

4.0 RECOMMENDATIONS

Based on the further review of the future potential services and input received from the public meeting process, the following recommendations have been prepared. The recommendations regarding the proposed service options are grouped in two categories: recommended service options and service options not recommended for implementation. The recommended service options are divided into categories depending on which year of the Five Year Action Plan they are recommended for implementation. Additionally, paratransit recommendations are presented in this section.

4.1 Recommended Service Options and Cost Estimates

The routes recommended for implementation in the Five Year Plan and the estimated annual operating cost of implementing the recommendations are presented in Table 4-1. The operating statistics and ridership estimates for the services in Table 4-1 are presented in Appendix A.

Table 4-1: Estimated Annual Operating Cost of Five Year Plan Implementation

Year 1				
Facility / Route	Recommended Service Options	Estimated Additional Annual Cost	Estimated Additional Annual Revenue¹	Total Estimated Additional Annual Operating Cost²
Transfer Facility	Relocate the HAT system transfer center from High Street/Pine Street to the new HAT Headquarters building on Main Street	N/A	N/A	N/A
Blue	Extend north on Limestone Parkway to Ridgecrest Apartments and connect with Green Route. Eliminate service on Limestone Parkway between Beverly Road and Jesse Jewell Parkway. Terminate at new HAT Transfer Center.	\$69,280	\$4,761	\$64,519
Orange	Originate at Lake Forest Apartments and terminate at new HAT Transfer Center via Dawsonville Highway and Rainey Street. Service on Shallowford Road and Pearl Nix Parkway transferred to Purple Route. Service on John Morrow Boulevard eliminated.	\$69,280	\$4,761	\$64,519
Gold	Originate at Lenox Park and terminate at the new HAT Transfer Center. Operate on same routing as the eastern half of the current Gold Route.	\$69,280	\$4,761	\$64,519
Pink	Originate at Memorial Park Drive and terminate at the new HAT Transfer Center.	\$69,280	\$4,761	\$64,519
Red	Originate at Linwood Apartments and terminate at new HAT Transfer Center. Service on Queen City Parkway eliminated.	\$0	\$0	\$0
Green	Originate at Ridgecrest Apartments and connect with Blue Route. Terminate at the new HAT Transfer Center.	\$0	\$0	\$0
Purple	New Red Rabbit service on Atlanta Highway from Lakeshore Mall to Memorial Park Drive	\$277,592	\$30,600	\$246,992
Year 1 Sub-Total:		\$554,712	\$49,645	\$505,067

Year 2				
Route	Recommended Service Options	Estimated Annual Cost	Estimated Annual Revenue	Total Estimated Annual Operating Cost
Flex	Establish Flex Route Service on 60 minute frequency on Hwy 129 from termination point on Gold Route to Jackson County boundary	\$138,560	\$9,600	\$128,960
Year 2 Estimated Additional Cost:		\$138,560	\$9,600	\$128,960
Year 3				
Route	Recommended Service Options	Estimated Annual Cost	Estimated Annual Revenue	Total Estimated Annual Operating Cost
Purple	Extend to Gainesville State College	\$138,560	\$9,600	\$128,960
Year 3 Estimated Additional Cost:		\$138,560	\$9,600	\$128,960
Year 4				
Route	Recommended Service Options	Estimated Annual Cost	Estimated Annual Revenue	Total Estimated Annual Operating Cost
Purple	Extend to Flowery Branch	\$277,592	\$19,100	\$258,492
Year 4 Estimated Additional Cost:		\$277,592	\$19,100	\$258,492
Year 5				
Route	Recommended Service Options	Estimated Annual Cost	Estimated Annual Revenue	Total Estimated Annual Operating Cost ³
Commuter Service	Commuter service from Exit 16 to downtown Atlanta	\$166,547	\$30,085	\$136,462
Year 5 Estimated Additional Cost:		\$166,547	\$30,085	\$136,462
Grand Total Service Modifications:		\$1,275,970	\$118,030	\$1,157,940

1. Estimated annual ridership multiplied by average fare (\$0.65)
2. Represents total cost less estimated farebox revenue
3. Estimated costs based on GRTA Xpress and Gwinnett County Transit figures

4.2 Paratransit Recommendations

The following route recommendations were examined to determine if they would require an expansion of paratransit service into areas where currently no HAT service is currently provided:

Service Area Expansion

- Purple Route – This new route will expand the paratransit service area into the Atlanta Highway corridor. The initial phase of the route will be from the Lakeshore Mall area to Memorial Park Road.
- Flex Route – The Americans with Disabilities Act requires transit agencies that provide fixed-route bus service to also provide paratransit service for people who are unable to use the fixed-route service due to a disability. Because the Flex Route does not operate as a fixed route, ADA complementary paratransit service is not required.

