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**TOD Transit Management Plan  
Harbor Point  
Stamford, CT**

**Antares Real Estate, Inc.**

**March 2008**

**Prepared By:**

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## **Introduction**

This report details the proposed program for implementing the Harbor Point Jitney Shuttle. The proposed program features a phased in approach for the service reflecting the phased construction approach being implemented by Antares.

The concept of the Jitney is to provide short headway, convenient transit service using specialty vehicles for the program. The concept is to have a vehicle which provides service to and is closely linked to the Stamford Transportation Center and the Stamford Downtown.

Following will be details on the proposed implementation program, suggested operating entity, and phase implementation plan. Information will be provided on annual costs and suggestions made for potential future expansion.

## **The Proposed Program**

As part of the initial Transportation Management Plan prepared for the Harbor Point Master Plan submittal, Earth Tech recommended the incorporation of a Jitney service. This service was conceived to capture the expected need for non SOV trips to the Stamford Transportation Center (STC).

Three integrated route systems were proposed which formed the basis for the system.

1. The early morning NY based Commuter Route
  - a. To run from 6:00AM to 7:30 AM and 6:30 PM to 8:00 PM (Figure 4)
  - b. Headway 15 minutes.
2. The Stamford CBD and STC Employee Route
  - a. To run from 7:30 AM to 9:30 AM and from 4:30 PM to 6:30 PM (Figure 5)
  - b. Headway 15 minutes
3. The CBD Shopper route
  - a. To run from 9:30 AM to 4:30 PM (Figure 6)
  - b. Headway 30 minutes.

The program is intended to offer an alternative to Harbor Point Residents and employees to quickly and efficiently access the STC and Stamford CBD without the need to drive.

Several guidelines and data concerning the potential for this service were presented in the earlier report. They are repeated here for continuity.

Harbor Point is within a half-mile of the Stamford Transportation Center, on the south side of the Interstate 95 and the Northeast Corridor Rail line. Since it is intended to be market level higher density residential with an appropriate level of affordable housing units, it will be attractive to those who desire living accommodations that do not require a car for every trip. Such development is often described as Transit Oriented Development (TOD). These developments have six common characteristics:

1. The transit facility serving Harbor Point should be visible and make a positive contribution to the identity and character of the area.
2. Travel to and from the transit facility and surrounding commercial area should be convenient, safe, and pleasant for pedestrians and bicyclists.
3. Good urban design, orientation of buildings, signage and active storefronts, are extremely important.
4. Reduced reliance on automobiles and reduced number of trips by car. Shared parking and an ability to park once and walk between stops are essential.
5. Mixed land uses are important to bring vitality to the area throughout the day, and to provide convenience retail, groceries, video rentals, restaurants, etc. in order to encourage walking trips for daily needs and errands.
6. Higher density uses whether residential, office or retail, should be placed around the transit facility. Concentrating development places many individuals within walking distance of the facility and encourages transit usage.<sup>1</sup>

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<sup>1</sup> Boston Redevelopment Authority, Draft BRA document on Transit-Oriented Development, 2001.

While the residents of TODs often own automobiles, they do not use them for every trip – and particularly do not use them for the Journey-to-Work (JTW). A TOD within a half-mile of the Stamford Transportation Center affords the opportunity to live in Stamford and commute to work in New Haven, Bridgeport, Norwalk, and New York by train, easily and inexpensively. The level of service in Stamford, with 44 minute express trains to Grand Central Terminal encourages that.

### Evaluation

The impact of TOD on travel within and from the Antares developments, both Harbor Point, and Yale and Towne was evaluated. Impacts include decrease in the auto trips generated, changes in the directions those trips will travel, and development of an internal transit service to provide convenient shuttle transit service for the development, connecting it to the Transportation Center and downtown Stamford jobs and retail opportunities.

### Analysis

Analysis of the impact relied on two basic sources of data: the 2000 Census Journey-to-Work data and the New York Metropolitan Transportation Council's Best Practice Model (BPM).

