

October 15, 1969

PROPOSED
"CENTER CITY SHUTTLE"
DEMONSTRATION PROJECT
Atlanta, Georgia

City application

Two parking area = $\frac{1}{3}$ local share

CCF / evaluation

City to put together as a package
negot, reviews, record keeping & reporting
+ route, parking points,

PROPOSED "CENTER CITY"
SHUTTLE BUS CONCEPT
FOR DEMONSTRATION PROJECT
IN ATLANTA, GEORGIA

"Atlanta Traffic Grinds to Long, Hot Standstill." So stated the Atlanta Journal-Constitution following the midday traffic tieup last July 3rd.

"Downtown Atlanta traffic ground to a halt for hours in rippling afternoon heat Thursday, choking intersections and clogging main arteries in and out of the city.

"Many public transit schedules were wrecked as some buses marked time for as long as an hour in motionless lines of simmering cars and trucks", the article continued. "Idling under the sun at peak daytime temperatures, large numbers of automobiles overheated and stalled, further blocking the almost nonexistent traffic flow.

"It was the most solid traffic in memory for some Atlantans."

The continued growth of automobile travel plus the added traffic generated by the freeway system to the downtown area is likely to produce more such instances of overcapacity of the local street system. Effective express routes are being planned for access to downtown Atlanta. But with each new expressway, the local streets and parking facilities are burdened with a greater overload in the central business district.

At present growth rates, it is hardly conceivable that sufficient space to take care of all parking needs can be developed within walking distance of destinations in the central part of the city. Prohibitive costs of using downtown property for this purpose, as well as the intolerable traffic congestion which already exists at times between the expressways and ramp garages,

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make it mandatory that some parking facilities be located at the perimeter of the central business district, where land is less expensive.

Two such locations - - ready and available for daytime use by downtown workers and shoppers - - are the Atlanta Stadium and Atlanta Civic Center. The Stadium has 4,000 spaces distributed among four lots. 1,200 more are available at the Civic Center, with an additional 1,000 being planned. At the generally accepted average turnover of 1.5 cars per space in parking facilities across the country, this means that nearly 10,000 vehicles could be removed from downtown streets daily if these parking spaces were effectively tied to downtown destinations.

It is proposed that these parking terminals be connected to the downtown core area with fast and frequent shuttle bus service. These vehicles would loop through the parking areas and then operate non-stop to downtown on a five-minute peak hour schedule, with further improvement as patronage developed.

Travel time from either parking lot to any downtown building would be only five to ten minutes. This shuttle bus service would be just as fast as, or faster than, driving directly to a downtown destination and parking in an adjacent garage.

The cost of daytime parking, good until 7:00 P.M., would be 50¢. Shuttle buses would be free to patrons (auto driver's only) of the parking lots. In other words, the cost of the bus ride would be included in the parking fee. The parking tickets would be issued in two parts, one portion to be used for bus fare downtown and the other portion good for full fare on the return trip to the parking lot. Passengers of the auto owner would be charged a 15¢ cash fare on the Shuttle Bus in each direction. Buses would operate a continuous

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schedule throughout the day, at intervals of 10 minutes from both parking lots during off peak hours.

SHUTTLE BUS ROUTE

In order to make this perimeter parking proposal as attractive as possible, several shuttle bus routes have been considered through the downtown area. Certain of the plans included preferential treatment for transit vehicles, which offered promise of reducing travel time between lots by up to 50 per cent. Projects of a controversial nature, however, implementing radical changes in traffic habits, require vast amounts of time to sell, and become bogged down in both private and political interests. Atlanta needs relief now, and it was felt that the most realistic approach would be to provide a frequent, close-in service initially, using conventional vehicles in concert with existing traffic patterns. Once established, and proof of success quite apparent, the process of institution of innovative concepts becomes much easier.