It is anticipated that due to the low number of subscription riders currently utilizing paratransit service, no additional paratransit vehicles will be required by the creation of the Purple Route.

4.3 Potential Funding Sources

Table 4-2 identifies potential sources for transit program funding. Sources could include funding from various federal transit related categories as well as from system revenue, local agencies, the state, and private interest organizations. Transit funding is available from the Federal Transit Administration (FTA) through Section 5303 funds which are designated for planning related activities, Section 5307 which are formula funds for urban transit programs, Section 5309 which are capital funds, and Section 5311 funds which are for rural transit programs. Funding is also available through the Georgia Department of Transportation (GDOT) for capital related categories.

Table 4-2: Potential Funding Sources

CATEGORY	Federal				State	Local		
	5303 / 5304	5307	5309	5311		System Revenue	Local	Private
Vehicles		✓	✓	✓	✓	✓	✓	✓
Promotion		✓		✓		✓	✓	✓
Planning Support	✓	✓		✓	✓		✓	✓
Equipment		✓	✓	✓	✓	✓	✓	✓
Facilities		✓	✓	✓	✓	✓	✓	✓
Rideshare Program	✓	✓		✓		✓	✓	✓
Rural Program	✓			✓	✓	✓	✓	✓

Federal Funding

Section 5303 – Metropolitan Planning and Section 5304 Statewide Planning

Program Description

These programs provide funding to support cooperative, continuous, and comprehensive planning for making transportation investment decisions in metropolitan areas.

Eligible Recipients

Metropolitan planning organizations (MPO) and State Departments of Transportation.

Eligible Purposes

For planning activities that:

- Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
- Increase the safety of the transportation system for motorized and non-motorized users;
- Increase the security of the transportation system for motorized and non-motorized users;
- Increase the accessibility and mobility of people and for freight;
- Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;

- Enhance the integration and connectivity of the transportation system, across and between modes for people and freight;
- Promote efficient system management and operation; and
- Emphasize the preservation of the existing transportation system.

Funding Allocation

Funds are apportioned by a complex formula to states that includes consideration of each state's urbanized area population in proportion to the urbanized area population for the entire nation, as well as other factors. States can receive no less than 0.5 percent of the amount apportioned. These funds, in turn, are sub-allocated by states to MPOs by a formula that considers each MPO's urbanized area population, their individual planning needs, and a minimum distribution.

Federal/Local Share

The federal share is 80 percent and the local share is 20 percent.

Section 5307 – Urbanized Area Formula Program

Program Description

This program (49 U.S.C. 5307) makes Federal resources available to urbanized areas and to Governors for transit capital and operating assistance in urbanized areas and for transportation related planning. An urbanized area is an incorporated area with a population of 50,000 or more that is designated as such by the U.S. Department of Commerce, Bureau of the Census.

Eligible purposes include planning, engineering design and evaluation of transit projects and other technical transportation-related studies; capital investments in bus and bus-related activities such as bus replacement, overhaul and rebuilding, crime prevention and security equipment; construction of maintenance and passenger facilities; and capital investments in new and existing fixed guideway systems including rolling stock, overhaul and rebuilding of vehicles, track, signals, communications, and computer hardware and software. All preventive maintenance and some Americans with Disabilities Act (ADA) complementary paratransit service costs are considered capital costs. For urbanized areas with a 200,000 population and over, funds are apportioned and flow directly to a designated recipient selected locally to apply for and receive Federal funds. For urbanized areas under 200,000 in population, the funds are apportioned to the Governor of each state for distribution. A few areas under 200,000 in population have been designated as transportation management areas and receive apportionments directly.

For urbanized areas with populations of 200,000 or more, operating assistance is not an eligible expense. In these areas, at least one percent of the funding apportioned to each area must be used for transit enhancement activities such as historic preservation, landscaping, public art, pedestrian access, bicycle access, and enhanced access for persons with disabilities.

