



CHATHAM AREA TRANSIT



TRANSIT SERVICE GUIDELINES

**CHATHAM AREA TRANSIT AUTHORITY
FEBRUARY 2014**

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1. PURPOSE

The Transit Service Guidelines are designed to provide cost effective, convenient and reliable service for transit customers. The guidelines define the conditions that require action when standards are not met, but allow flexibility to respond to varied customer needs and community expectations in an accountable, equitable and efficient manner. Due to the sustaining and projected growth in the Savannah region, markets and customer expectations are ever changing and growing.

2. CAT SERVICE GUIDELINES

The adopted service guidelines are in the following areas:

- Transit Coverage
- Transit Access
- Bus Stop Spacing and Amenities
- New Transit Services
- On-time Performance
- Title VI Guidelines

The service guidelines are intended to be applied to two primary areas of focus: the evaluation of existing services and the evaluation of proposals for new service. As an example, the service guidelines can be applied in the following situations: restructuring service to eliminate lower-productivity segments or branches or adjusting service frequency to better reflect the demand for service. Routes that do not meet standards are not automatically eliminated. These guidelines call for the elimination of unproductive routes only as a last resort when it has been determined that no cost-effective actions are available to improve the productivity of the service.

The guidelines for evaluation of existing routes are not intended to preclude changes to routes that meet these minimum standards. In many cases, it may be possible to improve the productivity of routes that meet the minimum standards by making changes to headways or trip times. These guidelines should not be used to prevent changes to improve the efficiency of existing routes, as long as the changes meet the route design standards.

The evaluation of new service proposals will take place as proposals are received or needs identified. New service proposals will be evaluated based on the most recent information available regarding system standards. Decisions regarding implementation of new routes will be made through the service planning process and by the Service Development Review Committee.



3. TRAVEL MARKETS

Public Transportation cannot reasonably serve all person trips within a region. However, transit can compete effectively for market share in many situations.

To guide decisions on resource allocation and to provide a basis for measuring performance over time, CAT has identified those markets where it will seek to be competitive. The selected local travel markets are consistent with the CAT Vision and will support attainment of the CAT Strategic Objectives and the goals of the 2035 CORE Connections Framework Mobility Plan (Long Range Transportation Plan).

- **Travel Markets:** CAT will identify and consider the Metropolitan Planning Commission Transit Mobility Vision Plan when service changes or reductions are proposed.

4. TRANSIT COVERAGE

The purpose of these guidelines is to provide convenient access to transit service in all areas exceeding a minimum density. It is very difficult to provide effective transit services in low-density areas. This guideline supports the land-use goal of encouraging higher densities in coordination with transit services. Census block group and Traffic Analysis Zone (TAZ) data will be used to measure residential and employment density. The coverage area will be one-quarter mile around the desired pick-up area.

- **Residential and Employment Density:** In order for an area within Chatham County to be considered for CAT fixed route services, the area must meet a residential density of at least four (4) persons per acre and/or an employment density of three (3) employees per acre.
- **Suburban Areas:** In outlying suburban areas served primarily by express bus routes, park and ride lots will be sited in areas likely to attract good ridership and in locations where they can effectively intercept potential riders.

5. TRANSIT ACCESS

Buses can do substantial damage to parking lots and roadways that are not built to accommodate the weight of a bus. This needs to be taken into account in the planning for bus services.

- **Road Condition:** Transit service will only be provided on paved roadways that have sufficient strength to accommodate repetitive bus axle loads. The roadways must be in good condition and buses must safely be able to maneuver.



6. BUS STOP SPACING AND AMENITIES

It is recognized that bus stops and amenities help customers access CAT services and make their riding experience more comfortable, safe and friendly. Amenities include bus shelters, benches, waste receptacles, and static/electronic travel information signs.

- **Bus Stop Spacing:** Factors that should be considered in determining bus stop locations/spacing are as follows:
 1. Provide stops at major generators (For example: employment centers, residential areas with 500+ units, retail centers, public education centers, major medical facilities).
 2. Provide bus stops at transfer locations.
 3. To the extent possible, provide bus stops at signalized intersections where there are designated crossings.
 4. Provide intermediate stops based on the distance a person has to travel to arrive at a bus stop:
 - Central Business Districts or Major Commercial District: Minimum 500 feet
 - High to medium density areas: 750 to 900
 - Medium to low density areas: 900 to 1,300 feet
 - Low density to rural areas: as needed, no more frequent than 1,500 to 2,500 feet
 5. Bus stop spacing shall correspond to the spacing established in the *CAT Passenger Amenities Guidelines*.

