

PAG High Capacity Transit System Study

Executive Summary

September 2009

Purpose

As the population of eastern Pima County continues to grow from the current 1 million to some 1.8 million residents by 2040, expansion of the transportation system will be critical to maintain the high level of mobility that supports the quality of life and economic vitality of the region. With ever-increasing fuel costs, skyrocketing costs to construct and maintain roads, and deepening concerns over climate change and other environmental issues, transit will serve an increasing role in achieving this goal.

The Pima Association of Governments (PAG) has conducted this study to develop a **High Capacity Transit (HCT) system plan** for the region. HCT systems are intended to carry high volumes of passengers with fast and convenient service. The planning process for this study made use of the latest information related to existing and future population, employment, and transportation conditions in the region, assessed the applicability of different HCT transit modes and technologies, and gathered input from jurisdictions and agencies in the region, as well as the general public, on desirable HCT improvements. The resulting HCT System Plan defines incremental, sustainable, and cost-effective steps for the implementation of HCT technologies to serve existing and future travel demand in the region. The HCT System Plan will be integrated into the transit element of the 2040 Regional Transportation System Plan now under development.

After completing an initial assessment of transit technologies, the HCT modes shown below were identified as the most likely to meet the study's goals and objectives.

Recent Transit System Improvements

Long-range planning for implementation of HCT was a component of the 2030 Regional Transportation Plan adopted in 2006. HCT elements included in this plan included express bus service, bus rapid transit (BRT), and modern streetcar. The Regional Transportation Authority (RTA) 20-year transportation improvement program, funded by a voter-approved ½-cent sales tax, includes the Tucson Modern Streetcar that is currently under design and scheduled to begin operation in 2011, as well as expansion of express bus service. The streetcar will run along a 4-mile corridor providing circulation between the University of Arizona and downtown Tucson and will encourage transit-supportive development and redevelopment along the route, illustrating the transportation and land-use benefits of fixed-rail HCT in the region.

In response to increasing transit demand, SunTran recently expanded fixed-route and express bus service. New routes have been added including circulator routes in Oro Valley, Green Valley, Marana and Sahuarita, bus frequency has increased, and hours of operation have been extended at night and on the weekends. To support the expanded transit system, SunTran has

Transit Modes Considered in the Study



Express Bus

- Faster than local bus service
- Fewer stops than local bus service
- Frequent service during peak periods
- Point-to-point service



Modern Streetcar

- Shorter trips served with more frequent stops
- Encourages transit-oriented development



Bus Rapid Transit (BRT)

- Fewer stops, more frequent service, and longer trips served compared to local bus service
- Encourages transit-oriented development
- Significantly lower cost compared to LRT



Light Rail Transit (LRT)

- Higher speed and capacity than modern streetcar
- Versatility allows operation in central business district or suburban areas
- Encourages transit-oriented development



Commuter Rail Transit (CRT)

- High capacity service between city centers and suburban areas
- High operating speeds over long distances with few stops

introduced new stylized express buses, has constructed new park-and-ride lots as part of the increased express bus service, and is constructing a new maintenance facility to accommodate the expanded fleet.

Corridor Screening Evaluation

Based on input from local stakeholders, sixteen corridors were identified as possible locations for HCT implementation, as shown in the Regional HCT Routes map on Page 3. Discussion with the project’s Technical Advisory Committee (TAC), which was composed of representatives of local governments and agencies, narrowed the list to eight corridors for further analysis. The primary screening criteria used to assess and rank the eight HCT corridors included potential ridership, right-of-way availability, capital and operating costs.

System Alternatives

The screening evaluation and TAC input led the project team to select two “priority” HCT corridors: Broadway Boulevard and 6th Avenue/Nogales Highway. No fatal flaws were identified for the other six HCT corridors, so these were addressed as part of a long-term implementation plan.

The project team developed three system alternatives for near-term implementation based on the two priority HCT corridors. The system alternatives include multiple corridors and HCT technologies and address specific needs identified through the screening evaluation process. The recommended system alternatives are based on a plan that considers the fundamental factors of cost-effective implementation and operation, consistency with land use, and service to major activity and employment centers.

HCT Implementation Strategy

Funding the Implementation of HCT

The project team identified existing revenue sources available to the region for development and operation of HCT and new revenue sources that can be investigated. Particular attention was paid to eligibility for federal funding since it is likely to be a very significant part of any HCT project and will influence the timeline of project development. Various federal funding sources are available to fund capital costs, however they are very competitive and require local matching funds. As such, local and innovative revenue sources will need to be considered.