Program Summary Fact Sheet

Appropriation: Funded under Formula Grants

Description: Grants to urbanized areas and states for transit-related purposes

Eligible Recipients: Funding is made available to designated recipients that must be public bodies with the legal authority to receive and dispense Federal funds. Governors, responsible local officials and publicly owned operators of transit services are to designate a recipient to

apply for, receive, and dispense funds for transportation management areas pursuant to 49USCA5307(a)(2). Generally, a transportation management area is an urbanized area with a population of 200,000 or over. The Governor or Governor's designee is the designated recipient for urbanized areas between 50,000 and 200,000.

Eligible Purposes: Planning, engineering design and evaluation of transit projects and other technical transportation-related studies; capital investments in bus and bus-related activities such as bus replacement, overhaul, and rebuilding, crime prevention and security equipment and construction of maintenance and passenger facilities; and capital investments in new and existing fixed guideway systems including rolling stock, overhaul and rebuilding of vehicles, track, signals, communications, and computer hardware and software. All preventive maintenance and some ADA complementary paratransit services are considered capital costs.

Allocation of Funding: Funding is apportioned on the basis of legislative formulas. For areas of 50,000 to 199,999 in population, the formula is based on population and population density. For areas with populations of 200,000 and more, the formula is based on a combination of bus revenue vehicle miles, bus passenger miles, fixed guideway revenue vehicle miles, and fixed guideway route miles as well as population and population density.

Match: The Federal share is not to exceed 80 percent of the net project cost. The Federal share may be 90 percent for the cost of vehicle-related equipment attributable to compliance with the ADA and the Clean Air Act. The Federal share may also be 90 percent for projects or portions of projects related to bicycles. The Federal share may not exceed 50 percent of the net project cost of operating assistance.

Funding Availability: Year appropriated plus three years (total of four years)

Section 5309 – Bus and Bus Related Facilities Program

Program Description

The transit capital investment program (49 U.S.C. 5309) provides capital assistance for three primary activities:

- New and replacement buses and facilities;
- Modernization of existing rail systems; and
- New fixed guideway systems.

Eligible recipients for capital investment funds are public bodies and agencies (transit authorities and other state and local public bodies and agencies thereof) including states, municipalities, other political subdivisions of states; public agencies and instrumentalities of one or more states; and certain public corporations, boards, and commissions established under state law. Funds are allocated on a discretionary basis.

Bus and Bus-Related Projects

Eligible purposes are acquisition of buses for fleet and service expansion, bus maintenance and administrative facilities, transfer facilities, bus malls, transportation centers, intermodal terminals, park-and-ride stations, acquisition of replacement vehicles, bus rebuilds, bus preventive maintenance, passenger amenities such as passenger shelters and bus stop signs, accessory and miscellaneous equipment such as mobile radio units, supervisory vehicles, fareboxes, computers, shop and garage equipment, and costs incurred in arranging innovative financing for eligible projects. Funds are allocated on a discretionary basis.

Program Summary Fact Sheet

Appropriation: Funded under Capital Investment Grants

Description: Grants may be made to assist in financing bus and bus-related capital projects that will benefit the country's transit systems.

Eligible Recipients: Public bodies and agencies (transit authorities and other state and local public bodies and agencies thereof) including states, municipalities, other political subdivisions of states; public agencies and instrumentalities of one or more states; and certain public corporations, boards, and commissions established under state law.

Eligible Purposes: Acquisition of buses for fleet and service expansion, bus maintenance and administrative facilities, transfer facilities, bus malls, transportation centers, intermodal terminals, park-and-ride stations, acquisition of replacement vehicles, bus rebuilds, bus preventive maintenance, passenger amenities such as passenger shelters and bus stop signs, accessory and miscellaneous equipment such as mobile radio units, supervisory vehicles, fareboxes, computers, shop and garage equipment, and costs incurred in arranging innovative financing for eligible projects.

Allocation of Funding: Allocated at the discretion of the Secretary of Transportation although Congress fully earmarks all available funding.

