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ATLANTIC STEEL TCM PROJECT SUBMITTAL

Introduction

Land use impacts on travel demand and vehicle emissions have emerged as an important topic regarding the Atlanta region's ability to demonstrate conformance with the requirements of the Clean Air Act Amendments of 1990 (CAA). Aspects of land use including residential and employment density, intermixing of uses, and street connectivity have been found to be predictors of modal choice, trip duration, vehicle miles traveled (VMT), cold start trip generation and mean trip speed when controlling for demographic factors. These are the same aspects of travel demand used as inputs into the Mobile 5A emissions model used currently by the Atlanta Regional Commission.

As a method of proving the value of appropriate land development practices on emission reductions, the City of Atlanta has submitted the Atlantic Steel project as a transportation control measure (TCM). TCM's are defined by the federal government as "àmeasures with the purpose of reducing emissions or concentrations of air pollutants from transportation sources by reducing vehicle use or changing traffic flow or congestion conditions (40 CFR 93).

TCM projects are included in a State Implementation Plan (SIP) and must offer quantifiable measures to achieve this goal. The United States Environmental Protection Agency (EPA) Office of Policy, Planning and Evaluation study entitled 'Transportation and Environmental Impacts of Infill versus Greenfield Development' demonstrated that, in some cases, locating new development on centrally located infill sites produces air quality benefits compared to locating such development on greenfield sites at urban fringes (Appendix A).

Project Description

To facilitate consideration of this project as a TCM during the Atlanta region's air quality conformity lapse for ground level ozone standards, the EPA offered regulatory flexibility through the Project XL program. The Agency signed a Phase One Project Agreement with Jacoby Development Corporation that includes the construction of a bridge and Interstate 75/85 interchange modification accessing the 138 acre, former steel mill site. The site represents a unique opportunity to integrate a large-scale development into the existing fabric of midtown Atlanta. The bridge will contain pedestrian, transit, and vehicular connectivity between the eastern and western portions of Midtown Atlanta.

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The Project XL Phase One Project Agreement stipulates that construction of the 17th street bridge and redevelopment of the site itself are to be considered as the transportation control measure. That is, the site's location, infrastructure and building design in combination with transit and other transportation elements, (i.e. bicycle lanes) must demonstrate an air quality benefit. This benefit must be an enforceable measure proven through specific activities, such as the construction of the bridge and the formation of a Transportation Management Association (TMA). The enforceability of the specific measures of the TCM must be demonstrated in order to be included as an amendment to the State Implementation Plan (SIP).

Additionally, underpinning the air quality benefit, is the idea that emissions generated from the specific development form and amenities of this site compare favorably with emissions generated by an equivalent amount of development at other likely sites in the region, as well as in comparison with average regional emissions. This assumes that the Atlanta region will continue to grow during the next twenty years and that more of this growth will occur at peripheral regional locations. The project sponsor believes that the Atlantic Steel development will reduce (relative to the baseline for ozone emissions) emissions of ozone precursors-volatile organic compounds (VOC's) and nitrogen oxides (NOx). Based upon EPA modeling efforts, the project sponsor also believes that emissions generated by this site will not produce localized hot spots exceeding National Ambient Air Quality Standards (NAAQS) for carbon monoxide (CO).

As an innovative project that takes into account site planning and design, as well as the real estate market, the Atlantic Steel development is subject to several external factors that will influence its effectiveness as a transportation control measure. This includes a continued positive regional economy allowing for market absorption of the proposed mix of uses for the site, continued political support and funding at the State level for major transportation improvements and behavioral changes that lead to increased use of alternative modes of transportation.

Emissions Calculations

Through efforts of the EPA, an analysis of regional transportation and air emissions performance was undertaken for three comparable sites. The EPA used ARC's version of the Tranplan model applied to the Atlanta metropolitan region. The EPA investigated the production of VOC's and NOx based upon two variables-vehicle miles traveled (VMT) and an aggregate number of trips. Carbon monoxide (CO) was analyzed comparing a "no-build" scenario to a "build" scenario. The "no-build" scenario comprises the expected and committed roadway network assuming the project was located elsewhere in the

region; the "build" scenario assumed the site's internal roads, bicycle lanes, transit, new ramps, and the proposed 17th street bridge.

To assist with the analysis of the site's specific effect on emissions, the EPA hired the firm of Duany, Plater-Zyberk (DPZ) to identify additional design features that would make non-motorized modes of transportation viable. These features included street connectivity and interface with transit, transit density, project density and mix of use of blocks (activity diversity). Due to the complexity and duration of build-out, it is not practical to include an enforceable, detailed site design in the SIP. For example, it would be burdensome for the State to revise the SIP each time the site design changed. Instead, this TCM application contains site design criteria and target values. Including these measures in the TCM and eventually in the SIP will ensure that the redevelopment incorporates elements that help to achieve emissions reductions by supporting alternatives to single occupancy vehicles for trips made to, from, and on the site.