The plan proposed (Figure A) is designed to provide the fastest shuttle service which can be developed on surface streets, serving the maximum number of downtown destinations, sharing street space and moving with all other traffic, and possible to implement in a few weeks time. As shown on Figure A, the route would run directly from the Civic Center Parking area along Pine St. to Peachtree Street, through the heart of the downtown area over Peachtree and Broad Streets to Mitchell Street; thence via "government center" along Mitchell and Washington Street to the Stadium. The northbound trip would follow Central Avenue to Hunter St., then Broad and Peachtree to Pine Street, and the Civic Center Parking area. This 6.6-mile loop would be negotiated in 25 minutes in each direction, and would require 10 buses during peak hours to maintain a 3-minute frequency serving both parking areas.

The proposed plan requires very little preparation of special physical facilities and, as previously mentioned, could conceivably be implemented in a few weeks time.

FUTURE INNOVATIVE POSSIBILITIES

Additional routes, or revisions of the proposed route, could later be designed - utilizing realistic measures of preferential treatment for shuttle buses. The route could run against traffic on some one-way downtown streets and allow buses to change traffic lights by remote control so they could cross safely through crowded intersections without delay.

To allow for reverse travel on one-way streets for buses, a mountable island separating the transit lane from other vehicular traffic would be needed. In addition, some curb cuts at intersections on reversible lanes would be required where right turns are involved. 'Wrong way' bus travel on one-way streets is effectively being operated in other cities, notably Harrisburg, Pennsylvania and Madison, Wisconsin.

The electronically activated traffic control system has also been adopted by some western cities and is being tested in Washington, D. C. In Madison, Wisconsin, a garage door-opening device is used to borrow up to five seconds of green time at each end of the traffic cycle split. The 3M Company has developed a traffic control mechanism called Opticom, consisting of three elements:

- (1) In the shuttle bus, a 'line of sight' optical energy transmitter is located;
- (2) On or near a traffic signal, an optical energy detector is placed;
- (3) At or near the signal's control box, a phase selector with power supply, decoder and relay-type computer are installed.

When the transmitter's beam of high-intensity optical energy hits the detector, it gives the appropriate instructions to the phase selector: if the light is already green, to hold that way until the vehicle has crossed; if it is red, to change it with a normal amber cycle to green by the time the vehicle has reached the intersection.

SPECIAL MERCHANDISING EFFORTS

Every effort should be made to tailor the service to motorists' travel habits and make perimeter parking as attractive as possible.

One innovation would be to install two-way radio communication between shuttle buses and the parking terminal. Upon boarding the bus, the shopper-patron would show her parking ticket to the operator. The latter would call the patron's ticket number to the parking terminal over the two-way radio, following which an attendant would bring the car up to the loading ramp. The package problem could be handled by having the attendant transfer packages from the shuttle bus, when it arrived, to the patron's car. The shopper would be ready to leave immediately for home over the freeways nearby with much less delay and inconvenience than are presently involved.