Match: 80 percent Federal, 20 percent local

Funding Availability: Year appropriated plus two years (total of three years)

Section 5311 - Rural and Small Urban Areas Transportation Program

Program Description

This program (49 U.S.C. 5311) provides formula funding to states for the purpose of supporting public transportation in areas with populations of less than 50,000. It is apportioned in proportion to each state's non-urbanized population. Funding may be used for capital, operating, state administration, and project administration expenses. Each state prepares an annual program of projects, which must provide for fair and equitable distribution of funds within the states, including Indian reservations, and must provide for maximum feasible coordination with transportation services assisted by other Federal sources. Funds may be used for capital, operating, and administrative assistance to state agencies, local public bodies, and nonprofit organizations (including Indian tribes and groups), and operators of public transportation services. The state must use 15 percent of its annual apportionment to support intercity bus service, unless the Governor certifies that these needs of the state are adequately met. Projects to meet the requirements of the Americans with Disabilities Act, the Clean Air Act, or bicycle access projects, may be funded at 90 percent Federal match. The maximum FTA share for operating assistance is 50 percent of the net operating costs.

Program Summary Fact Sheet

Appropriation: Funded under Formula Grants

Description: The goals of the nonurbanized formula program are: 1) to enhance the access of people in nonurbanized areas to health care, shopping, education, employment, public services, and recreation; 2) to assist in the maintenance, development, improvement, and use of public transportation systems in rural and small urban areas; 3) to encourage and facilitate the most efficient use of all Federal funds used to provide passenger transportation in nonurbanized

areas through the coordination of programs and services; 4) to assist in the development and support of intercity bus transportation; and 5) to provide for the participation of private transportation providers in nonurbanized transportation to the maximum extent feasible.

Eligible Recipients: State and local governments, non-profit organizations (including Indian tribes and groups), and public transit operators.

Eligible Purposes: Funds may be used for capital, operating, and administrative purposes.

Allocation of Funding: Funding is apportioned by a statutory formula that is based on the latest U.S. Census figures of areas with a population less than 50,000. The amount that the state may use for state administration, planning, and technical assistance activities is limited to 15 percent of the annual apportionment. States must spend 15 percent of the apportionment to support rural intercity bus service unless the Governor certifies that the intercity bus needs of the state are adequately met.

Match: The maximum Federal share for capital and project administration is 80 percent (except for projects to meet the requirement of the Americans with Disabilities Act (ADA), the Clean Air Act, or bicycle access projects, which may be funded at 90 percent.). The maximum Federal share for operating assistance is 50 percent of the net operating costs. The local share is 50 percent, which shall come from an undistributed cash surplus, a replacement or depreciation cash fund or reserve, or new capital.

Funding Availability: Year appropriated plus two years (total of three years).

Other Federal Funding Considerations

Startup operating expenses for the Flex Route service may be supported by FTA Job Access and Reverse Commute (Section 5316, or JARC) program funds. The JARC program seeks to provide transportation services that improve access to employment and related activities for welfare recipients and eligible low-income individuals and to transport residents in both urbanized and nonurbanized areas to suburban employment opportunities. All JARC funding is apportioned to the States and to large urbanized areas by formula, based on relative numbers of low-income individuals. GDOT is responsible for allocating JARC funds to small urbanized and rural areas.

Each project funded via the JARC, FTA New Freedom (49 USC Section 5317) or FTA Elderly Individuals and Individuals with Disabilities (49 USC Section 5310) programs must be derived from needs identified in a locally-developed, coordinated public transit-human services transportation plan. Section 5310 funding for capital and mobility management projects is intended to improve mobility for elderly persons and persons with disabilities. The New Freedom program seeks to serve persons with disabilities by reducing barriers to transportation services and expanding mobility options beyond the requirements of the ADA.

Capital and planning for enhanced mobility services to, from, and within Federal public lands may be eligible for funding under the FTA Alternative Transportation in Parks and Public Lands (Section 5320, or ATPPL) program currently authorized in SAFETEA-LU. ATPPL projects can serve any Federally-owned or managed parks, refuge areas and recreational areas, including the Lake Sidney Lanier recreational area operated and managed by the U.S. Army Corps of Engineers (USACE). Consent documentation from the Federal managing agency is required for agencies seeking ATPPL funding.