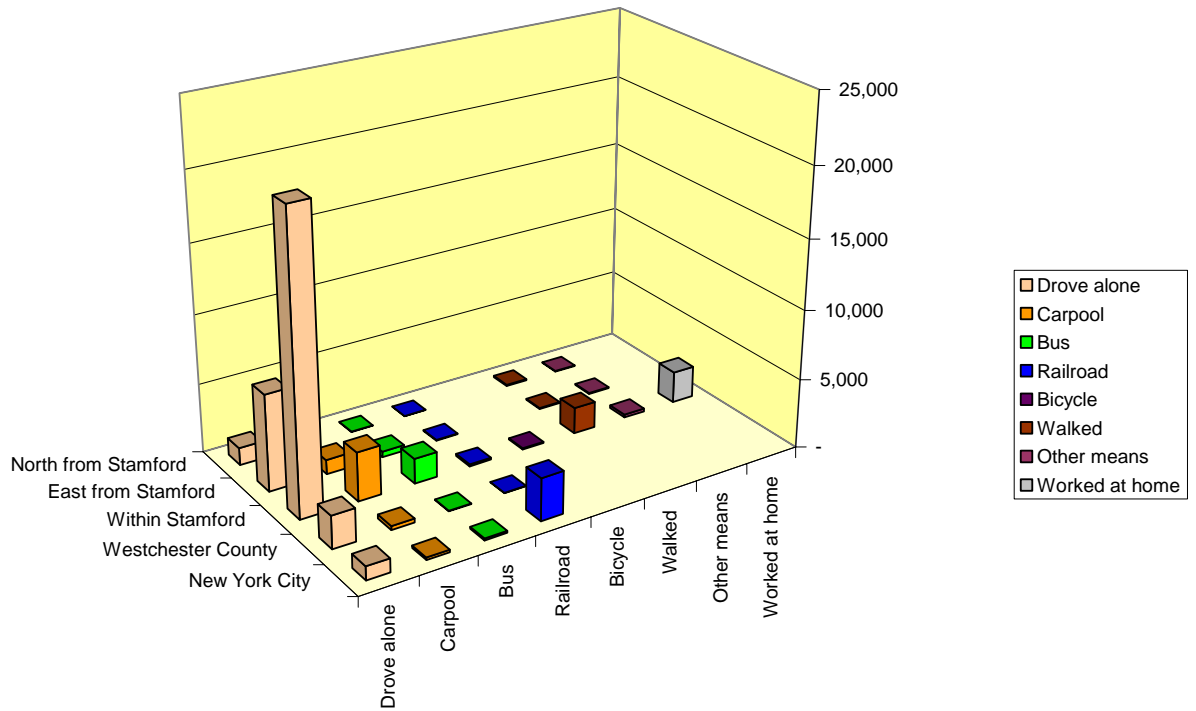
In the 2000 Census, every sixth household was asked to complete a questionnaire that included questions about their journeys to work the previous week. They were asked work destination, mode and travel related information. While these data are available by census tract and the South End is a single tract, Census confidentiality requirements eliminate the usefulness of census tract data, as all but the largest numbers are suppressed. Therefore, Minor Civil Division data were used for Stamford.

Table 1 of the JTW data has travel by mode from Stamford to all destinations where Stamford residents work. Table 1 shows the results, illustrated on Figure 1.

**Table 1 - Journey-to-Work from Stamford**

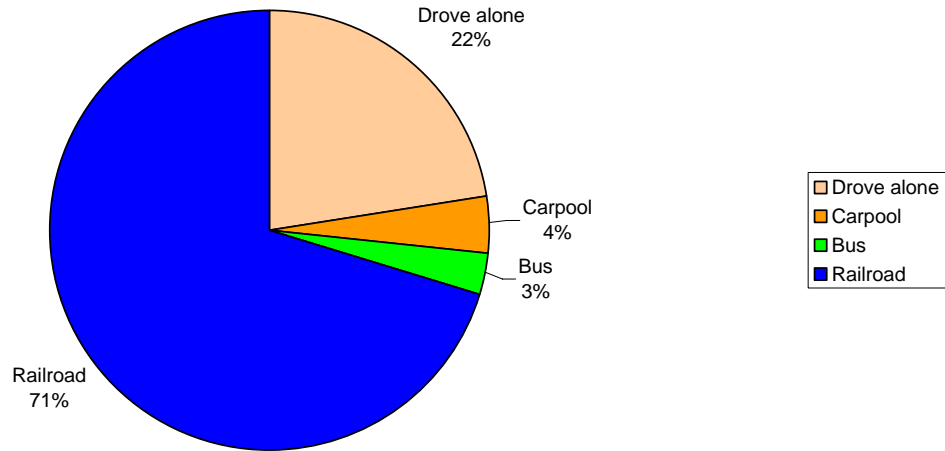
	<b>Drove alone</b>	<b>Carpool</b>	<b>Bus</b>	<b>Railroad</b>	<b>Bicycle</b>	<b>Walked</b>	<b>Other means</b>	<b>Worked at home</b>	<b>Total</b>	<b>Percent</b>
<b>North from Stamford</b>	1,235	155	30	19		100	55		1,594	3%
<b>East from Stamford</b>	6,958	1,047	410	53		78	75		8,621	18%
<b>Within Stamford</b>	21,225	3,535	1,810	145	95	1,900	215	2,295	31,220	64%
<b>Westchester County</b>	2,365	283	45	24					2,717	6%
<b>New York City</b>	985	185	135	3,075					4,380	9%
<b>Total</b>	<b>32,768</b>	<b>5,205</b>	<b>2,430</b>	<b>3,316</b>	<b>95</b>	<b>2,078</b>	<b>345</b>	<b>2,295</b>	<b>48,532</b>	
<b>Percent</b>	68%	11%	5%	7%	0%	4%	1%	5%		

