision Plan.**

Guideway cost for the **MEDIUM LOW** Scenario is **\$35.543 Billion**; total cost (including capital and operating facilities and fleet expansion and replacement) for the **MEDIUM LOW** Scenario is **\$43.238 Billion**.

The **LOW** Scenario makes the following assumptions with regards to guideway:

- HCT All Day services are almost entirely at-grade, and stations are spaced approximately ½ mile apart. Bus Rapid Transit is assumed to be the preferred mode within HCT All Day corridors, with the exception of corridors that represent extensions of the existing METRORail LRT system.
- The region's existing HOV/HOT network in the center of area freeways is converted to two-way, all-day BRT service with "online" stations providing transfer opportunities and T-ramps providing access to park and ride facilities.
- All HCT Peak Period services are either at-grade or in-freeway Bus Rapid Transit (BRT) facilities.
- Bus priority measures, such as signals, queue jumps and semi-exclusive lanes, are provided along Signature Bus lines.

Guideway cost for the **LOW** Scenario is **\$26.980 Billion**; total cost (including capital and operating facilities and fleet expansion and replacement) for the **LOW** Scenario is **\$34.675 Billion**.

Capital facilities costs for non-guideway facilities (such as park-and-rides, transit centers, operations and maintenance facilities, bus shelters, etc.), as well as fleet expansion and replacement costs for all non-HCT services (e.g. Local Bus, Express Bus, Demand Response, etc.) are the same for all three scenarios, and are included in the HCTTF Vision Network as follows:

- 45 new or expanded/reconstructed Park and Ride facilities (5 structured, 40 surface)
- 20 new or expanded/reconstructed Transit Center facilities
- 40 new Enhanced Transfer Points (located at points where there is expected to be significant transfer activity between two or more routes, but where a full Transit Center is not warranted)
- 9 new Bus Operations and Maintenance Facilities
- 13 new HCT Operations and Maintenance Facilities (Peak and All-Day)
- A 10% add-on for safety and universal accessibility projects (security infrastructure, ADA compliance, sidewalks, bus pads and shelters, etc.)
- A 15% add-on for State of Good Repair (SOGR) Activities

Capital facilities costs for all scenarios are **\$4.414 Billion**.

Fleet expansion and replacement cost for all capital scenarios is **\$2.956 Billion**.

2045 High Capacity Transit Task Force Vision Plan - Capital Cost Assumptions

(includes vehicle costs and allowances for right-of-way, planning and design, and contingency)