Surface Transportation Program (STP) funds via the Federal Highway Administration (FHWA) can be pursued to support long-range park-and-ride capital needs, allowing for higher percentages of Section 5307 funds to support other transit-related capital and operating needs. STP funds are flexible and may be obtained directly from FHWA, or alternatively transferred to FTA to augment the existing Section 5307 program. Eligibility and matching requirements of the administering Federal agency apply.

The ability to secure Federal funding under any of the above programs depends on coordinated efforts at the regional, county, and city levels to identify and secure reliable sources of local matching funds. Opportunities to leverage other Federal or State program funds as local match should be explored via the agencies administering the proposed source for matching funds, while GDOT and FTA regulations should be reviewed to identify in-kind matching eligibility and other requirements for alternatives to local cash match.

State Funding

The State of Georgia, under the Georgia Department of Transportation (GDOT), has administrative responsibility for the Federal programs related to transit operating and capital for cities with populations under 200,000. Section 5307, 5309 and 5311 programs have administrative guides developed by GDOT that can be accessed from the GDOT website. Contact with GDOT should be made and the program's administrative guides should be reviewed to determine the availability and timing for funding. Typically, the application process begins in April of each year with funds being available in July. The state does provide matching shares for capital grants for the Section 5307, 5309 and 5311 programs. The state provides no funding assistance for operations.

Local Funding

The local share for funding transit capital and operating can come from a variety of sources provided that they did not originate from a federal source. Local share is normally made in the form of cash; however, in some cases the local share can be made in the form of in-kind services or contributions. In-kind services are those services which may be used by the transit operation but paid for from another local source and not directly by the transit operation. For example, shared use of a garage facility may be counted as in-kind contribution because the value of the service provided by the use of the garage could be paid from another source such as the Public Works Department. Typically, local share comes from three main sources, general fund, ad valorem taxes (property taxes), or sales taxes dedicated specifically to transit. For capital, general revenue or capital improvement bonds may be considered as a local share source.

Local funding can also come from public-private partnerships, Special Purpose Local Option Sales Tax (SPLOST) funding, local taxes, special benefit assessment districts, and advertising revenues. These funding sources are briefly described below.

Public-Private Partnerships

Large local employers could have a financial interest in the creation of various transit programs in the area.

SPLOST Funding

Georgia law allows local jurisdictions as of July 1, 1985 to use SPLOST proceeds for capital improvement projects that would otherwise be paid for with General Fund and property tax revenues. Athens, Georgia is currently utilizing SPLOST funding to finance a bus shelter program, their Multi-Modal Transportation Center (MMTC), and the expansion and replacement of transit vehicles.

Local Taxes

A property tax designated specifically for transit operations and capital improvements could be assessed. A dedicated millage levy could offset local funding costs and deficits in farebox revenues. Other potential sources could include car rental or lodging taxes or special fees.

Special Benefit Assessment Districts

To capture benefits associated with enhanced real estate development partially attributable to improvements in transportation corridors, many jurisdictions create special assessment districts. Often called a Municipal Services Taxing Unit (MSTU) or a Municipal Services Benefit Unit (MSBU), a special assessment is charged upon real estate deriving a special benefit from a nearby capital improvement that is used to cover debt service for the improvement.

Advertising Revenues

While transit related advertising revenues are not usually a large revenue generator, they can still be used to help with operating and maintenance cost. Advertising revenues can typically be generated from display signage applied to bus exteriors or interiors and through shelter display programs.

4.4 Additional Considerations

4.4.1 Marketing

Stakeholder surveys conducted during September 2007 indicated a need for more effective promotion of the services offered by Hall Area Transit, specifically the Red Rabbit. As stated in the survey summary, respondents were often unaware of exactly where they could travel on the bus and several mentioned the system needs a “new look”. The majority of responses were positive with regard to support for the system but there was a definite lack of knowledge about the service structure and the system’s potential benefit to the overall community.

Ideally, a comprehensive marketing plan should be developed for the Red Rabbit and other services provided by Hall Area Transit. A marketing plan will provide goals and promotional guidelines to assist HAT in staying focused on the most effective strategies for creating better public awareness of the services offered. A well-designed plan can also help generate a heightened level of support from opinion leaders and stakeholders which could also assist HAT in procuring additional funding.

In lieu of a marketing plan, there are several areas HAT may want to address in the short term to increase community awareness and enhance the system’s image.

