



Houston-Galveston
Area Council

High Capacity Transit Task Force for the 2045 Regional Transportation Plan

FINAL SUMMARY REPORT



EXECUTIVE SUMMARY



High Capacity Transit Task Force Report

Executive Summary

Introduction – The Problem

With an anticipated addition of 4.2 million people and 1.6 million jobs by the year 2045, the eight-county Houston-Galveston region will see an influx of millions of additional trips on its transportation network. The construction of new and ever-wider highways cannot by itself support this expected growth, nor will a “highway only” mobility solution adequately serve all the travel needs of such a geographically, economically, demographically and culturally diverse region. Even if possible and affordable, a “highway only” solution would require three times the number of highway lane miles as exist today.

Any transportation solution must be accessible, efficient and effectively connect a high percentage of travelers to their destinations within relatively limited rights-of-way. One evident solution is high capacity transit (HCT). Accordingly, the Houston-Galveston Area Council’s (H-GAC) Transportation Policy Council (TPC) has created the High Capacity Transit Task Force (“Task Force”) to “identify regional benefits, funding solutions and policy considerations to advance High Capacity Transit throughout the region, and to provide recommendations that could be included in the 2045 RTP.” The Task Force worked to (1) develop a financially-unconstrained, comprehensive Vision Network for 2045; (2) produce a financially-constrained Priority Network for inclusion in the 2045 Regional Transportation Plan (2045 RTP); (3) identify the costs associated with a range of transit options; and (4) identify the economic impacts on the region of these options.

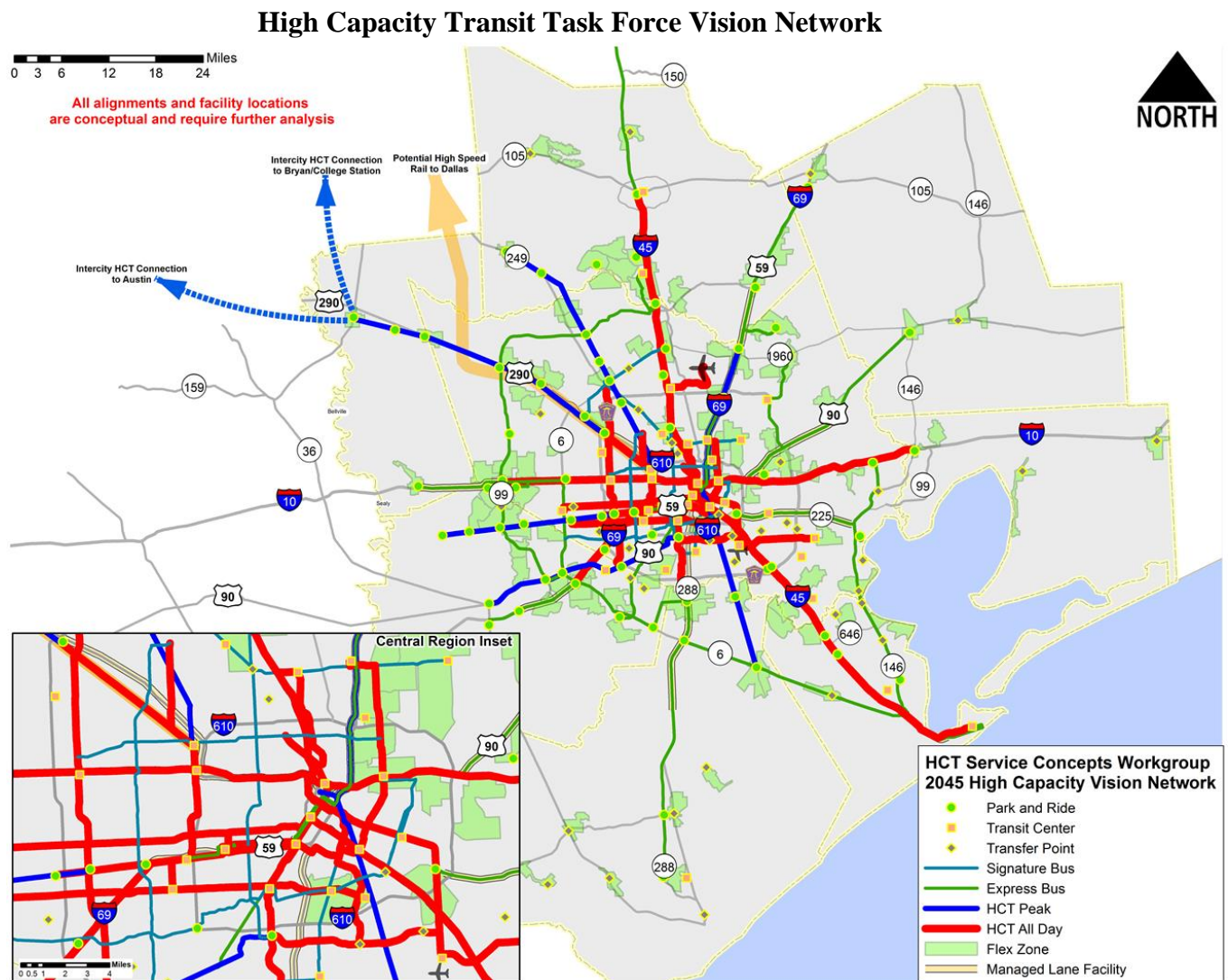
The findings of the Task Force reveal that substantial investment in HCT today will lead to significant future increases in personal income, job growth, gross regional product and regional output.