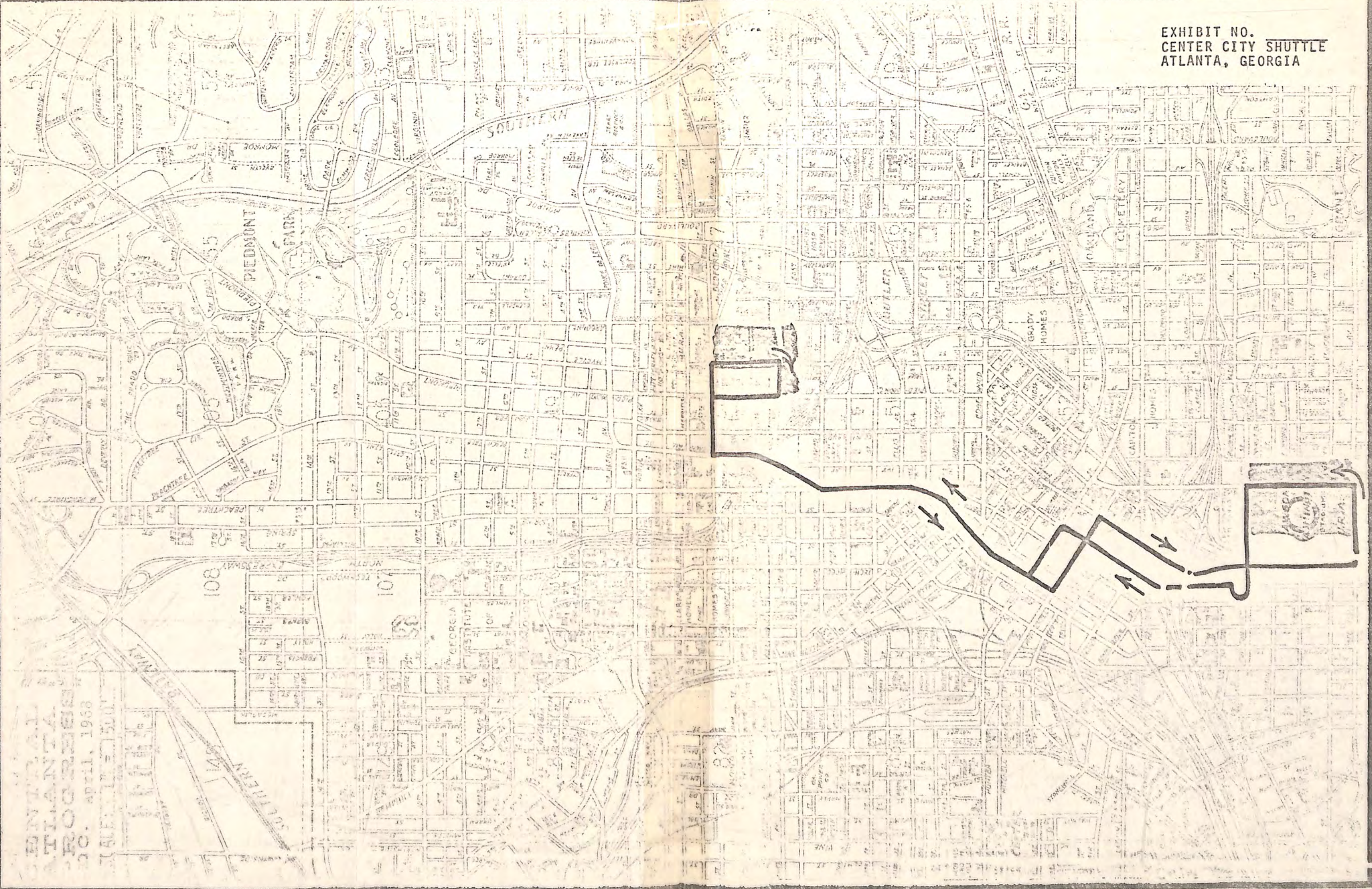
In addition to the regular schedules, arrangements could be made for special bus trips to transport employees of any company in the downtown area to and from one of the parking terminals at certain designated hours. For example, a bus with a sign "Piedmont Insurance Company" would leave the Stadium parking terminal at 8:20 every morning for the downtown offices of that company, and also pick up these employees when they leave the office at 4:50 in the afternoon. This plan would be an effective substitute for employee parking facilities in the downtown area.

Another point which might be exploited in promoting perimeter parking is the fact that these areas have sufficient space to accommodate a high proportion of self-parking. This is appealing to many motorists who are apprehensive about the abandon with which garage attendants maneuver their cars in and out of tight stalls in downtown garages.

CONCLUSION

The perimeter parking proposal would be a worth-while test under the demonstration grant program administered by the U. S. Department of Transportation. The City of Atlanta would make application for federal funds for a 12 or 24 month trial, utilizing the conventional shuttle operation for half the period and introduce the innovative proposals for the remainder.

EXHIBIT NO.
CENTER CITY SHUTTLE
ATLANTA, GEORGIA



ATLANTA
PROLOGUES
CO. April, 1968
SCALE: 1" = 1/4 MI.

GENERAL STATISTICS AND
OPERATING DATA FOR
CENTER CITY SHUTTLE

Route: Civic Center to Atlanta Stadium - via Forrest Ave., Piedmont Ave., Pine St., Peachtree St., Broad St., Mitchell St., Washington St., Georgia Ave. to Capitol Avenue.