The ARC also modeled the impacts of this project. Both the EPA and the ARC concluded that the project performs favorably when compared with other sites and the regional average. Details outlining emissions calculations from the EPA are included as Appendix B. The most recent version of the site plan for the project is attached as Appendix C. The site plan is construed only to be an example of a site design meeting the performance measures described in the monitoring plan, below.

Capital/Operating Costs

Capital costs associated with redevelopment of the Atlantic Steel site derive from several sources. Initially, the site requires significant infrastructure expense to achieve the goals stipulated above. Although not a direct transportation/air quality component, remediation of the site is a necessary precondition for development. Presently, the estimated cost of remediation is $10 million, which will be paid by the sellers of the property with funds from the purchase price.

The value of the land after remediation is conservatively estimated at $1 million per acre. Of the 138 acres, 45 acres are scheduled for right of way acquisition on both sides of Interstate 75/85; this includes roads, sidewalks, transit, bicycle lanes and green space. The land will be dedicated by the developer to the City of Atlanta, the State of Georgia or MARTA as appropriate without cost to these entities. The estimated value of the dedication is $45 million.

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There are several financing mechanisms available to assist with funding for roads, sidewalks and bicycle lanes. The City of Atlanta has adopted an ordinance calling for the collection of Transportation Impact Fees. Fees are based upon a cost per peak hour VMT less property tax credit assessed on an amount of square feet for different building types. A developer can request a waiver of impact fees of similar magnitude provided the improvements are made as part of the project. Fees are collected at the time a building permit is issued. Appropriate expenditures of fees include projects that promote pedestrian activity, bicycling, mass transit and other alternatives to automobile transportation. As per the current site plan, transportation impact fees for phase one of the project are approximately $2.8 million. Estimates based upon phase two and three development plans are approximately $9.7 million.

An alternative method of financing improvements is a Tax Allocation District (TAD) which can issue bonds against anticipated revenues to pay for the infrastructure improvements. The estimated value of the project when completed is $2 billion. A conservative estimate of the tax revenues from the TAD, based on the $2 billion value, is $200 million to spend on infrastructure improvements.

Current estimates for the construction of roads, sidewalks and sewers are $15 million; preliminary architectural and engineering costs are estimated to be $12 million. Specific cost components and timetables for development and completion can be found in Appendix D.

The cost of the multi-modal bridge across Interstate 75/85 is estimated to be $40 million; there is an additional $12 million cost to purchasing land and buildings on the eastside of the Interstate. The Georgia Department of Transportation has committed to contributing $50 million to pay for the bridge and the requisite right-of-way on the eastside of the Interstate 75/85 connector (Appendix E).

There are also operating costs associated with the development of the TCM. This includes the cost of operating an interim shuttle service to satisfy transit obligations and a Transportation Management Association (TMA) to gather performance measurement data to evaluate emissions benefits and to operate alternative transportation programs.

The developer will provide an interim rubber tire shuttle service connecting the Atlantic Steel site with the MARTA Arts Center Station. The service will begin operation immediately after construction of the 17th street bridge. The developer will operate this service until MARTA or other (quasi) governmental entity assumes responsibility for a mass transit linkage. The shuttle will operate on a dedicated transit lane with

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projected initial headways of ten minutes; initially there will be two rubber tire trolley cars with a capacity of 28 persons.

Exclusive of right-of-way, hard costs associated with the shuttle service are estimated at $5.5 million; annual operations should be approximately $500,000. The duration of this obligation is for ten (10) years from the date that the 17th street bridge opens to all modes of transportation, or until an appropriate agency operates a fixed mass transit link, whichever is less.

A TMA is to be formed for the midtown area of the City of Atlanta. Start-up costs for the TMA are $150,000. Annual operating costs will be in the range of $250,000. The City of Atlanta has placed the creation of a Midtown TMA in the Regional Transportation Plan. Initial financial support will either come from the developer or the ARC. As the TMA progresses, participants (i.e. employers, property managers) will pay dues to support the operation of the organization.

Monitoring Plans (Tracking and Evaluation)

The City of Atlanta, as project sponsor, has committed the project developer to certain activities confirming the monitoring of several elements of the TCM through zoning conditions placed on the project. The TCM measures apply to the current developer and all subsequent developers of the property in accordance with City of Atlanta Ordinance 98-0-0080. Relevant conditions include: development and concurrency of residential and non-residential components of the project; development of 17th street as a mixed use street; construction of bicycle lanes; creation of and maintenance of open space; incorporation of transit to the MARTA Arts Center station from the site; development of a transportation management plan, including support for and participation in a TMA; and the necessity of having the 17th street bridge under contract for construction before building permits are issued for the site.