**Figure 1**  
**Stamford Journey-to-Work**



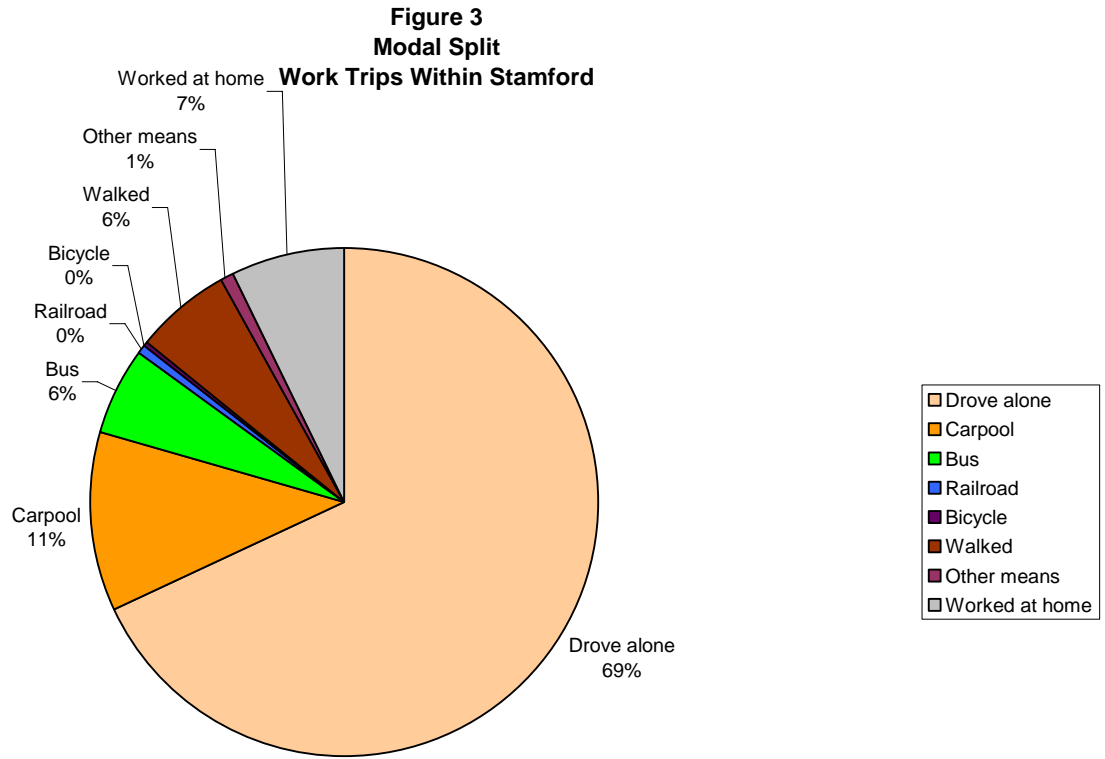
As can be seen from the data, Stamford is more transit friendly than much of the United States, with only 68% driving alone and 12% on transit. Outside the New York area, transit ridership in two digits is seen infrequently. One reason for that is that 9% of the trips from Stamford are to New York City, where parking costs and congestion make transit the preferred option for all income groups. Indeed, 70% of the Stamford commuters to New York use the New Haven Line for their journeys to work. Figure 2 illustrates the mode split for New York journeys, which include jobs in the Bronx, Queens, Brooklyn and Staten Island, as well as Manhattan.

**Figure 2**  
**Modal Split**  
**Stamford to New York City**



Most Stamford residents work in Stamford. Data provided in overall JTW studies in the 2000 Census indicated that 58% of Stamford resident employees live in the City. This is true of most municipalities. Within Stamford, people drive alone, ride carpools and bicycles, walk to work, and work at home. Connecticut Transit's bus system provides an urban level of service, attracting thousands of riders. Figure 3 illustrates the modal split for people working within Stamford.





The implications for Harbor Point are significant. Harbor Point will attract residents who are likely to be commuters to Manhattan since it is within walking distance to the train. It will also attract workers in the Stamford office complexes, which are also within walking distance or a short bus or bicycle ride away. Therefore, the modal split expected of these workers is likely to be fewer auto oriented than current Stamford residents, because of the transit friendly location. A convenient shuttle service, connecting Harbor Point and the Yale and Towne property to the Transportation Center and the downtown office complexes will enhance that attractiveness and reinforce the transit orientation of the development.

For purposes of this analysis, it is estimated that 20% of the Harbor Point residents will commute to Manhattan or other destinations served by Metro North, and that 80% of them will take the train. As they are locating in the development to be close to the train, the increase from 70% is not unreal. This reflects current rail usage in Westchester County for commutes to the City. Thus, we estimate that 16% of the total work trips would be train commuting trips. Given the certainty of easy access to the STC,

an additional percentage of train commutation is likely to Norwalk and Bridgeport, but to a lesser degree.