- **Amenities:** Placement of amenities should be based upon factors that consider equity in distribution throughout the service area, and factors that consider the benefit to the user and site-related constraints. Greater consideration should be given to stops on key bus routes due to a generally higher level of demand. Stop locations that have boarding greater than 25 people per day will be given priority.

Other factors that should be considered in determining the priority for amenities at stops are:

- Lengthy wait times between buses (beyond 30 minutes),
- High percentage of transfer passengers (more than 25 percent), and
- High percentage of seniors or disabled persons using the stop (more than 25 percent).

The necessary infrastructure (such as sidewalks) must be in place in order to consider an installation. The integration of the necessary infrastructure and amenities in newly developed or redeveloped areas should be coordinated with the development. CAT should work with private landowners and developers, to the extent practicable, to leverage the construction or the monies to offset the construction costs of necessary infrastructure and bus stop amenities.

- **Accessibility:** All of CAT services and passenger facilities will be accessible to people with disabilities in accordance with the rules of the Americans with Disabilities Act (ADA).

7. ROUTE MONITORING SYSTEM

- CAT will develop and utilize a Monitoring System that uses a performance index based upon Passengers per Revenue Hour and Subsidy per Passenger to measure the performance of transit routes. A score of 1.0 represents average performance within the given service category. A score above 1.0 is better than average, and for scores above 1.0, the score itself



indicates how much better the route is performing above the average (1.5 is 50 percent above average, 2.0 is 100 percent, and so forth). A score below 1.0 represents below-average performance. A route with a score of 0.5 is at only 50 percent of the category.

- **Bus Monitoring System:** CAT will monitor routes with an overall index score between 0.75 and 0.99, and make changes to the service as needed. Routes falling between 0.50 and 0.74 should be subject to a more detailed analysis that examines performance by route segment and time of day and makes appropriate recommendations. Routes falling below 0.50 need immediate analysis and action.

8. NEW TRANSIT SERVICE

Proposals for new service come from a variety of sources including: the Transit Development Plan (updated every five (5) years), customers, employees, and reviews of system performance. New service proposals are reviewed during the service change process and are implemented based upon customer need and resource availability.

- **Performance Evaluation:** All new services will be subject to performance evaluations and will be expected to meet the performance standards for their service type within two (2) years of implementation.

New services will be expected to meet a performance monitoring score of 0.5 or better after one year. If this does not occur, CAT will review the service and look for ways to improve its performance. If the service performance slips to below 0.5 after two years, the route will be a candidate for discontinuation.

- **New Employment Shuttles:** New shuttle services in employment areas may require a financial contribution from business community stakeholders of up to 104 percent of the marginal operating cost.
- **Bus Services Outside of Chatham County:** CAT will follow the legislation set forth in the CAT Enabling ACT as it relates to bus services outside of Chatham County.

9. LOAD STANDARDS

The objective of load standards is to balance passenger comfort and safety with operating cost.

- **Load Standards:** CAT standard load factors for its bus services in regular service are:
 - 130% of seated capacity for fixed route transit service during peak hour service.
 - 100% of seated capacity for fixed route transit service during off-peak hour service

CAT will work not exceed its standard load factors for more than 30 minutes per trip on a given route. If a service is consistently above the seated capacity, then CAT will bring to the attention of the board for needed adjustments not that involve adding additional service outside the scope. Any changes approved will be added to the prior scheduled service change, if funding is



available. If the standing load compromises safety in any way, CAT will implement additional service to meet the demand.

- **Wheelchair Boardings:** CAT will analyze wheelchair boardings annually, and make necessary schedule adjustments. Trippers will be utilized if particular trips continually are not able to provide service to all wheelchair boardings on a given fixed route services.

Passenger Capacities

Vehicle Type	Seats	Standing	Total	Load Standards	Max. Standing
Goshen E450 Ford	18	1	19	1.1	1.5
Eldorado	23	1	24	1.0	1.5
2012 GOSHEN GCII	14	1	15	1.1	1.5
29 ft. Gillig Lowfloor	23	10	33	1.4	1.6
35 ft. Gillig Lowfloor	32	12	44	1.4	1.6
40 Ft. Gillig Hybrid Lowfloor	35	12	47	1.3	1.5

10. ON-TIME PERFORMANCE

CAT will perform reliably in accordance with the public timetables prepared and distributed by CAT, on-time performance standards have been established. A vehicle is considered “late” when it arrives five (5) minutes or more after the scheduled time. A vehicle is considered “early” if it departs one (1) minute or more prior to the scheduled time. All other trips are considered “on time”.

- **On-Time Performance:** CAT bus routes that achieve an on-time performance score of 75 percent (75%) or less over a course of two (2) service changes will be reviewed and remedial action to improve performance will be put in place at the next service change.