These measures ensure that the site design maximizes pedestrian and bicycle connectivity, transit connections, and activity diversity. Before construction occurs, the developer is required to submit a site plan to the Bureau of Buildings of the City of Atlanta for approval. The zoning conditions are listed in Appendix E; compliance is enforceable.

A second component of project monitoring concerns the design of the 17th street bridge. The Georgia Department of Transportation (GDOT) will ensure, through the Interchange Justification Report (IJR), submitted to FHWA, that the bridge is designed for rail transit, has adequate width for sidewalks

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and contains dedicated bicycle lanes. The FHWA approves the IJR. The bridge will not be constructed without these elements. The GDOT and City of Atlanta meet bi-monthly on state sponsored and funded projects. The bridge and 17th street will be a designated state road during construction.

A third component of the monitoring plan is that the developer will submit copies of the site plan, with revisions, to the City of Atlanta, the ARC, EPD, and EPA (Region IV) annually after the bridge opens to traffic until the project is built-out. This will be part of the annual TCM monitoring report.

Fourth, at the time that the project reaches two-thirds (2/3) build-out or after six years from the date that the bridge opens to all forms of transit (whichever comes first), the site will be compared with the four site design criteria targets listed in Table 1 to evaluate whether the site meets or will meet the criteria. If the site design at two-thirds build-out does not meet or exceed the target values, the developer must submit and implement a revised final site plan that does. Project build-out is defined as the amount of development allowed under the conditions of zoning for the Atlantic Steel project.

Enforceability

This TCM be subject to the same enforceability considerations and constraints applicable to any TCM as required by the Clean Air Act and its implementing regulations. Many of the performance measures and monitoring conditions described above are designed to meet and exceed the requirements of the Clean Air Act and its implementing regulations for TCM's. By utilizing minimum target values for the site design criteria, instead of mandating a specific site design, flexibility is afforded to the monitoring and enforcement process needed to make the project successful. Specific enforceable considerations are summarized above, in the discussion of the performance measures, in the zoning conditions required by the City of Atlanta and in the Final Project Agreement under EPA's Project XL program.

Table 1

Site Design Criteria

Criterion
Description
Target Value

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Overall Density
Total number of people (residents + employees) on the Atlantic Steel site.
* 12,000

Average Transit-Oriented Density
Average number of people (residents + employees) per net acre within a quarter mile of a transit stops. The transit stop may be on or off site.
* 180

Activity Diversity
Percent of blocks with mixed uses. Blocks are defined in the traditional way, i.e., they are the area contained by streets. Classification of uses will be based on SIC codes.
* 33%

External Street Connectivity
Average distance (in feet) between ingress/egress streets on site boundary. This is calculated by dividing the length of the site's perimeter in feet by the number of ingress/egress streets.
ú 1000 feet unless the City of Atlanta specifies otherwise

Evaluation of Measure

The proposed TCM will be monitored annually, beginning in the year following the opening of the 17th street bridge to all modes of transportation. This will continue indefinitely thereafter in order to assess its effectiveness in reducing VMT and mobile source emissions. At a minimum, the project sponsor, will be responsible for collecting and maintaining data for the following three performance measures: 1) average daily VMT; 2) average daily VMT per employee working at the site; and 3) the percent of all combined trips made to and from the site by residents and employees in modes other than single occupancy vehicles (modal splits).

The developer, through its own contractor or through the TMA will collect the data described above and provide it to the City of Atlanta for submittal to the ARC and EPD annually beginning one year from the opening of the bridge to all modes of transportation and continuing indefinitely thereafter. The ARC will be responsible for deriving mobile source emissions obtained from this data. At any time, the City may choose to solicit other transportation information (i.e. travel cost, transit ridership) that may be beneficial for devising strategies to reduce VMT and single occupant automobile travel.

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If the site is not meeting or exceeding performance targets contained in Table 2 at the time that the project has reached two-thirds (2/3) project build-out or six years after the 17th bridge opens to all modes of transportation, whichever occurs first, the developer will fund or identify funding for the establishment of a TMA, if employers and property managers are not participating in a TMA at that time.