Item	Scenario	Unit Cost	Source and Assumption
Enhanced Transfer Point	All	\$ 155,000	RTFS estimate, converted to 2018 dollars; assumes ADA-compliant sidewalk adjustments, crossover treatments, bench, shelter, electronic "next bus" signage, bike rack, lighting and landscaping.
Transit Center	All	\$ 15,000,000	METRO GPC estimate (November 2018); assumes six bus bays with passenger shade and windscreen structures, benches, information kiosks, bike racks and landscaping.
Park and Ride - Surface	All	\$ 22,000,000	METRO GPC estimate (November 2018); assumes 1000 surface parking spaces, passenger shade structures, benches, information kiosks, bike racks, landscaping and bus bays or train platforms.
Park and Ride - Structured	All	\$ 44,000,000	METRO GPC estimate (November 2018); assumes 1000 parking spaces, structure, passenger shade structures, benches, information kiosks, bike racks, landscaping and bus bays or train platforms.
Bus O&M Facility	All	\$ 100,000,000	METRO GPC estimate (November 2018); assumes fueling, washing, light and heavy maintenance, and vehicle storage for 250 buses.
HCT O&M Facility	All	\$ 100,000,000	METRO GPC estimate (November 2018); assumes washing, light and heavy maintenance, and vehicle storage for LRT/CRT fleet; one facility per major corridor.
Signature Bus, Mile	All	\$ 2,500,000	METRO GPC estimate (November 2018); assumes diamond striped existing lanes in each direction, with stop spacing approximately every mile. Stops include shelters, benches, and electronic "next bus" signage. In addition to Signature Bus services, this cost assumption is also used for bus priority improvements along certain express bus routes.
2-Way HOV Conversion, Mile	All	\$ 2,500,000	METRO GPC estimate (November 2018); assumes modifications and restriping of existing one-way reversible HOV lane
2-Way HOV New, Mile (in-freeway)	All	\$ 70,000,000	METRO GPC estimate (November 2018); in-freeway, barrier-separated two-way HOV facility
2-Way HOV New, Mile (elevated)	All	\$ 96,000,000	METRO GPC estimate (November 2018); aerial two-way HOV facility
Freeway BRT Station	All	\$ 5,500,000	Minneapolis example (I-35W @ 46th St), converted to 2018 dollars; assumes construction in median of freeway, with platforms, stairs and elevators to sidewalks and bus stops on intersecting street.
HOV T-Ramp	All	\$ 65,000,000	METRO GPC estimate (November 2018); assumes two-way ramp
HCT Peak, Mile (at-grade CRT)	High, Med High, Med Low	\$ 40,000,000	Current cost of TEX Rail (Ft Worth - Grapevine - DFW) commuter rail project. Assumes double-tracked ballasted rail with inclusion of some bridge structures, and stations spaced approximately every four miles. Includes signalization, communications, roadway modifications, fare collection and rolling stock.
HCT All Day, Mile (subway)	High	\$ 700,000,000	Current cost of DART D2 subway project. 2.0-mile project includes portal, tunnel and cut-and-cover segments and three underground stations.
HCT All Day, Mile (elevated LRT)	High	\$ 200,000,000	METRO GPC estimate (November 2018); assumes double-tracked, embedded, fully-elevated rail, and stations spaced approximately every half-mile. Includes traction power, signalization, communication, roadway modification and fare collection and rolling stock.
HCT All Day Mile (elevated BRT)	Med High, Med Low	\$ 152,000,000	METRO GPC estimate (November 2018); assumes fully-elevated, dedicated bus lanes in both directions, elevated station with amenities spaced approximately every half-mile and rolling stock.
HCT All Day, Mile (at-grade LRT)	Med Hgh, Med Low, Low	\$ 130,000,000	METRO GPC estimate (November 2018); assumes double-tracked, embedded rail at grade and stations spaced approximately every half-mile. Includes traction power, signalization, communication, roadway modification and fare collection and rolling stock.
HCT All Day, Mile (at-grade BRT)	Med Low, Low	\$ 51,000,000	METRO GPC estimate (November 2018); assumes dedicated bus lanes in both directions, station platforms with amenities, and minimal grade separation and rolling stock.
HCT All Day, Mile (conversion of existing in-freeway HOV to BRT)	Med Low, Low	\$ 75,500,000	METRO GPC estimate for two-way HOV facility plus cost of freeway BRT station. Assumes conversion of one-way HOV facility in center of freeway to two-way dedicated bus lane facility, on-line station platforms spaced every mile with pedestrian walkways and elevators, and bypass lanes at stations. Does not include rolling stock.