It is further assumed that the majority of workers in the Harbor Point community would work in Stamford, which is typical. The likelihood of moving to Stamford is enhanced by a job in Stamford, and two person households, with one working in Stamford and one working elsewhere, will find this a very convenient location. The likelihood that those living in Stamford will take transit to work is currently 6% overall. Given a shuttle service to the offices nearby, a much higher percentage can be achieved. The likelihood that those living in Stamford will walk or bicycle to work is also 6%, and this too is minimal for a location less than a half-mile from the job locations. That can easily account for another 14% of the total work trips, even if only 20% of the Stamford workers walk, bike, or take the shuttle bus.

Together, these reductions will eliminate 30% of the auto work trips the development would have were it not transit oriented development. We believe this estimate to be conservative. In fact, this has turned out to be true in National Studies. In fact, residential trip reductions for TOD developments have been documented at 50%. (See the attached report). As part of the Traffic Analysis developed for Harbor Square, the existing Metro Center building was counted to determine reductions in traffic accessing an office structure in a TOD area. The results showed that the building generated traffic at a level which was 60% of traditional expected traffic generation. A survey of one business at Harbor Park on Ludlow Street revealed that 70% of its employees used the Stamford Transportation Center and free shuttle provided by Antares.

Trips to the neighborhood commercial facilities from these residents will also be less likely to be auto trips. Shops and services within walking distance of the residents will encourage walk and bicycle trips, except when goods need to be carried, like the weekly grocery trip.

Non-Work trips can be similarly reduced based on the development of appropriate community transit routes and schedules. Given the location of Harbor Point, and Yale and Towne, a reasonable percentage of the Non-Work Trips from the residences at Harbor Point can be captured by shuttle oriented to serve these trips and connecting to the Downtown.

It is estimated that the residential component of the trip generation for work trips in the morning peak be reduced by 30% to account for the location and transit orientation of the development.

Shuttle Service

As previously mentioned a convenient shuttle service, connecting Harbor Point, and the Yale and Towne property to the Transportation Center and the downtown office complexes will enhance that attractiveness and reinforce the transit orientation of the development. Therefore, three shuttle routes are being proposed to serve the Antares Development in the South End of Stamford.

The routes, as well as their proposed stops, are shown on the attached diagrams. Each route will operate in both directions as loops, and the stops are within 1000 feet of most origins and destinations. The route statistics are shown in Table 2 below.

**Table 2 - Shuttle Bus Routes**

	Length		Operating Time (Min)	No. of Stops	Dwell Time (Sec)	Run Time (Min)
	(Feet)	(Miles)				
<b>Route 1</b>	7,000	1.3	4.0	7	5.25	9.2
<b>Route 2</b>	21,000	4.0	11.9	14	10.5	22.4
<b>Route 3</b>	19,500	3.7	11.1	13	9.75	20.8

The proposed development consists of 4000 units, with 20% of the residents estimated to commute to Manhattan, and 30% to the Stamford CBD. This would generate 800 potential trips to the train station, 500 in peak hour or 125 riders per trip. For the first 1600 homes, that's 25 riders per trip in each direction, which would require 20-30 passenger buses at 15 minute headways. As the development grows, either the bus can grow or the frequency can increase, with similar sized buses. During the off peak hours the 30 passenger buses will be more than adequate, as will the 15 minute headways.

### Bus Stop Locations

It is intended that the Antares Jitney Service use existing established bus stop locations on the routes which it services. This will insure that it is focused to familiar locations. The smaller vehicles will easily be able to negotiate these locations. As the program develops and in concert with the City and State additional locations may be identified.

Branding for the system will be important and at stop locations signs will be installed which identify the stop as serviced by the Antares Jitney.

As part of subsequent development of Harbor Point, a Transportation Center will be developed in the residential blocks, south of Harbor Square. The exact location will be determined as this section develops. This will be a small ground floor space adjacent to a centralized stop location in this area, which will allow users to obtain information on the Jitney and other modes of transit and perhaps, information on train schedules and such. It would be ideal if vending machines dispensing Metro North or Uni-tickets were available for convenience of users. These details will be worked out with the DOT as the development progresses.

### Coordination with the STC

We are aware of the Stamford Transportation Center Recommended Improvement Plan, and feel there are several elements where the Antares Development can provide important input, including the provision of shuttle van facilities on the south side of the STC, coordination with the Urban Transitway, evaluation of Station Place Operation, support of short term parking enhancements, service on advisory committees and planning committees, and involvement in circulation studies affecting the South End.

It is envisioned that the Antares interface with the STC will be complimentary and focused to the Station Place. Shuttles to the Antares TOD will be on a scheduled basis and, thus, not require waiting storage at the STC.

The need to interface correctly and efficiently with the STC is a primary objective of Antares.