Methodology

The Task Force created three workgroups to identify transit service needs and concepts, economic impacts, and financial options. It created a financially-unconstrained Vision Network serving all eight counties in the H-GAC region and developed four capital expenditure scenarios (High, Medium-High, Medium-Low and Low) to examine the costs and benefits associated with different modes and technologies for the services included in the Vision Network. For each scenario, the Task Force estimated economic impacts including travel time savings, value of increased safety, increased personal income as well as increased jobs, Gross Domestic Product (GDP) and regional output.

The four capital expenditure scenarios depict varying levels of capital investment from high to low in order to illustrate the range of HCT options by cost and other factors, such as grade

separation and mode (e.g. light rail or bus rapid transit). Theoretically, a higher level of capital investment is likely to result in greater benefits than a network with a lower level of capital investment, based on varying efficiencies and costs of mode choice and technology. For example, greater capital investment in grade-separated transitways, like rail, rather than at-grade dedicated transit lanes, like buses, results in faster average travel speeds, higher capacity, greater reliability and increased safety. Discussion of the assumptions that correspond to each scenario are included in the full report.



Economic Impacts

In order to understand the regional benefits of investments in HCT, economic impacts were estimated for each scenario using H-GAC’s regional travel forecasting tools in conjunction with the Regional Economic Modeling Inc.’s (REMI) econometric model. A “no-build” scenario and a “highway-only build” scenario were also created for purposes of comparison. Compared to today’s regional transit ridership and travel expenditures, the highest level of capital investment

in the Vision Network yielded extraordinary benefits: nearly a tenfold increase in transit ridership, and over \$500 billion of direct benefits to travelers in the form of travel time savings, reduced vehicle crashes, and increased personal income. Additional economic impacts included an annual average employment growth of over 94 thousand jobs, almost \$19 billion increase in regional GDP and \$40 billion in additional regional economic output.

All four capital expenditure scenarios generate regional economic impacts substantially greater than their investment costs. For each dollar invested in the Vision Network's High Scenario, \$3.37 would be returned to users in travel time savings, improved safety and personal income. Similarly, each dollar invested in the High Scenario would generate \$3.25 in increased GDP and almost \$7 in increased regional economic output. Comparatively, analysis of the "no-build" scenario resulted in an \$84 billion loss in economic and personal revenues resulting from exacerbated travel costs and lost income. This indicates that there is a "cost of doing nothing" if the region does not expand its transit network, further reinforcing the need for additional investment in all forms of transportation including transit.