2045 High Capacity Transit Task Force Vision Plan - Guideway Capital Costs

Corridor		Service Type Designation		Guideway Length		High Scenario		Medium High Scenario		Medium Low Scenario		Low Scenario		Assumptions
Corridor Name	Corridor Extent	RTFS Type	HCT Service Concepts Type	Total	New	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	Unit Cost	Total	
University / Blue	Westchase P&R - Tidwell TC	HCT All Day	Subregional Corridor/Internodal	24.8	24.8	\$ 200.0	\$ 4,960.0	\$ 130.0	\$ 3,224.0	\$ 51.0	\$ 1,264.8	\$ 51.0	\$ 1,264.8	Grade-separated LRT in High scenario; at-grade LRT in Med High scenario, at-grade BRT in Med Low and Low scenarios
East End / Green	Downtown - Hobby Airport	HCT All Day	Subregional Corridor/Internodal	10.9	6.4	\$ 200.0	\$ 1,280.0	\$ 130.0	\$ 832.0	\$ 130.0	\$ 832.0	\$ 130.0	\$ 832.0	Grade-separated LRT in High scenario; at-grade LRT in all other scenarios
Gold / Uptown (Post Oak)	Gulfton TC - Northwest TC	HCT All Day	Subregional Corridor/Internodal	6.5	2	\$ 200.0	\$ 1,300.0	\$ 152.0	\$ 304.0	\$ 51.0	\$ 102.0	\$ 51.0	\$ 102.0	Grade-separated LRT in High Scenario; Aerial BRT in Med High scenario; at-grade BRT in all other scenarios
Gessner	Willowbrook - Missouri City	HCT All Day	Subregional Corridor/Internodal	25.0	25.0	\$ 200.0	\$ 5,008.0	\$ 130.0	\$ 3,255.2	\$ 51.0	\$ 1,277.0	\$ 51.0	\$ 1,277.0	Grade-separated LRT in High scenario; at-grade LRT in Med High scenario, at-grade BRT in all other scenarios
Main / North / Red	Greenspoint - Fannin South P&R	HCT All Day	Subregional Corridor/Internodal	22.5	9.9	\$ 200.0	\$ 1,980.0	\$ 200.0	\$ 1,980.0	\$ 200.0	\$ 1,980.0	\$ 100.0	\$ 990.0	Grade-separated LRT in all scenarios except Low; at-grade LRT (to N Shepherd P&R) and in-Freeway BRT in Low scenario
Main Street Subway	Downtown - Texas Medical Center	HCT All Day	Subregional Corridor/Internodal	5.5	5.5	\$ 700.0	\$ 3,850.0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	High scenario only. Includes cut-and-cover and tunnel sections and underground stations from TMC to Burnett Plaza.
US 290 / Inner Hempstead	West Little York P&R - Antoine	HCT All Day	Subregional Corridor/Internodal	6.2	6.2	\$ 200.0	\$ 1,240.0	\$ 130.0	\$ 806.0	\$ 130.0	\$ 806.0	\$ 51.0	\$ 316.2	Grade-separated LRT in High Scenario; at-grade LRT in Med High and Med Low scenarios; at-grade BRT in Low scenario
Bellaire	Mission Bend P&R - Palm Center TC	HCT All Day	Subregional Corridor/Internodal	14.1	14.1	\$ 200.0	\$ 2,818.0	\$ 152.0	\$ 2,141.7	\$ 51.0	\$ 718.6	\$ 51.0	\$ 718.6	Grade-separated LRT in High Scenario; Aerial BRT in Med High scenario; at-grade BRT in all other scenarios
Westheimer	West Oaks - Downtown	HCT All Day	Subregional Corridor/Internodal	19.0	19.0	\$ 200.0	\$ 3,800.0	\$ 152.0	\$ 2,888.0	\$ 51.0	\$ 969.0	\$ 51.0	\$ 969.0	Grade-separated LRT in High Scenario; Aerial BRT in Med High scenario; at-grade BRT in all other scenarios
Inner Katy	Northwest TC - Downtown	HCT All Day	Subregional Corridor/Internodal	9.2	9.2	\$ 200.0	\$ 1,840.0	\$ 200.0	\$ 1,840.0	\$ 200.0	\$ 1,840.0	\$ 152.0	\$ 75.5	Grade-separated LRT in all Scenarios, except low; elevated BRT in Low Scenario
IH-69/US-59 Southwest	Sugar Land Twn Ctr - Bellaire/Uptown TC	HCT All Day	Subregional Corridor/Internodal	13.7	13.7	\$ 200.0	\$ 2,740.0	\$ 152.0	\$ 2,082.4	\$ 75.5	\$ 1,034.4	\$ 75.5	\$ 75.5	Grade-separated LRT in High scenario, Aerial BRT in Med High scenario, in-Freeway BRT in Med low and Low scenarios
Southeast / Purple	Downtown - Sunnyside (Bellfort/MLK)	HCT All Day	Subregional Corridor/Internodal	8.6	2.3	\$ 200.0	\$ 460.0	\$ 130.0	\$ 299.0	\$ 130.0	\$ 299.0	\$ 130.0	\$ 299.0	Grade-separated LRT in High scenario; at-grade LRT in all other scenarios