At any time after the project is two-thirds built out or six years after the 17th street bridge opens to all modes of transportation, the site falls below performance targets contained in Table 2, the developer will be required to fund or identify funding for a TMA for a period of twenty (20) years from the applicable date. The TMA will consult with the City of Atlanta concerning implementation of additional alternative transportation programs that achieve the performance standards stipulated in Table 2. Examples of suggested programs are:

D Transit discounts for on-site employees.
D Increased provision of shuttle bus service or other transit service.
D Increased parking rates, by time-of-day, by facility, and by parking type, as needed.
D Reduction of available parking facilities or spaces.
D Carpool/vanpool matching services.
D Providing free or highly discounted annual regional transit passes with each residential unit (included in leases and property covenants).
D Addition of traffic calming measures, such as raised pedestrian crosswalks, sidewalk bump-outs, diagonal on-street parking, or pedestrian islands.
D Provisions and support for neighborhood car rental, car sharing systems, and real-time ridesharing services for residents and visitors.
D Provision of additional facilities and amenities for non-SOV users such as bus shelters, bike racks and lockers, sidewalks, bike paths, park-and-ride facilities, telephones at shelters, newsstands, convenience retail, and daycare facilities.
D Provision of guidance for telecommuting and alternative work schedules.
D Employee Commuter Choice incentives-employees would be given the opportunity to purchase employer-discounted transit passes and vanpool benefits using pre-tax dollars.

Table 2

Performance Measures

Measure
Description

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Target Value

VMT per resident
Average daily VMT for all trips made by residents living on the site.
ú 27

VMT per employee
Average daily VMT for trips to and from work for employees working on the site.
ú 11

Mode Split
Percent of all trips to, from and on the site made by residents and employees combined, using non-SOV modes.
* 25%

APPENDIX D

Project Measurements and Cost Estimates

Streets	28,000	linear ft
Sidewalks	60,000	linear ft
Right of Way	App. 40	acres
Green Space	5	acres
TOTAL Public Space	45	acres

Bike Lanes	(within R.O.W.)	6,000 linear ft.
Transit Lanes	(within R.O.W.)	8,000 linear ft.

Land/Streets/Utilities

Purchase price of site	$76.0M
Roads, sidewalks, transit	$15.0M
Utilities	$9.0M

Landscaping, Street furniture

Public amenities	$24.0M
R.O.W. (40 acres)	40.0.M
Public Space (5 acres)	5.0M
TOTAL	1,690M

Transit

R.O.W. (included in roads)	$ 4.0M

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Transit stops assume 2A @ $10M/A w/maintenance facility	$2.0M
Transit construction stops-Allowance w/maint.fac.	2.0M
Fleet For 10 min headways 5 buses @ $300,000 @	1.5M

Operations Annual

300,000 M/YR @.50	$150,000
Subdivision	150,000
Overhead	150,000
Misc.	50,000
	$500,000/YR

ROW - see page 3
Infrastructure
Water Sewer Roads/Sidewalks/Transit - *T.A.D

Performance Measures:

Total Density	12,000 (persons)
Transit Density (avg. per. w/ 8 mi.)	180
External Connectivity (avg. dist. Ingress/egress)	1000 ft.
Activity Diversity (per.of blk.mixed use)	33%

Overall Schedule

1999 Present through 12/31/99
2000 Process & approval through Regulatory
Agencies (EPD & SIP/TCM/ITIP
Begin Remediation and Infrastructure
Begin design of bridge
Institute T.A.D.

Through 12/31/2000
Complete Remediation & Infrastructure
Begin Vertical Development Phase I*

Construction Schedule

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Phase I - 2001 through 12/31/2003
Complete Bridge Design
Begin Bridge Construction

Through 12/31/2001
Complete initial Phase I Vertical Development
Complete bridge Construction

Through 12/31/2003
Complete Phase I Construction

Phase I — Projection to include for TAD estimates:
Retail - 1.2MSF/Office 1.0MSF/Residential 1250

Phase II — 2004 thru 12/31/05
Design/Build additonal

Retail 300,000 SA Ft	-	Totals 1.5MSF
Office 500,000 SA Ft	-	Totals 1.5MSF
Residential 750 Units	-	Totals 2.0 Units
Hotel 500 Rms.	-	Totals 1000 Rooms
High Tech 500,000 SQ. FT.	-	Totals 1.0MSF

Phase III — 12/06 through completion
Design/Build additional

Retail	100,000 SAF	Total Complete 1.6 MSF
Office	2.5 MSF	Total Complete 4.0 MSF
Residential	1600 Units	Total Complete 3600 Units
Hotel	750 Room	Total Complete 1500 Rooms
High Tech	500,000 S.F	Total Complete 1,500,000 S.F.

NOTE: The build out projections will vary. These numbers relate to T.A.D. income projections and therefore relate to funding source for infrastructure.

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>From: Goodwin.Robert@epamail.epa.gov
>To: dhc54@hotmail.com
>CC: TORMA.TIM@epamail.epa.gov
>Subject: Cites for TCM enforceability
>Date: Fri, 26 Mar 1999 13:14 -0500 (EST)
>
><< MESSAGE1.txt >>

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