Funding

The Task Force recognized that any significant expansion of transit service in the region, let alone HCT, will require revenue sources that do not currently exist for the H-GAC region. Several strategies for additional transit funding were identified by the Task Force, including: federal discretionary funding for "New Starts" high capacity transit; private sector participation through joint development opportunities; and various value capture strategies. Other longer-range options include various forms of local option funding or state funding support that would require state enabling legislation and local voter support. Allowing transit projects to "compete" for eligible highway funding based on performance criteria established by TPC is also recommended.

No single revenue source will solely account for the additional funding that is needed to implement the large-scale expansion of HCT services in the region; multiple funding strategies are required.

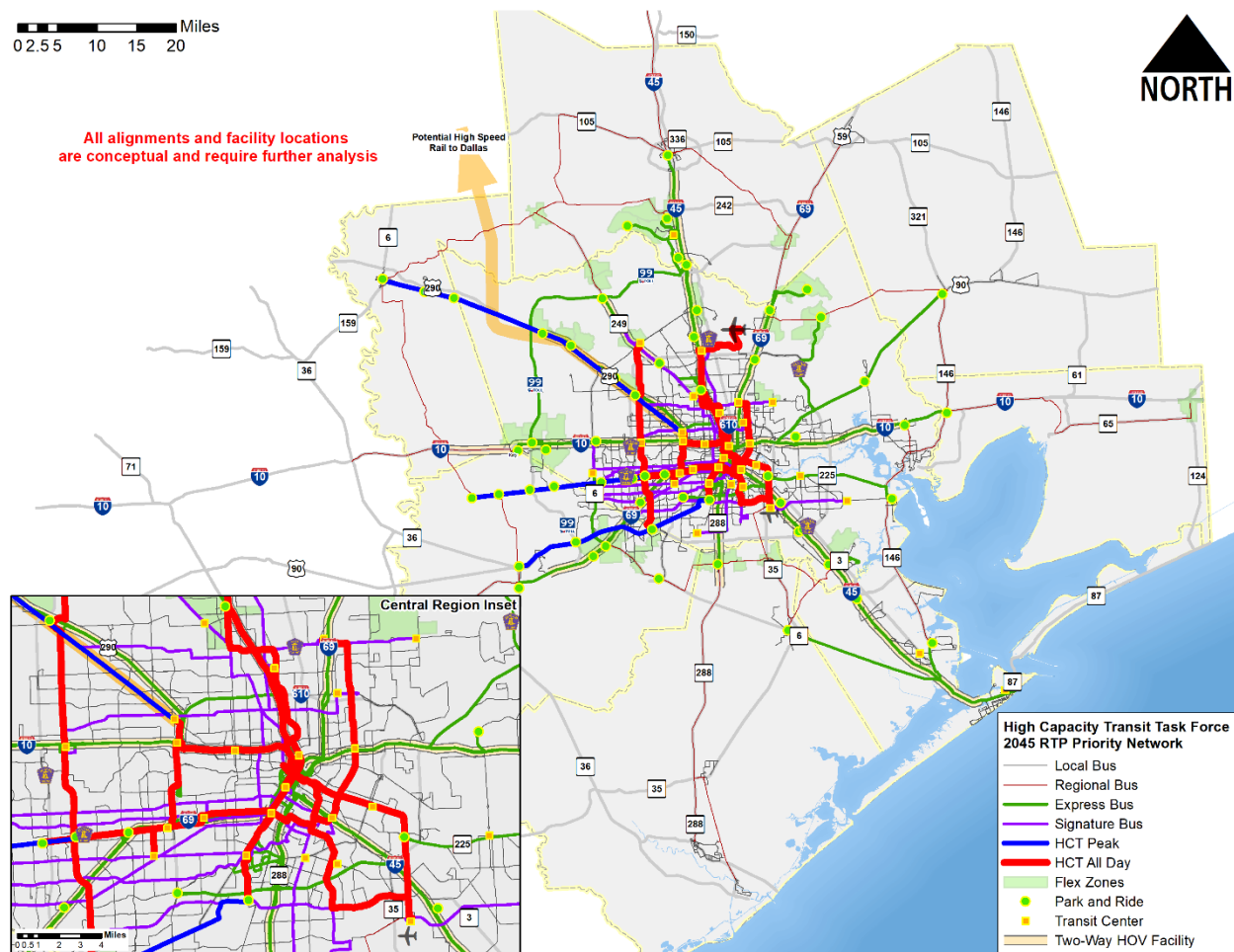
The Priority Network

To create a financially-constrained transit network for inclusion in the 2045 RTP, elements of the Vision Network were selected for inclusion in the Priority Network. The services indicated in the Priority Network are intended to be mode, technology and alignment neutral pending further planning and analysis. Significant features of the Priority Network include service to all eight counties in the H-GAC metropolitan planning organization region with new demand responsive, local, high capacity and other express bus transit services, particularly those that will expand access to suburban employment centers.

The capital components of the complete Priority Network are estimated to cost approximately \$21.7 billion (2018 dollars), with an annual operating and maintenance cost of \$1.14 billion. Travel demand analysis of the Priority Network indicates that it satisfies a service demand representing over a three-fold increase in the number of fixed-route boardings compared to 2017 ridership and more than three times as many passenger miles traveled.

The Priority Network results in a total benefit to travelers throughout the region of \$520 billion, including travel time savings, value of reduced vehicle crashes, and increased personal income. Additionally, this scenario provides an increase in employment of approximately sixty-five thousand jobs per year, on average. In summary, the Priority Network requires a total investment of \$73.3 billion, but results in a benefit-cost ratio of over seven.

High Capacity Task Force 2045 Priority Network