IH-10 West (Outer Katy)	Katy - Northwest TC	HCT All Day	Subregional Corridor/Internodal	19.1	19.1	\$ 200.0	\$ 3,826.0	\$ 200.0	\$ 3,826.0	\$ 75.5	\$ 1,444.3	\$ 75.5	\$ 75.5	Grade-separated LRT in High and Med High scenarios, in-Freeway BRT in Med low and Low scenarios
Spencer Hwy	Hobby Airport - San Jac Central College	HCT All Day	Subregional Corridor/Internodal	10.1	10.1	\$ 200.0	\$ 2,020.0	\$ 130.0	\$ 1,313.0	\$ 51.0	\$ 515.1	\$ 51.0	\$ 515.1	Grade-separated LRT in High scenario; at-grade LRT in Med High scenario, at-grade BRT in Med Low and Low scenarios
Greenspoint - IAH Spur	Greenspoint - Bush IAH	HCT All Day	Subregional Corridor/Internodal	8.2	8.2	\$ 200.0	\$ 1,640.0	\$ 200.0	\$ 1,640.0	\$ 130.0	\$ 1,066.0	\$ 51.0	\$ 418.2	Grade-separated LRT in High and Med High scenarios, at-grade LRT in Med Low scenario, at-grade BRT in Low scenario
South / Kirby	Fannin South - Pearland Town Center	HCT All Day	Subregional Corridor/Internodal	9.1	9.1	\$ 200.0	\$ 1,820.0	\$ 130.0	\$ 1,183.0	\$ 51.0	\$ 464.1	\$ 51.0	\$ 464.1	Grade-separated LRT in High scenario; at-grade LRT in Med High scenario, at-grade BRT in Med Low and Low scenarios
IH-45 North	Conroe - Greenspoint	HCT All Day	Subregional Corridor/Internodal	25.4	25.4	\$ 200.0	\$ 5,080.0	\$ 200.0	\$ 5,080.0	\$ 75.5	\$ 1,917.7	\$ 75.5	\$ 1,917.7	Grade-separated LRT in High and Med High scenarios, in-Freeway BRT in Med low and Low scenarios
IH 45 South / Gulf	Downtown Transit Center - Galveston	HCT All Day	Subregional Corridor/Internodal	49.2	49.2	\$ 200.0	\$ 9,840.0	\$ 200.0	\$ 9,840.0	\$ 75.5	\$ 3,714.6	\$ 75.5	\$ 3,714.6	Grade-separated LRT in High and Med High scenarios, in-Freeway BRT in Med low and Low scenarios
IH-10 East	Downtown - Mont Belvieu	HCT All Day	Subregional Corridor/Internodal	28.6	28.6	\$ 200.0	\$ 5,720.0	\$ 200.0	\$ 5,720.0	\$ 75.5	\$ 2,159.3	\$ 75.5	\$ 2,159.3	Grade-separated LRT in High and Med High scenarios, in-Freeway BRT in Med low and Low scenarios
North Main Spur	Boundary - E 20th st	HCT All Day	Subregional Corridor/Internodal	2.4	2.4	\$ 200.0	\$ 470.0	\$ 130.0	\$ 305.5	\$ 130.0	\$ 305.5	\$ 51.0	\$ 119.9	Grade-separated LRT in High Scenario; at-grade LRT in Med High and Med Low scenarios; at-grade BRT in Low scenario
Antoine	Hempstead Hwy - Victory Dr	HCT All Day	Subregional Corridor/Internodal	3.8	3.8	\$ 200.0	\$ 760.0	\$ 130.0	\$ 494.0	\$ 130.0	\$ 494.0	\$ 51.0	\$ 193.8	Grade-separated LRT in High scenario; at-grade LRT in Med High and Med Low scenarios; at-grade BRT in Low scenario
East Bellfort	Fannin South - Hobby Airport	HCT All Day	Subregional Corridor/Internodal	9.0	9.0	\$ 200.0	\$ 1,800.0	\$ 130.0	\$ 1,170.0	\$ 130.0	\$ 1,170.0	\$ 51.0	\$ 459.0	Grade-separated LRT in High Scenario; at-grade LRT in Med High and Med Low scenarios; at-grade BRT in Low scenario
Inner North Fwy Express (Bypass)	Tidwell - Burnett Plaza TC	HCT All Day	Subregional Corridor/Internodal	5.8	5.8	\$ 200.0	\$ 1,160.0	\$ 200.0	\$ 1,160.0	\$ 75.5	\$ 437.9	\$ 75.5	\$ 437.9	Grade-separated LRT in High and Med High scenarios, in-Freeway BRT in Med low and Low scenarios
Inner SW Fwy Express (Bypass)	Westheimer/Edloe - Wheeler TC	HCT All Day	Subregional Corridor/Internodal	4.1	4.1	\$ 200.0	\$ 820.0	\$ 200.0	\$ 820.0	\$ 75.5	\$ 309.6	\$ 75.5	\$ 309.6	Grade-separated LRT in High and Med High scenarios, in-Freeway BRT in Med low and Low scenarios
South Post Oak	Bellaire/Uptown TC - US 90A	HCT All Day	Subregional Corridor/Internodal											DELETED DUE TO LOW RIDERSHIP