New Bus Paint Scheme

HAT has already taken action to respond to questions raised regarding the connection between the previous blue paint scheme and the name Red Rabbit. The new red vehicles will be very effective in attracting the community’s attention and promoting the system.

Promotions

Promotions can be effective in disseminating specific messages that attract public attention. Past efforts have been successful in gaining media attention. Future efforts should continue to focus on educating the public about the services offered and encouraging ridership. Two examples of how to expand on previously used themes are follows:

- The “Dump the Pump” promotion was effective in conveying the message that HAT has potential as an alternative to driving as gas prices continue to increase. Although there is no data to specifically indicate its’ success with regard to ridership figures, the promotion received relatively good media coverage and ridership has increased. Continued use of the APTA printed materials as posters and print ads could further enhance the promotion and give more “shelf-life” to the original message.
- The tag line, “Discover the Red Rabbit” is a very effective marketing tool and should be used on all promotional materials. A cost effective campaign using print ads, inexpensive radio advertising and well-placed posters can be designed around the tagline to “introduce” the new vehicles and bring attention to the services offered.

Distribution of Informational Material

One of the most critical factors in generating interest and encouraging ridership is simply ensuring that information materials are adequately distributed to the public on a continuing basis. If not already in place, a distribution schedule should be developed to ensure the HAT route map and schedule, as well as other informational materials are widely distributed and stocks are replenished on a regular basis.

Route Map & Schedule Brochure

The Hall Area Transit route map and schedule is colorful and easy to read. However, there are several measures that can be taken to update the appearance and enhance the information contained in the brochure to ensure it is even more customer-friendly.

1. Redesign the front of the brochure to include only the following:
 - a. The words “Hall Area Transit Route Map and Schedule”.
 - b. Actual photo(s) of the new bus (and possibly a demand response vehicle) preferably with customers boarding and the tagline “Discover the Red Rabbit – It’s for everyone!”.
 - c. Phone number
2. Rather than using geographical designations such as NE and NW on the time schedule headings, specify a designated stop; i.e. Blue Route to Communications Service Center.
3. Move the information about the free bus transfers from the “Services” section to the “Red Rabbit Travel and Safety Tips” section.
4. Add the following language: “The information contained in this brochure is also available in alternative formats and may be obtained by calling (phone number)”
5. Add web site information.
6. Place small directional arrows on the insert and in strategic areas on the route map:
 - a. The blue route loop around White Sulphur Road, Beverly Road and Limestone Parkway.
 - b. The blue route loop at West Academy Street, Oak Street, Rainey Street, and John W. Morrow Jr., Parkway.
 - c. The yellow route at West Ridge Road and E. E. Butler Parkway.

Bus Stop Signs

One method for creating a more customer-friendly system is to redesign future bus stop signs to match the excellent new paint scheme on the vehicles. Information on the signs should include the Red Rabbit logo, a contact phone number and if possible the route numbers of the buses that stop at each location. An alternative to expensive metal signs is to use inexpensive framed signs such as those produced by Transit Information Products which allow for easy updates to stop information. The signs come in several sizes, colors, are extremely durable and range in cost from \$65 to \$95 depending on quantity and size. An example of this product is attached to this report.

Web Site

In addition to a number of choices that do not apply to the system, an Internet search for Hall Area Transit and Red Rabbit Transit produces the following results:

- City of Gainesville - gainesville.org/citydepartments.communityservicecenter.ridetheredrabbit.asp
- Hall County, Georgia - <http://www.hallcounty.org/transport/redrabbit.asp>
- Hall County, Georgia - http://www.hallcounty.org/transport/redrabbit_info.asp
- Hall County Red Rabbit Transportation - <http://www.accessnorthga.com/access/community/redrabbit.php>
- City of Gainesville - gainesville.org/citydepartments.communityservicecenter.ridetheredrabbit.asp

The Hall County web site is the most thorough, but all of the web sites listed above contain good information about the service. Potential links to HAT information from other web sites should also be explored, for example:

- The Greater Hall Chamber of Commerce
- Brenau University
- Lanier Technical College
- Gainesville State College
- NE Georgia Medical Center
- City of Flowery Branch

As previously recommended, a web site address should be included on all printed materials; however, the variety and length of and the web site addresses listed above are not especially customer-friendly. Establishing a dedicated web site for the Red Rabbit or Hall County Transit would be the most beneficial to current and potential customers. A dedicated web site will also create an opportunity for HAT to expand outreach efforts and ensure that updated system information is immediately accessible to the public.