11. DUPLICATION OF SERVICE

Service duplication occurs when two (2) or more bus routes serve the same roadway. Duplication of service can sometimes be needed or unavoidable due to the presence of activity centers or the lack of alternate routing options. When services share the same street segment CAT will do the following:

- **Duplication of Service:** If two (2) services use the same street, schedules should be adjusted to maximize frequency on the shared alignment.

12. ROUTE DIRECTNESS

CAT will design bus routes to operate as directly as possible to and from major destinations in order to minimize passenger travel time. Routes shall operate on major arterial streets as much as possible. When a deviation exists or is being considered, the gain in convenience to those



passengers who are boarding or alighting during the deviation must be balanced against the additional travel time for the passengers traveling through.

- **Directness:**

1. To the extent possible, bi-directional service shall be provided on the same street.
2. Express service shall be routed in the most direct manner possible.
3. Deviations from the basic route alignment to serve activity centers will be made only when they have the potential to attract new riders equal to or exceeding the route performance evaluation standard for the corresponding route category.
4. Additional time to operate route deviations should not exceed five (5) minutes (one-way) or 10 percent (10%) of the one-way run time, whichever is less.
5. No mid-route loops shall be operated.
6. Terminal loops shall not exceed 25 percent (25%) of a route's total length for routes that exceed 30 minutes in one-way travel time.

13. ROUTE PATTERNS

It is sometimes more efficient to provide service to a certain area with one route having several branches than to operate several different routes. In addition, some bus trips on a route may not go to the end of the line due to very low ridership in that area at a particular time of day, also known as a turn back. These service designs can result in a route network that is difficult for current and potential customers to understand and utilize. Therefore, to provide a user-friendly service and to encourage maximum use of the system by all current and potential riders, standards for branches and turn backs shall be set.

Route Patterns:

- No route shall have more than two (2) distinct branches.
- No route shall have more than one (1) turn around on a given branch.

When two (2) routes are interlined, each route shall be treated as a separate route for the application of this standard.

14. SERVICE FREQUENCY AND SPAN

Service frequency is established to provide a sufficient number of vehicles to accommodate passenger volume at the most crowded location(s), during a given time period. On high ridership routes, the frequency of service provided is a function of demand and peak period loads. Service span refers to the hours that service is provided and defines the minimum period of time that service will operate at any point in the system.

- **Headways/ Frequency:** The policy headway for CAT local and neighborhood shuttle bus routes will be 60 minutes or better. Crosstown services will be no greater than 120 minutes in frequency during peak or non-peak service. In peak periods, 30-minute headways will be



the norm on local routes unless low demand warrants less frequent service. Express services will have a minimum of three (3) trips in each peak direction.

- **Service Span:** CAT Fixed Route Bus and Special Transportation Services will operate between 5:30 a.m. and 1:30 a.m.
 - Exceptions will be based on ridership and productivity.

15. VEHICLE ASSIGNMENT

CAT vehicles shall be assigned to specific service types according to the following guidelines. Exceptions to this may take place based upon operational and scheduling practices to maintain optimal efficiency.

- **Vehicle Assignment:** Fleet types should be assigned based on the service type it is intended to serve when feasible.
 - Express Service = 40-foot Hybrid
 - Local Service = 30 and 40-foot low floor
 - Shuttle Services = 30-foot low floor or 29 –foot low floor
 - Crosstown Services = 30-foot low floor or 29 –foot low floor

16. TITLE VI

- **Major Service Change Policy**

All major service changes as specified by CAT in coordination with FTA are subject to a Title VI Equity Analysis prior to Board approval of the service change. CAT will work to complete an equity analysis for a major service change and present to the public in the form of public meetings and to the CAT Board of Directors for its consideration and included in the Title VI program with a record of action taken by the Board.

A major service change is defined by CAT as: route elimination, new route creation, change of a route in which is 25% or more revenue miles are adjusted to a different route. In addition, anytime there is a 25% or greater change in revenue hours and/or revenue miles, 25% or greater reduction in span of service or fare change all of which will constitute a major service change.

- **Disproportionate Burden Policy**

The Disproportionate Burden Policy establishes a threshold for determining whether proposed fare or service changes have a disproportionate burden on low-income populations versus non-low-income populations.

The threshold is the difference between the burdens borne on low-income populations compared to non-low income populations. Exceeding the threshold means that a fare or



service change either negatively impacts low-income populations' more than non-low-income populations or that the change benefits non-low-income populations more than low-income populations.

If the threshold is exceeded, CAT must evaluate whether there is an alternative that has a more equitable impact.