US 90A	Rosenberg - Fannin South P&R	HCT Peak	Regional Commuter/Express	27.4	27.4	\$ 200.0	\$ 5,480.0	\$ 130.0	\$ 3,562.0	\$ 130.0	\$ 3,562.0	\$ 51.0	\$ 1,397.4	Grade-separated LRT in High scenario; at-grade LRT in Med High and Med Low scenarios; at-grade BRT in Low scenario
US 290 (Outer Hempstead)	Hempstead - West Little York P&R	HCT Peak	Regional Commuter/Express	36.9	36.9	\$ 40.0	\$ 1,476.0	\$ 40.0	\$ 1,476.0	\$ 40.0	\$ 1,476.0	\$ 51.0	\$ 1,881.9	Commuter Rail in all scenarios except Low; at-grade BRT in Low scenario
Westpark (Outer)	Fulshear - Westchase	HCT Peak	Regional Commuter/Express	22.0	22.0	\$ 200.0	\$ 4,400.0	\$ 150.0	\$ 3,300.0	\$ 51.0	\$ 1,122.0	\$ 51.0	\$ 1,122.0	Grade-separated LRT in High scenario; grade-separated BRT in Med High scenario, at-grade BRT in Med Low and Low scenarios
SH 249	Northwest Mall/TCHSR - Magnolia	HCT Peak	Regional Commuter/Express	34.5	34.5	\$ 40.0	\$ 1,380.0	\$ 40.0	\$ 1,380.0	\$ 40.0	\$ 1,380.0	\$ 51.0	\$ 1,759.5	Commuter Rail in all scenarios except Low; at-grade BRT in Low scenario
SH 35	Downtown - Alvin	HCT Peak	Regional Commuter/Express	24.7	24.7	\$ 40.0	\$ 988.8	\$ 40.0	\$ 988.8	\$ 40.0	\$ 988.8	\$ 51.0	\$ 1,260.7	Commuter Rail in all scenarios except Low; at-grade BRT in Low scenario
IH-69/US 59 North (Eastex)	Downtown - Townsen P&R	HCT Peak	Regional Commuter/Express	20.1	20.1	\$ 200.0	\$ 4,020.0	\$ 152.0	\$ 3,055.2	\$ 75.5	\$ 1,517.6	\$ 75.5	\$ 1,517.6	Grade-separated LRT in High scenario; grade-separated BRT in Med High scenario, in-freeway BRT in Med Low and Low scenarios
IH-69 Kingwood Extension	Townsen P&R - Kingwood P&R	Express Bus	Regional Commuter/Express	7.3	7.3	\$ 2.5	\$ 18.3	\$ 2.5	\$ 18.3	\$ -	\$ -	\$ -	\$ -	Minor improvements for Express Bus priority in High and Medium-High scenarios
IH-69 New Caney/Cleveland Exten	Townsen P&R - Cleveland P&R	Express Bus	Regional Commuter/Express	23.4	23.4	\$ 70.0	\$ 1,638.0	\$ 70.0	\$ 1,638.0	\$ -	\$ -	\$ -	\$ -	New two-way, all-day HOV facility in High and Medium-High scenarios
IH-10 West Brookshire Extension	Brookshire - Energy Corridor	Express Bus	Regional Commuter/Express	19.8	19.8	\$ 70.0	\$ 1,386.0	\$ 70.0	\$ 1,386.0	\$ -	\$ -	\$ -	\$ -	New two-way, all-day HOV facility in High and Medium-High scenarios
SH 99 Northwest*	Katy - The Woodlands	Express Bus	Regional Commuter/Express	59.7	0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	No improvements assumed (service uses toll facility)
SH 146 Southern	Texas City - Galveston	Express Bus	Regional Commuter/Express	18.0	0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	No improvements assumed
Ft Bend Toll Road	TMC - Sienna Plantation	Express Bus	Regional Commuter/Express	17.2	0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	No improvements assumed (service uses toll facility)
SH 6	Pearland - Alvin	Express Bus	Regional Commuter/Express	16.0	16.0	\$ 2.5	\$ 39.9	\$ 2.5	\$ 39.9	\$ -	\$ -	\$ -	\$ -	Minor improvements for Express Bus priority in High and Medium-High scenarios
E Sam Houston Tollway/Lk Houston	Kingwood & Atascocita - Downtown	Express Bus	Regional Commuter/Express	28.9	28.9	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	No improvements assumed (service uses toll facility and new HOV facility costed in other corridor)
SH 146	Baytown - LaPorte - Galveston	Express Bus	Regional Commuter/Express	52.1	52.1	\$ 2.5	\$ 130.2	\$ 2.5	\$ 130.2	\$ -	\$ -	\$ -	\$ -	Minor improvements for Express Bus priority in High and Medium-High scenarios
SH 288 Brazosport Extension	Pearland - Lake Jackson	Express Bus	Regional Commuter/Express	38.0	0.0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	No improvements assumed