Federal Funding Opportunities	Local Funding Opportunities	
➤ New Starts	➤ Special Assessment Districts	➤ Vehicle Registration Fees
➤ Small Starts	➤ Impact Fees	➤ Advertising Rights
➤ Very Small Starts	➤ Sales Tax; Including RTA extension	➤ Increased/Special Fares
➤ Large Urban Cities Grants	➤ Rental Car Surcharge	➤ Parking Fees and Fines
➤ Bus and Bus Facilities Grants		

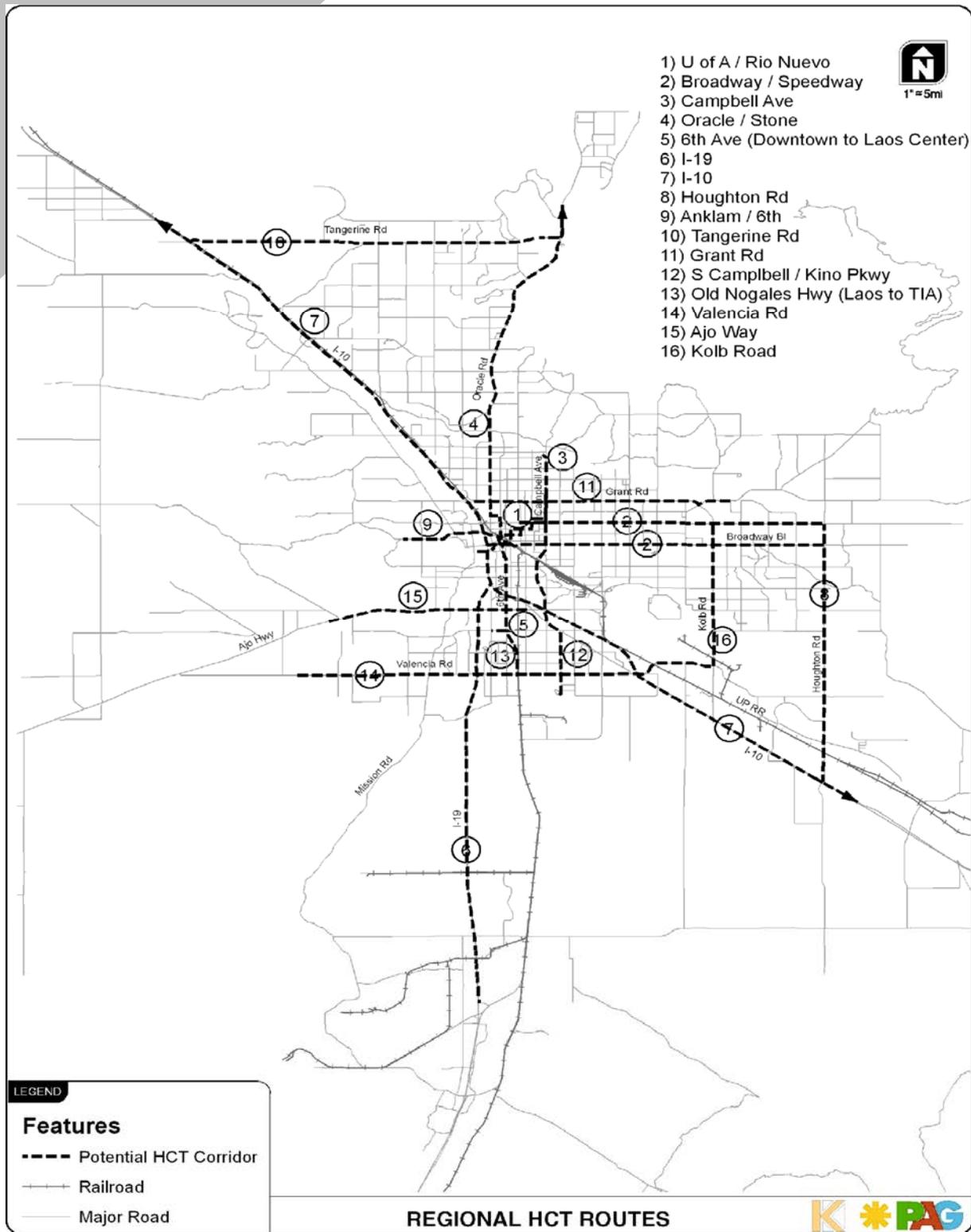
Coordinating HCT with Land Use Planning

Land use planning is a critical component of successful HCT systems and transit-oriented planning is tied to livability, economic development, and community pride. The general plans, land use codes, and development standards of the cities and towns affected by HCT include HCT and transit-supportive components, but opportunities exist to refine these plans and target transit-oriented development (TOD) focusing on the following principles:

- Recognition of a variety of station types/environments
- Pedestrian focus
- Mix of uses
- Densities and intensities that encourage transit ridership
- Management of parking and access to promote alternative mode use

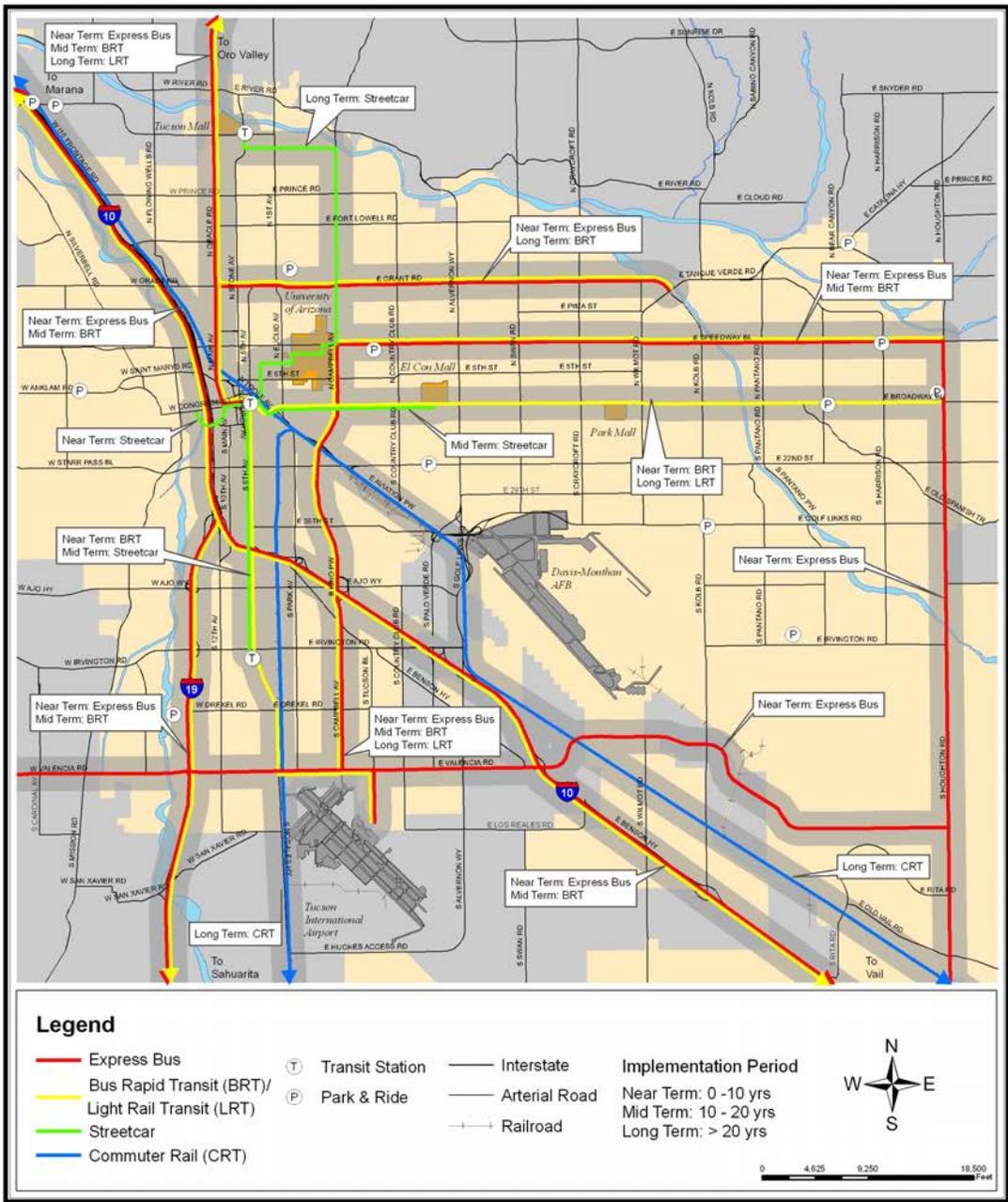
Transit-Oriented Development





Corridor Implementation Plans

An implementation scenario was developed with near-term and long-term staging of HCT for each corridor based on an assessment that identified opportunities and constraints for each case. As HCT is not an all-or nothing investment, a monitoring methodology was described that can be used to guide the region in determining if, when, and how HCT can be implemented in a given corridor. The map on Page 4 summarizes the development of individual corridor implementation plans including staging of HCT projects for near and long-term.



High Capacity Transit Implementation Plan



For Further Information

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