### Goals

The Harbor Point project with its residential and commercial development is ideally suited for development as a model TOD facility. Implementing non-traditional improvements connecting this development to adjacent transit facilities is a primary goal for this project.

Interfacing with the STC and Downtown via developer provided or developed shuttle programs complimenting or supplementing Connecticut Transit routes is proposed. It is recognized that routes, schedules and vehicles need to be developed serving the needs of this project.

Reducing Work Related Trip Generation by 30% is seen as an achievable goal for this project.

Reducing Non-Work Related trips is recommended by development of proposed shuttle service.

A major goal of this program is to focus improvements which accommodate transportation demands of the project, recognizing transit opportunities and the limited ability of the interstate highway connections to accommodate significant additional auto commutation trips.

### **Implementation Plan**

Antares Real Estate currently operates shuttle systems from its' other holdings in Stamford and has experience in running this type of service. These shuttles are demand responsive and function as other corporate shuttles do. They are targeted solely to the STC and use vehicles similar to other corporate shuttles.

This operation is not what is proposed for The Harbor Point Jitney. The Jitney will be a scheduled service on specific headways providing reliable, frequent schedules. It will not be demand responsive. There will be no fare charged for the Jitney and it will operate on a fixed route with and "Open Door" policy. That is to say that anyone can board the service and travel all or part of the route.

Vehicles will be approximately 20-30 passenger deluxe transit vehicles which offer comfortable seating and space for luggage or shopping packages.

The Harbor Point Jitney vehicles will be distinctly marked to be easily recognized.

The type of operation proposed is different from what Antares has operated in the past and, based on discussions with our client, it was determined that the opportunity to integrate this service into the transit operations already in Stamford needed to be explored.

Currently, the State of Connecticut provides transit service for Stamford using Connecticut Transit (CTTRANSIT). The current operation is fixed route and all service at some point routes through the STC.

It was logical to approach the Connecticut Department of Transportation to determine if the Harbor Point Jitney could be operated by DOT through CTTRANSIT with costs underwritten by Antares. Several reasons made this attractive to Antares:

- The difference in the operating issues a fixed route system brings.
- The ability to integrate with other services in Stamford to avoid duplication.
- Existing Maintenance Facilities for vehicles within the city with trained personnel.
- CTTRANSIT experience in operations.
- Vehicle storage and security at existing facilities.

To explore this arrangement, a meeting was held with senior level DOT staff and management of CTTRANSIT. The results of this meeting indicated that it appeared feasible that CTTRANSIT could operate the Harbor Point Jitney. In fact, DOT and CTTRANSIT were engaged in planning for the STAR Shuttle in Hartford which is a similar concept except that a fare would be charged.

We requested CONNDOT to review regulatory and labor issues and advise us if the request by Antares to have the Jitney operated by CTTRANSIT. The attached letter from Michael Sanders of DOT was received in response to that request and we are continuing planning with CONNDOT for implementation as part of Harbor Square.

## **The System**

Ultimately, the Harbor Point Jitney will require a fleet of 5 vehicles to operate on the routes and schedules which were indicated earlier.

Initially, the system will serve a much smaller development and this will require phasing in the Jitney service as Harbor Point develops.

Phase 1 of the Service is envisioned to have two vehicles to serve the 572 residential units proposed in the Harbor Square phase and Yale and Towne.

As required in the approval for Master Plan, it is proposed this service will commence with the opening of Harbor Square. The exact nature of the routes and frequency of service will be detailed with the City by CTTRANSIT, DOT and Antares. Harbor Square provides a Hotel, Commercial and Office space. Operations will be tailored to this use. The overall concept for the service will be as presented in this document.

## **Estimated Implementation Schedule and Criteria**

Implementation of the Harbor Point Jitney Service will entail labor and vehicles. This portion of the plan will present our initial concept for the development of this service.

We envision that separate vehicles will be acquired for this service, and that said, vehicles would be phased in over the development schedule of Harbor Point which will be somewhat dependant on market conditions.

The type of vehicle used in this service will be heavier duty than the typical corporate shuttles. Based on early discussions with ConnDOT and CTTRANSIT, it is expected that these agencies will develop final specifications for the vehicles in concert with Antares. The following goals will be the framework for this specification.

- Unique and recognizable vehicle of approximately 20-30 passenger capacity.
- Low Emissions and cost efficient operations.
- Ease of integration to CTTRANSIT Maintenance systems.
- Implementation of STAMFORD ITS systems relating to Urban Transitway.

Operating costs would involve primarily the labor costs for drivers, fuel and allocation of maintenance overhead costs. As the discussions with CTTRANSIT and DOT are just beginning, no final figures are available.

The following **Table 3** presents the recommended implementation plan for this service.

**Table 3 – Implementation Plan**

Phase	Residential Units*	No. of Vehicles	Routes Served	Schedule	Comments
1	575	2	1,2	M-F	Start of Service 2009-10
2	>1000	3	1,2	M-F	
3	>1500	4	1,2,3	M-F	
4	>2500*	5	1,2,3	M-F**	Full system deployment

\* Including units developed in Yale and Towne section.