Summary

With the addition of the new red buses and other amenities such as bus shelters, public awareness of the system will continue to improve. However, future marketing efforts should concentrate heavily on continued public outreach and building awareness about the system and the benefits of the services offered.

Immediate priorities should be the development of attractive English and Spanish versions of informational materials such as posters and flyers. These cost effective marketing tools should be widely distributed and will assist HAT in increasing the visibility of the system while providing the public with much needed information about the services offered.

Another priority should be the re-design of bus stops signs to provide rider-friendly information and to coordinate with the new bus paint scheme. The re-design will encourage ridership and increase HAT's visibility in the community.

Finally, a high priority should also be given to developing a dedicated web site, with emphasis on design that makes the site accessible for people with disabilities.

4.4.2 Intelligent Transportation System (ITS) Applications

Intelligent Transportation Systems (ITS) is a term commonly used to refer to a collection of technological applications and transportation management concepts designed to move people and goods in an efficient and safe manner. As part of the Transit Development Plan, a comprehensive list of prospective ITS user services/technologies were considered for application to the HAT service (see Appendix B).

A preliminary screening of the services and technologies was conducted to identify their applicability to HAT. Those services/technologies identified as having potential include:

1. Traveler Information/Display Systems
2. Passenger Security Systems
3. Transit Vehicle Monitoring and Maintenance
4. Transit Signal Priority

Traveler Information Systems

Both static and real-time information should be considered for the transit system at stops and onboard.

Real-time bus arrival information should be considered for display at key bus stops. Displays use automatic vehicle location systems (AVL), computer-based vehicle tracking systems capable of providing real-time transit arrival and departure information to transit passengers. The actual real-time position of each transit vehicle is determined and relayed to a control center. Actual position determination and relay techniques vary, depending on the needs of the transit system and the technologies employed.

Complete packages of ITS services, providing AVL capabilities are available to small transit and shuttle operators to:

- Continuously track the position of vehicles throughout the day
- Inform passengers when vehicles will arrive, taking into account delays
- Provide passengers with travel time to a destination
- Monitor drivers and contractors, verifying compliance with work rules
- Replay past events in case of accidents, alleged service failures, or accusations of misconduct.
- Produce a variety of management reports, to help in service monitoring, planning system improvements, and meeting reporting requirements.

A handful of companies have been identified that offer ITS services with AVL capabilities. NextBus, is one such company, headquartered in Alameda, California). NextBus offers an ITS package, which combines Global Positioning System (GPS) data with predictive software, to track buses and streetcars on their routes. A GPS unit onboard the bus communicates its identification number and location information to an information center. Taking into account the actual position of the bus, its intended stop, and the typical traffic patterns of its route, this center estimates arrival times and sends the information to an electronic display at the bus stop. These estimates are updated as the vehicle is tracked. The information from an onboard GPS receiver is relayed to a server so that arrival information can be provided to passengers, not only at stops, but via a variety of wireless devices, such as wireless phones via text messaging or pagers, or personal digital assistants and smart phones, such as a Palm Pilot or Blackberry.

Webwatch/TransitMaster from Siemens VDO, is a similar system being used by the Livermore Amador Valley Transit Authority (LAVTA). MyBus, a system developed at the University of Washington Intelligent Research Program, is being employed by Seattle Washington's King County Metro.

Passenger Security Systems

As indicated previously, passenger information displays can be located on-board and/or at transit shelters/stops or stations. The primary enabling technologies for these display applications are Light Emitting Diode (LED), Liquid Crystal Display (LCD), fiber optic, Cathode Ray Tube (CRT), and voice recognition/synthesis.

If security systems are needed, then cameras, digital video recorders and monitors should also be considered for use on-board or at stops to provide constant video security presence.

Transit Vehicle Monitoring or Maintenance

ITS technologies can also be used to collect operational and maintenance data from transit vehicles, manage vehicle service histories, and monitor operators and vehicles. Vehicle mileage data can be used to automatically generate preventative maintenance schedules for each vehicle by utilizing vehicle tracking data from a prerequisite vehicle tracking equipment package. Additionally, on-board condition sensors can be employed to monitor system status, transmit critical status information to a transit management subsystem/center, and schedule maintenance and repairs.