Atlanta Stadium to Civic Center - via Capitol Ave., Fulton St., Alice St., Central Ave., Hunter St., Broad St., Peachtree St., Pine St. to the Civic Center.

Hours of Service - 7:00 a.m. to 7:00 p.m., Monday through Friday, except holidays.

Equipment Requirements - 10 buses (in daily service), 1 spare bus - 47 pass. capacity.

Service Frequency - 5 min. headway during peak hours, 10 min. during base.

Total Annual Bus Hours - 21,017

Total Annual Bus Miles - 167,821

Route Miles - 6.64 mi. round trip - Avg. Speed, 8 mph

Recommended Fares - 50¢ for auto driver, which includes parking fee and round trip ride on Shuttle. All others, 15¢ per ride, with no transfer privileges.

Number of Bus Operators Required - 10 operators, (5 day work week).

Total Daily Platform Hours (operators) - 81:48 hrs.

Total Daily Pay Hours (operators) - 87:20 hrs.

Supervisory Personnel - 2 men, (5 day work week) - Total 16 hours per day.

Total Daily Bus Miles - 653 mi.

Special Equipment:

- (a) 11 Mobile 2-way radio units
- (b) 2 UHF Walkie-Talkie units
- (c) 2 Single position Supervisor booths - (air conditioned)
- (d) 5 Bus stop shelters
- (e) 11 Registering Lock-type Fare Boxes

Additional Annual Costs:

- (a) Lights, heating and cooling supervisor booths.

PARKING FACILITIES:

Total Available Parking Spaces at Stadium 4,000
Total Available Parking Spaces at Civic Center 1,200
Total Ultimate Parking Spaces - (both locations) 6,400

Civic Center Parking Entrance - Mid-block on Pine St., between
Bedford Pl. and Piedmont Avenue.

Civic Center Lot Exit - Mid-block on Forrest Ave., between
Bedford Pl. and Piedmont Avenue.

Stadium Parking Entrances/Exits:

- (a) Capitol Ave., mid-block between Georgia Ave.
and Fulton Street.
- (b) Fulton St., mid-block between Capitol Ave.
and bridge.

Number of Parking Attendants - 2 at Stadium, 1 at Civic Center, 1 floating
relief. Total of 4 men, full time - 1 part time.

Hours of Lot Operation - Open at 6:45 a.m., close at 7:15 p.m.

Hours of Duty - Attendants:

- (a) Civic Center #1 - 8 hours
- (b) Stadium #1 - 8 hours
- (c) Stadium #2 - 8 hours
- (d) Stadium/Civic - 9 hours
- (e) Stadium Extra - 4½ hours

Total 37½ hrs/daily

Total Annual Attendants Hours - 9,637.5 hrs.

Special Construction Costs:

- (a) Physical changes in driveway alignment and parking
configuration at Civic Center Lot.
- (b) Curbing for entrance reservoirs.

Special Equipment:

- (a) 3 Attendant Booths, 3' X 6',
heated, air conditioned.
- (b) Telephone at each booth
- (c) Serial numbered, 2 part parking tickets. (Est.
2,500 per day) - 642,500 ea.

Additional Annual Cost:

- (a) Lights, heating and cooling attendant's booths.
- (b) Telephone service for attendant's booths