\*\* Weekend Route 3 service may be implemented based on demand.

**Service Expansion**

The plan prepared in the report envisions the assumptions which have been made regarding the Harbor Point, Yale and Towne, Antares development proposed for the South End. It is likely that expansion of this Jitney Service may be warranted by future development and a means to enable financial resources be available for such expansion is desirable. In discussions with Regional Planning Staff, it was suggested that consideration of creation of a Transit Management Association (TMA) be reviewed. Such a plan would place the ongoing operation of the Jitney within the purview of the TMA and additional participants wishing an expansion of the service would have a vehicle in which they could participate to the extent that the service expansion required additional funding. While this is one concept, others may be appropriate also. It is noted here so that as the program develops and demands for such expansion materialize, the mechanism is in place to facilitate adjusting and funding the service.



## **Summary**

The operation of the Harbor Point Jitney is advancing in the planning stages with the following determinations made at this time.

1. Implementation through the auspices of CTTRANSIT is desirable.
2. Vehicles will be smaller capacity transit vehicles with “green” features.
3. Phased implementation will be planned to accommodate the phased implementation of Harbor Point.
4. System size is ultimately projected at 5 vehicles.
5. It is recommended that a mechanism be put in place to foster expansion and/or enhancement of the system.

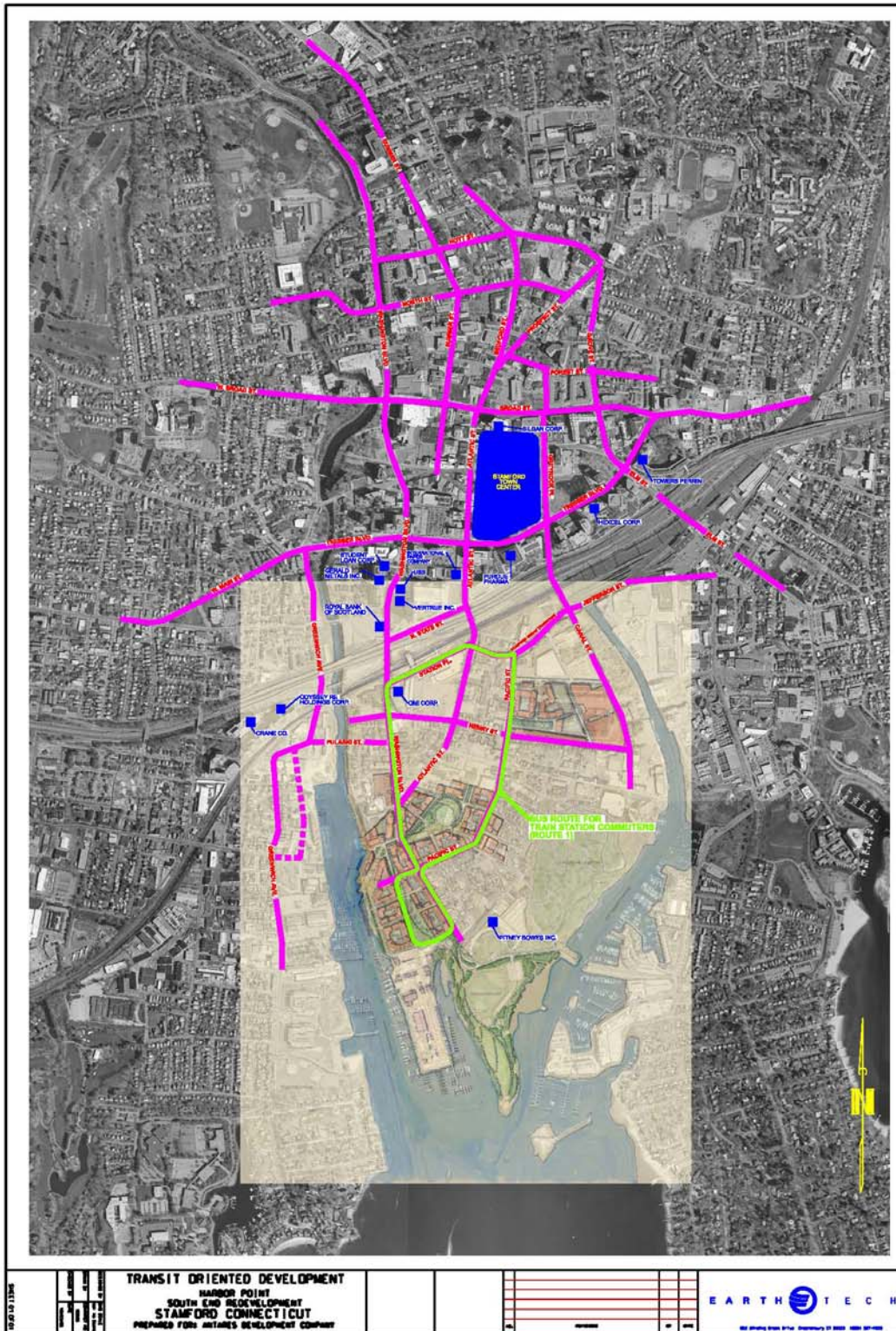
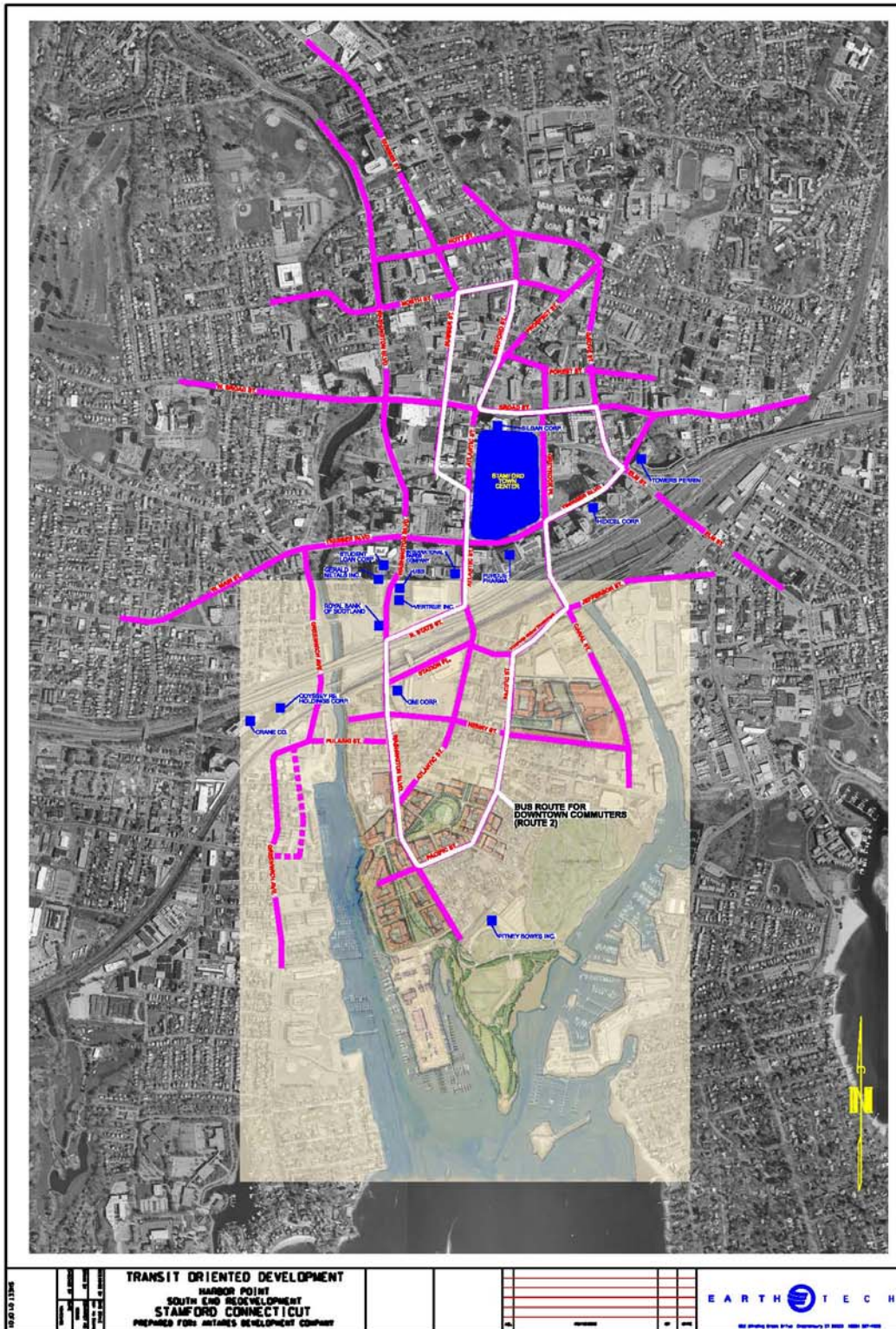


Figure 4. Stamford Transportation Route





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Figure 5. Downtown Employment Route