Transit Signal Priority

Transit Signal Priority is an ITS operational strategy that facilitates the movement of transit vehicles, either buses or streetcars, through traffic-signal controlled intersections. Objectives of Transit Signal Priority include improved schedule adherence and improved transit travel time efficiency while minimizing impacts to normal traffic operations.

An emitter is installed on transit vehicles and a detector on traffic signals, making it possible for a transit vehicle to "request" a longer green time or a shorter red time when approaching a signalized intersection.

If HAT transit vehicles encounter significant delays at traffic signals, this strategy might be considered. If Transit Signal Priority is needed, the U.S. Department of Transportation's guidance, entitled Transit Signal Priority (TSP): A Planning and Implementation Handbook, published in May 2005, serves as a valuable guide for investigating the process of planning and implementing signal priority, based on a systems engineering approach.

ITS Cost Estimates

Tables 4-3 and 4-4 exhibit typical ITS transit components and estimated unit costs for potential application to transit vehicles and stops. It should be noted that the fare collection system estimates are presented as supplemental information, however, it is

not anticipated that HAT will require fare collection equipment, since it is a significant cost per vehicle.

Table 4-3: Typical ITS Components and Estimated Unit Costs for Vehicles

Component	Average Capital Cost per Bus
Automatic Passenger Counters	\$1,000 to \$10,000 ¹
Automatic Vehicle Locator	\$6,800 to \$30,500 ¹
Mobile Data Terminals & Related Equipment	\$10,000 ³
Fare Collection Systems	\$7,000 to \$12,000 ¹
Video and Audio Installations	
Enunciators	\$7,000 ²
Customer Information Displays	\$7,000 ²

1. Source: http://gulliver.trb.org/publications/tcrp/tcrp_rpt_90v2.pdf

2. <http://www.nytjournalnews.com/rockland/091200/12talkingbus/>

3. Ann Arbor Transportation Authority

Table 4-4: Typical ITS Components and Estimated Unit Costs for Stops

Component	Average Capital Cost per Stop
Traveler Display	\$20,000 to \$50,000
Fare Collection System	\$10,000 to \$15,000
Website-based Communication System	\$100,000 to \$300,000

The U.S. Department of Transportation's ITS cost database serves as an additional resource for unit cost and system cost data on ITS technologies. For each unit cost element, capital and operating and maintenance (O&M) costs are provided. System costs data consist of summaries that include the costs of the deployment. The ITS Cost Data Base can be accessed using the following U.S. DOT website url <http://www.benefitcost.its.dot.gov/its/benecost.nsf/ByLink/CostHome>.

As indicated in Tables 4-3 and 4-4, cost estimates vary due to the different levels of complexity and integration for various system requirements. For instance, a system that only displays schedule information on-board and at vehicle stops is considerably less complex (and expensive) than a system that displays real time information and has the capability of communicating vehicle locations and estimated arrival times to a laptop or Blackberry device. While deployment of ITS technology can enhance various aspects of transit operations, customer convenience, and security, investment in these components should be given careful consideration due to their significant capital, operational, and maintenance costs. ITS costs are highly dependent on the characteristics of the project area and the existence/status of communication infrastructure. For example, these costs can vary significantly depending right-of-way requirements, and on the availability or capacity of and connectivity with the fiber optic communication infrastructure. These costs cannot be estimated with great accuracy at the planning level, but would be determined as part of an ITS design process.

4.4.3 Multimodal Facility

Consideration should be given to developing a multimodal terminal in the vicinity of the existing Amtrak rail station on Industrial Drive in the next five to six years. The terminal could serve as a centralized location where many different modes could operate cooperatively to provide transportation services. The facility could include:

- HAT local bus service
- AmTrak rail service
- Greyhound intercity bus service
- Pedestrian facilities
- Bicycle facilities
- Parking

Figure 4-1 presents the locations of the new HAT Transfer Facility, the Amtrak rail station, and the Greyhound bus terminal. Additionally, an aerial view of the area surrounding the Amtrak station is included.

Figure 4-1: Potential Multimodal Station Area