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SUMMARY OF CAPITAL
COSTS FOR INSTITUTION
OF CENTER CITY SHUTTLE

<u>Item No.</u>	<u>Description</u>	<u>Total Cost*</u>
(1)	Cost of Vehicles - 11 new A/C GMC Buses (ATS cost) - (\$41,580.50 ea. plus \$1200 Del. and make-ready)	\$470,585**
(2)	Cost of Radio Equipment - 11 new GE/UHF mobile units (installed). 2 - GE/UHF "Walkie-Talkie" units -	15,600
(3)	Cost of Supervisor Booths - 2 ea. All-weather 3' x 6' Metal booths (1 - Stadium, 1 - Civic Center) - A/C \$1500 each installed -	3,000
(4)	Cost of Bus Stop Shelters - 5 ea. 6' x 10' Structure, complete with seats, side panels and Corrolux roof - installed (\$995 ea. plus \$200 inst.) -	5,975
(5)	Cost of Special Fare Boxes - 11 new Keene-Johnson Registering - Lock Fare Boxes (\$900 ea. installed) -	9,900
(6)	Cost of Parking Attendants Booths - 3 ea. 3' x 6' metal - 12" canopy overhang - complete with heaters, cooling units and counters - installed (\$1150 ea. bldg. - \$200 A/C - \$175 inst.) -	4,575
(7)	Cost of Special Construction - a. Re-alignment of Driveway. Revise parking configuration at Civic Center Lot. b. Curbing for reservoir spaces at 3 entrances (150 ft. pre-cast) -	<u>1,200</u>
TOTAL CAPITAL COSTS:		<u>\$510,835</u>

* Includes estimate of installation and construction based on current labor and materials costs.

** Includes Federal Excise Tax but does not include Ga. Sales Tax.

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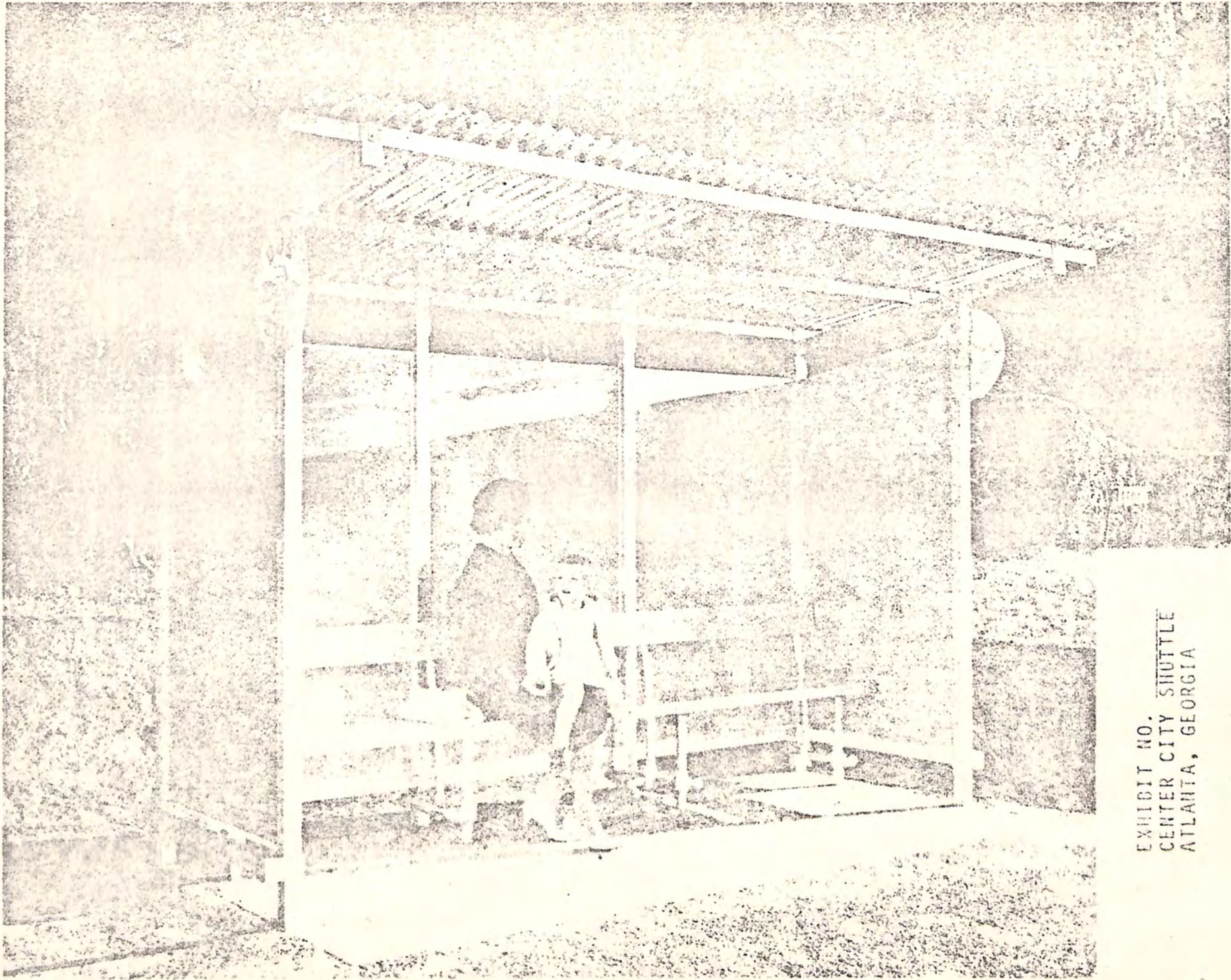
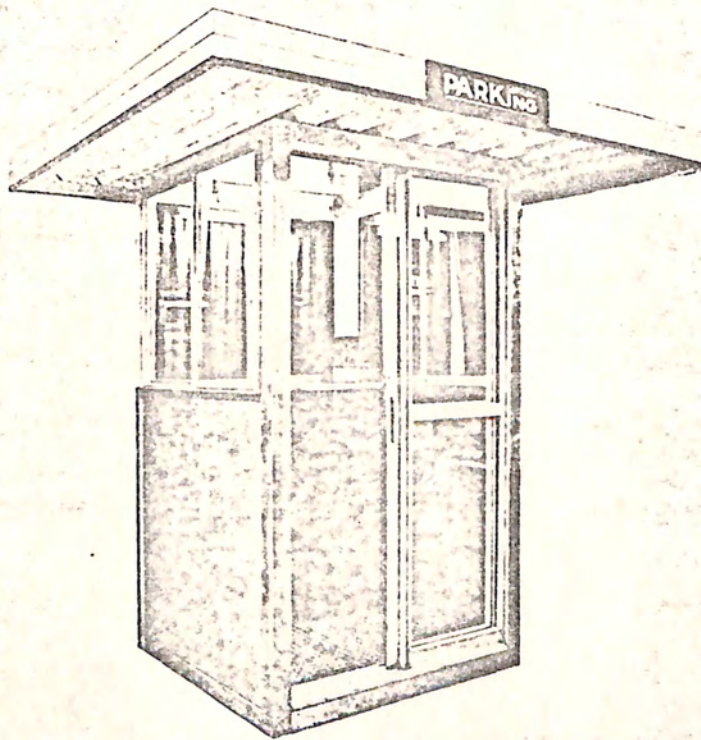