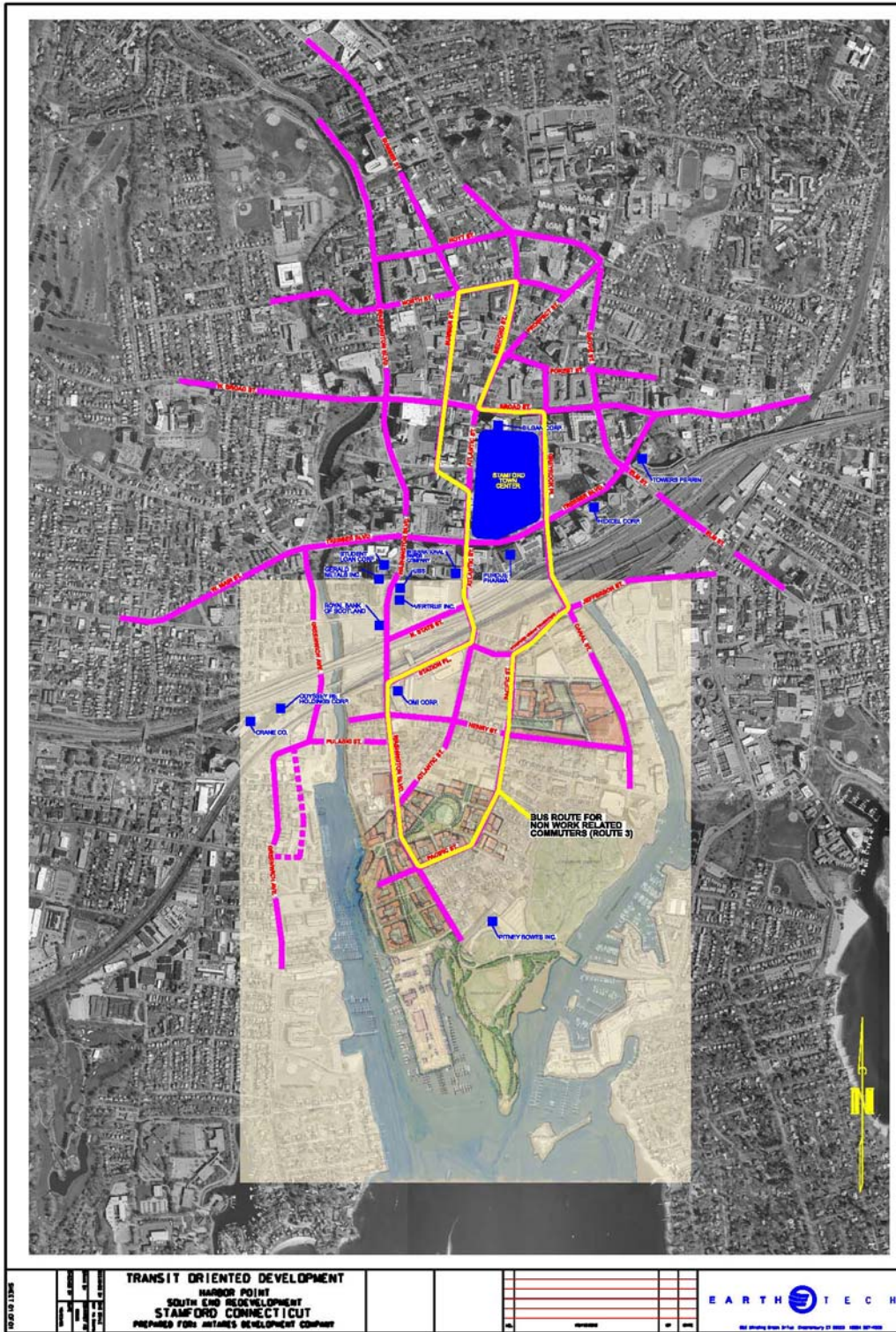


Figure 6. Non-Work Shopping Route



STATE OF CONNECTICUT  
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Phone:

February 27, 2008

Mr. James W. Ford, P.E.  
Earth Tech, Inc.  
655 Winding Brook Drive, Suite 402  
Glastonbury, CT 06033

Dear Mr Ford:

I appreciated the opportunity to meet with you and Brad Smith on February 6, 2008, to discuss the "Jitney" system that Antares Real Estate has proposed to implement in Stamford as part of their proposed Harbor Point–Yale and Towne development. Your presentation and concepts for this transit feature were of interest to the Department of Transportation (Department) and representatives of CTTransit who attended with me.

In the ensuing days since our meeting, I have briefed Deputy Commissioner Martin. The Department recognizes the value of this proposal to both the City and state and the benefits to our overall intermodal transit program in Stamford.

I have asked CTTransit to provide me with a plan to operate this service with capital and operating funding provided through Antares as you suggested. There is real value to integrating the shuttle service with the existing CTTransit downtown services. We can provide guidance in the procurement of vehicles which meet your criteria and those of the Department and City.

We look forward to working with you and Antares to more fully develop this plan so that service can commence in the 2009/2010 time period, which you indicated would be the initial completion of portions of the Harbor Point project. We feel this type of public/private cooperation will ultimately serve the best interests of transit services provided in the City of Stamford and may well offer a model for this type of involvement elsewhere.

Please keep us informed as development plans progress, and I will contact you in the near future regarding more details of this proposal.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Sanders".

Michael A. Sanders  
Transit Administrator  
Bureau of Public Transportation

cc: Mr. David Lee, CTTransit