Lessons Learned

The Task Force began its work by investigating relevant examples and practices from other regions of the country and world. Like our region, many of these areas understood that their

economic success and quality of life is tied to successful implementation of new and expanded mobility solutions, including increased transit services. Many of those regions are expanding transit using both traditional and non-traditional funding sources, including public-private partnerships.

Building regional support for investment in expanded transit services requires building a diverse coalition, using an inclusive process rather than a top-down approach; creating confident and expansive plans (“fortune favors the bold”); and using changing demographics and household economics which translate into greater preference for expanded transit services and less dependence on personal auto travel.

Task Force Recommendations

1. In light of the anticipated growth in our region and in order to make our region as economically successful as possible (e.g. job growth, personal income, regional output, gross regional product), substantial investment in HCT must be made.
2. Given current funding constraints, a prioritized level of investment in transit service contained in the Priority Network, which includes services to all eight counties in the region, is recommended for inclusion in the 2045 RTP.
3. Concepts and policies that support the increased use of transit, such as those related to regional fare or Universal Accessibility, should be encouraged across the region.
4. Every investment in transportation that is made by the Transportation Policy Council should be viewed as an opportunity to advance HCT concepts, either in support of transit priority on freeways and thoroughfares, or new transit services along freeways and tollways.
5. Development of any new transit service requires additional public engagement and planning, including that for financing and implementation.
6. Regional HCT requires regional cooperation; the region must work together to examine opportunities, set priorities, develop new funding sources and “speak with one voice” when discussing its needs with decisionmakers at the state and federal level.
7. A Phase II of the High Capacity Transit Task Force effort is recommended to continue examining in further detail issues related to regional transit priorities, implementation and funding.

*“Make no little plans; they have no magic to stir men’s blood and
probably themselves will not be realized.”*

-Daniel Burnham