SH 6 West	Sugar Land - Energy Corridor	Express Bus	Regional Commuter/Express	15.8	15.8	\$ 70.0	\$ 1,105.0	\$ 2.5	\$ 39.5	\$ 2.5	\$ 39.5	\$ -	\$ -	New two-way HOV facility in High scenario; minor improvements for Express Bus priority in Med-High and Med-Low scenarios
US 90 East	IH 610 - Dayton	Express Bus	Regional Commuter/Express	37.5	37.5	\$ 70.0	\$ 2,627.8	\$ 70.0	\$ 2,627.8	\$ -	\$ -	\$ -	\$ -	New two-way, all-day HOV facility in High and Medium-High scenarios
SH 99 West	Sugar Land Town Center - Katy	Express Bus	Regional Commuter/Express	25.6	0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	No improvements assumed (service uses toll facility)
SH 6 South	Alvin - Galveston	Express Bus	Regional Commuter/Express	32.6	33.4	\$ 2.5	\$ 83.4	\$ 2.5	\$ 83.4	\$ -	\$ -	\$ -	\$ -	Minor improvements for Express Bus priority in High and Medium-High scenarios
IH-69/US 59 Fort Bend Extension	Sugar Land Town Center - Rosenberg	Express Bus	Regional Commuter/Express	15.7	0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	No improvements assumed (service uses diamond lanes currently under construction)
SH 225 East	Lawndale P&R - LaPorte	Express Bus	Regional Commuter/Express	19.5	19.5	\$ 70.0	\$ 1,365.0	\$ 70.0	\$ 1,365.0	\$ -	\$ -	\$ -	\$ -	New two-way, all-day HOV facility in High and Medium-High scenarios
SH 6 Southwest	Sugar Land Town Ctr - Pearland Town Ctr	Express Bus	Regional Commuter/Express	20.2	0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	No improvements assumed
Kirby/N. Shepherd	Fannin South P&R - N Shepherd P&R	Signature Bus	Local Circulation/Connectivity	15.4	15.4	\$ 2.5	\$ 38.5	\$ 2.5	\$ 38.5	\$ 2.5	\$ 38.5	\$ 2.5	\$ 38.5	Signature Bus improvements (enhanced stations, signal priority, etc.) in all scenarios
FM 1960 North	US 290 - Spring	Signature Bus	Local Circulation/Connectivity	17.0	17.0	\$ 2.5	\$ 42.5	\$ 2.5	\$ 42.5	\$ 2.5	\$ 42.5	\$ 2.5	\$ 42.5	Signature Bus improvements (enhanced stations, signal priority, etc.) in all scenarios
Braeswood/Bissonnet	SH 6 - Downtown	Signature Bus	Local Circulation/Connectivity	24.3	24.3	\$ 2.5	\$ 60.8	\$ 2.5	\$ 60.8	\$ 2.5	\$ 60.8	\$ 2.5	\$ 60.8	Signature Bus improvements (enhanced stations, signal priority, etc.) in all scenarios
OST/Wayside	TMC TC - 5th Ward Denver Harbor TC	Signature Bus	Local Circulation/Connectivity	12.5	12.5	\$ 2.5	\$ 31.3	\$ 2.5	\$ 31.3	\$ 2.5	\$ 31.3	\$ 2.5	\$ 31.3	Signature Bus improvements (enhanced stations, signal priority, etc.) in all scenarios
Hillcroft/Voss/Bingle Quickline	US 90A - Antoine/Victory	Signature Bus	Local Circulation/Connectivity	18.2	18.2	\$ 2.5	\$ 45.5	\$ 2.5	\$ 45.5	\$ 2.5	\$ 45.5	\$ 2.5	\$ 45.5	Signature Bus improvements (enhanced stations, signal priority, etc.) in all scenarios
Long Point/Cavalcade Quickline	Gessner - Lockwood	Signature Bus	Local Circulation/Connectivity	14.1	14.1	\$ 2.5	\$ 35.3	\$ 2.5	\$ 35.3	\$ 2.5	\$ 35.3	\$ 2.5	\$ 35.3	Signature Bus improvements (enhanced stations, signal priority, etc.) in all scenarios
Antoine	Northwest TC - FM 1960	Signature Bus	Local Circulation/Connectivity											REPLACED BY HCT SERVICE
East Bellfort	Fannin South P&R - Hobby Airport	Signature Bus	Local Circulation/Connectivity											REPLACED BY HCT SERVICE
Tidwell/249	Willowbrook - Mesa TC	Signature Bus	Local Circulation/Connectivity	24.0	24.0	\$ 2.5	\$ 59.9	\$ 2.5	\$ 59.9	\$ 2.5	\$ 59.9	\$ 2.5	\$ 59.9	Signature Bus improvements (enhanced stations, signal priority, etc.) in all scenarios
Sunnyside	UH/TSU - HCC Airport Campus	Signature Bus	Local Circulation/Connectivity	9.1	9.1	\$ 2.5	\$ 22.8	\$ 2.5	\$ 22.8	\$ 2.5	\$ 22.8	\$ 2.5	\$ 22.8	Signature Bus improvements (enhanced stations, signal priority, etc.) in all scenarios