EXHIBIT NO. SHUTTLE
CENTER CITY
ATLANTA, GEORGIA

EXHIBIT NO. 1
CENTER CITY SHUTTLE
ATLANTA, GEORGIA



ANALYSIS OF OPERATING
COST PER BUS HOUR

	<u>Costs of Operation</u>		
	<u>Labor</u>	<u>Other</u>	<u>Total</u>
<u>COSTS PER HOUR - 1970</u>			
Actual costs - 12 mos. to 8/31/69	\$ 9,033,800	\$4,221,300	\$13,255,100
Adjustments:			
Eliminate -			
Depreciation on motor buses	-	(988,400)	(988,400)
Atlanta 3% gross receipts tax	-	(279,200)	(279,200)
Add -			
Costs of contractual wage changes	1,554,100	-	1,554,100
Increased costs of fuel, maintenance and repair items, etc.	-	97,200	97,200
Increased ad valorem taxes	-	20,600	20,600
Costs as adjusted	<u>\$10,587,900</u>	<u>\$3,071,500</u>	\$13,659,400
Bus Hours - 12 months to 8/31/69			1,438,300
Costs per hour - 1970			<u>\$ 9.50</u>

COSTS PER HOUR - 1971

Costs - as adjusted for 1970	\$10,587,900	\$3,071,500	\$13,659,400
Adjustments:			
Add -			
Contractual wage costs in 1971	652,400	-	652,400
Increased costs of fuel, maintenance and repair items, etc.	-	102,100	102,100
Costs - as adjusted	<u>\$11,240,300</u>	<u>\$3,173,600</u>	\$14,413,900
Bus Hours - 12 months to 8/31/69			1,438,300
Costs per hour - 1971			<u>\$ 10.02</u>

ESTIMATE OF REVENUE DIVERSION
FROM OTHER ATS ROUTES RESULTING
FROM UNRESTRICTED "SHUTTLE" OPERATION

There are 1,701 homes within reasonable walking distance of the Stadium and 529 homes within walking distance of the Civic Center.

Residents of these 2,230 homes are in the low income bracket and provide good bus patronage. Moreover, 75% of them transfer to other lines.

It is estimated that these 2,230 homes produce 2,700 transit rides per day at an average fare of 32.8¢. It is also estimated that 25% of 2,700 or 675 would take advantage of the 15¢ Shuttle bus fare (without transfer privileges) if permitted.

32.8¢ X 675 = \$221 per day diversion of revenue.

* * *

During the middle of the day the "Park-Ride Shuttle" would supplement the Shopper Special line, splitting the Shoppers headway.

An average of 3,600 15¢ fares per day are collected on the Shoppers Special, 80% or 2,900 of which are along the proposed "Park-Ride Shuttle" route.

It is estimated that 1/3 of 2,900 or 967 Shoppers fares would shift to the "Park-Ride Shuttle".

967 @ 15¢ = \$145.00 per day diversion of revenue

Total diversion of Revenue = \$221. + \$145 = \$366. per day or
\$94,062. per year.

UNDER PLAN "B" (Local Participation):

15,424/21,017 hrs. X 94,062 = \$69,030

COSTS OF "CENTER CITY
SHUTTLE" BUS OPERATION
YEARS 1970-1971

	<u>1970</u>	<u>1971</u>	<u>Total 2 Years</u>
Cost per bus hour	\$ 9.50	\$ 10.02	
Add 10% for contingencies	<u>.95</u>	<u>1.00</u>	
	<u>\$ 10.45</u>	<u>\$ 11.02</u>	
Cost for 21,017 hours of oper.	\$219,627.65	\$232,540.73	
Supervision cost (2 supervisors 8 hours a day - each location)	<u>21,300.00</u>	<u>23,400.00</u>	
	\$240,927.65	\$255,940.73	\$496,868.38
Recoupment of revenues diverted to this service	<u>94,062.00</u>	<u>94,062.00</u>	188,124.00
TOTAL COST OF BUS OPERATION	<u><u>\$334,989.65</u></u>	<u><u>\$350,002.73</u></u>	<u><u>\$684,992.38</u></u>

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Revised 10/22/69

COST OF PARKING OPERATION

ATLANTA STADIUM & CIVIC CENTER
YEARS 1970-1971

	<u>Costs of Operation</u>		
	<u>1970</u>	<u>1971</u>	<u>Total 2 Years</u>
Cost of Parking Attendants - (37½ hrs./day) 9,637.5 hours @ \$2.50/hr. rate X 125% fringe allowance -	\$30,117	\$31,924	
Cost of Parking Tickets - (2 part w/stub) - serially numbered - 650,000 annually (\$2.10/M delivered)	1,365	1,365	
Cost of Utilities - Lights, phone, heating, etc.	<u>1,170</u>	<u>1,140</u>	
TOTAL COST - PARKING OPERATION	<u>\$32,652</u>	<u>\$34,429</u>	<u>\$67,081</u>

Atlanta, Georgia

SUMMARY OF PROJECT COSTS

TWO YEARS - 1970-71

Total Capital Costs	\$ 510,835.00
Total Cost of Bus Operation	684,992.38
Total Cost of Parking Operation	<u>67,081.00</u>
TOTAL 2 YR. PROJECT COST	<u><u>\$1,262,908.38</u></u>