CAT will take steps to propose policy to avoid, minimize, or mitigate actions that result in a 15 percent disparity between the burdens borne by low-income populations compared to non-low-income populations.

- **Disparate Impact Policy**

The Disparate Impact Policy establishes a threshold for determining whether proposed fare or service changes have a disproportionate burden on low-income populations versus non-low-income populations.

The threshold is the difference between the burdens borne on minority populations compared to non-minority populations. Exceeding the threshold means that a fare or service change either negatively impacts minority populations more than non-minority populations or that the change benefits non-minority populations more than minority populations.

CAT will take steps to avoid, minimize, or mitigate actions that result in a 15 percent disparity between the burdens borne by minority populations compared to non-minority populations.

17. SERVICE CHANGE PROCESS

Chatham Area Transit Authority (CAT) typically implements service changes to its bus service system three (3) times a year. The service change months typically take place in February, June, and October of every year, although CAT reserves the right to reschedule any service change to coincide with the change or implementation of any other CAT service.

- **Planning Process**

Service changes for CAT bus service are initiated by proposals generated by the realization of CAT goals and objectives and the identification of problems and issues concerning CAT bus service.

- Input and request for service changes are taken from customers, citizens, and elected officials.



- CAT System Development staff conducts research and analysis of the input and request for service changes that are received.
 - a) The research and analysis of service change requests that are conducted by CAT System Development staff takes no longer than 30 days to complete.
- CAT System Development staff will review the research and analysis conducted to develop alternatives and create service change recommendations.
- Reviews, research, and analysis of the CAT System Development staff is taken before all CAT Advisory groups for further review and approval.
- CAT staff reviews service change recommendations by evaluating available budget and equipment resources to determine when to implement certain service change recommendations, or if certain service changes recommendations can be implemented.

- **Public Notification**

Once CAT System Development staff creates service change proposals, the severity of changes to bus routes can be measured. Changes to CATS bus routes will be categorized into three (3) classifications of changes. Any adjustments to bus routes including scheduling adjustments, running time adjustments, bus stop addition, deletion, or adjustments, and adjustments to route structures will be taken into account in order to measure the severity of changes to routes. The three (3) classifications of changes are as follows:

- **Minor Change:** Any adjustment to a route that will change any part of the route by 0% - 15%. These changes would consist of changes in the schedules of routes. In addition, it will detail when there are detours that will last to or through the next service change. In the case of this percentage of change, public involvement is not warranted. Information items such as: Emails, Riders Alerts and mailers to customers to inform them of the changes usually are sufficient in providing information.
- **Moderate Change:** Any adjustment to a route that will change any part the route by 16% - 24%. These changes would consist of changes in schedules due to the restructuring of routes, adding additional headways to routes, and deviations or detours of routes that will change more than 20-25% of a route. Information items such as: Emails, Riders Alerts and mailers will be necessary in addition, these changes would warrant one (1) or two (2) public meeting, preferably in neutral area for services affected.



- **Major Change:** Any adjustment to a route that will change any part the route by **25% or more**. These changes would consist of changes in schedules due to restructuring routes, adding additional headways to routes, deviations or detours of routes and the addition of new routes or deletion existing routes. Information items such as: Emails, Riders Alerts and mailers will be necessary in addition, these changes would warrant one (1) or two (2) public meeting, preferably in the area for services affected.

- **Public Meetings**

The process for public meeting should be in two phases, both phases should be 30 days before actual service change.

- First meeting should be 15-30 days prior to the end of examining information and staff recommendations. Staff should get feedback in addition, hear what passengers needs are based on what they are shown.
 - Analyze and summarize information (Purpose, Objective)
 - Develop sketches and maps for proposal
 - Develop a power point and project priority
 - Get feedback and information for alternatives

The process for public meeting should be in two phases, both phases both phases should be no less than 30 days before actual service change.

- Second meeting will be 1-15 days prior to the first meeting to discuss alternatives based on first meeting. In addition, give public options to choose their services, based on staff recommendations.
 - Staff recaps the first meeting.
 - Alternatives based on the public's suggestions and insight.
 - Staff explains the recommendations and gives public choices.
 - Staff informs public of choices and lets public choose.

- **Public Notification**

The public should be given an overview of all the services that will changes based on the process. The overview should be in the form of a memo a paragraph or less about the changes to take place.

The public should be notified through rider alerts, hangtags and etc., about changes that will take place.



- This process should take place 14- 21 days after the 1st or 2nd public meeting, depending on the volume of the change.
- If the changes are minor and a public meeting is not needed, then information for the passengers should be circulated 30 days before the services will change.