* Corridor contains multiple routes

\$ 92,706.6 \$ 73,630.1 \$ 35,543.0 \$ 26,979.6

2045 High Capacity Transit Task Force Vision Plan - Facilities Costs

(includes allowances for property acquisition, planning and design, and contingency)

Facility Type	Count	Unit Cost	Total
Park and Ride, structured	5	\$44,000,000	\$220,000,000
Park and Ride, surface	35	\$22,000,000	\$770,000,000
Transit Center	18	\$15,000,000	\$270,000,000
Enhanced Transfer Point	40	\$155,000	\$6,200,000
Two-Way HOV T-Ramp	5	\$65,000,000	\$325,000,000
Bus Operations and Maintenance Facility	9	\$100,000,000	\$900,000,000
HCT Operations and Maintenance Facility	13	\$100,000,000	\$1,300,000,000
Facilities Total			\$3,791,200,000
10% Safety and Universal Accessibility			\$379,120,000
15% State of Good Repair			\$568,680,000
Grand Total			\$4,739,000,000

2045 High Capacity Transit Task Force Vision Plan - Fleet Costs

(for ADA Paratransit, Demand Response, Regional, Local, Signature and Express Bus Services)

NOTE: Vehicle need factors in existing fleet and vehicle lifecycle. These were based on previous calculations for HCTTF Vision network and are constant across all four capital scenarios.

Vehicle Type	Total Cost	Lifecycle	Capacity	Unit Cost	Total Need	Remarks
DR/Paratransit Van	\$ 1,048,687,500	5 years	2 seats & 2 whlcr	\$ 88,125	11,900	Used for DR and ADA paratransit services, unit cost based on draft METRO FY17 budget
27' Minibus	\$ 424,200,000	7 years	12 seats	\$ 121,200	3,500	Used for flex, DR, regional and low-ridership local services; unit cost from 2010 RTFS, adjusted for inflation
40' Transit Bus	\$ 522,500,000	12 years	34 seats	\$ 475,000	1,100	Used for local services; unit cost based on METRO Board Nov 16 procurement
45' Coach	\$ 51,000,000	15 years	55 seats	\$ 510,000	100	Used for express/P&R services; ; unit cost based on METRO Board Nov 16 procurement
60' Articulated Bus	\$ 910,000,000	12 years	45 seats	\$ 700,000	1,300	Used for high-ridership local services; unit cost based on draft METRO FY17 budget
HCT Peak - VARIES BY SCENARIO	VARIES BY SCENARIO					
HCT All Day - VARIES BY SCENARIO	VARIES BY SCENARIO					
Fleet Total:	\$ 2,956,387,500					