

Appendix F

NJ TRANSIT Pennsauken Junction Transit Center and Park & Ride  
RiverLINE and Atlantic City Line  
Pennsauken Township, Camden County, New Jersey

**AIR DATA**

## 3.0 Affected Environment & Environmental Effects

### 3.3 Air Quality

#### 3.3.1. INTRODUCTION

An air quality analysis was performed for the proposed New Jersey Transit Rail Transfer Station located in the Township of Pennsauken, Camden County. The proposed transfer station will be located at the crossing of the RiverLINE and Atlantic City Rail Line (A.C.R.L.). In addition to the proposed platforms, a new 283-space commuter parking lot is planned. No New Jersey Transit bus service will be provided at this station.

The air quality analysis was performed based on the Build + 20 Year of 2032 and prepared pursuant to requirements set forth by the United States Environmental Protection Agency (USEPA) and New Jersey Department of Environmental Protection (NJDEP).

#### 3.3.2 NATIONAL AND NEW JERSEY AMBIENT AIR QUALITY STANDARDS

Since it was originally passed in 1955, the Clean Air Act (CAA) had been the primary basis for regulating air pollutant emissions. The amendments to the Clean Air Act were passed in 1970, and allowed USEPA to delegate responsibility to state and local governing bodies. This allowed each state/local government the opportunity to prevent and control air pollution at the source. The 1970 amendments (Clean Air Act Amendments; CAAA) mandated that the USEPA establish ceilings for certain pollutants based upon the identifiable effects each pollutant may have on public health and welfare. Subsequently, the United States Environmental Protection Agency (USEPA) promulgated the revised regulations which set National Ambient Air Quality Standards (NAAQS) for carbon monoxide (CO), ozone (O<sub>3</sub>), nitrogen dioxide (NO<sub>2</sub>), lead (Pb), sulfur dioxide (SO<sub>2</sub>), total suspended particulates (TSP), inhalable particle matter smaller than 10 micrometers (PM<sub>10</sub>), and in 1997, a new particulate standard; PM<sub>2.5</sub>; (inhalable particulate matter smaller than 2.5 micrometers; 2.5 x 10<sup>-6</sup>). These pollutants are collectively referred to as "criteria pollutants" and are shown in Table 3.3.1.

New Jersey and National Ambient Air Quality Standards (NAAQS) are divided into two (2) types of criterion. Primary standards define air quality levels intended to protect the public health with an adequate margin of safety. Secondary standards define levels of air quality intended to protect

the public welfare from any known or anticipated adverse effect of a pollutant (e.g. soiling, vegetation damage, material corrosion).

Each criteria pollutant is monitored on a continuous basis throughout the State of New Jersey by the NJDEP. Major objectives of monitoring air quality are to provide an early warning system for pollutant concentrations, assess air quality in light of public health and welfare standards, and also track trends or changes in these pollutant levels.

**TABLE 3.3.1  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY NATIONAL AND  
NEW JERSEY AMBIENT AIR QUALITY STANDARDS**

<b>Pollutant</b>	<b>Averaging Period</b>	<b>New Jersey Primary</b>	<b>New Jersey Secondary</b>	<b>National Primary</b>	<b>National Secondary</b>
Carbon Monoxide	1 hour	35 ppm	35 ppm	35 ppm	-
	8 hour	9 ppm	9 ppm	9 ppm	-
Ozone	1 hour	0.12 ppm	0.08 ppm	0.12 ppm	0.12 ppm
	8 hour	-	-	.075 ppm	.075 ppm
Nitrogen Dioxide	1 year	0.05 ppm	0.05 ppm	0.053 ppm	0.053 ppm
Lead	3 months	1.5 ug/m <sup>3</sup>	1.5 ug/m <sup>3</sup>	1.5 ug/m <sup>3</sup>	1.5 ug/m <sup>3</sup>
Sulfur Dioxide	3 hour	-	0.50 ppm	-	0.5 ppm
	24 hour	0.14 ppm	0.10 ppm	0.14 ppm	-
	1 year	.03 ppm	.02 ppm	0.03 ppm	-
Total Suspended Particulates	24 hour	260 ug/m <sup>3</sup>	150 ug/m <sup>3</sup>	-	-
	1 year	75 ug/m <sup>3</sup>	60 ug/m <sup>3</sup>	-	-
Inhalable Particulates(PM <sub>10</sub> )	24 hour	-	-	150 ug/m <sup>3</sup>	150 ug/m <sup>3</sup>
	1 year	-	-	-	-
Fine Particulates(PM <sub>2.5</sub> )	24 hour	-	-	35 ug/m <sup>3</sup>	35 ug/m <sup>3</sup>
	1 year	-	-	15 ug/m <sup>3</sup>	15 ug/m <sup>3</sup>

Source: United States and New Jersey Departments of Environmental Protection, 2009; <http://epa.gov/air/criteria.html>

### 3.3.3. EXISTING CONDITIONS

Section 107 of the 1970 Clean Air Act Amendments requires USEPA and states throughout the country to identify those areas not meeting the National Ambient Air Quality Standards (NAAQS). An area which does not meet a standard is referred to as in non-attainment. The Pennsauken Junction Transit Center and Park and Ride project is located within Camden County, which is in NO<sub>2</sub>, Pb, SO<sub>2</sub>, and PM<sub>10</sub> attainment but PM<sub>2.5</sub> and 8-hour O<sub>3</sub> non-attainment. Camden County had previously been designated as a non-attainment area for CO. After many years of demonstrating CO attainment, Camden County was re-designated to attainment status in 2004. New Jersey and the controlling Metropolitan Planning Organization (MPO) must continue with a Maintenance Plan which includes control measures, a transportation conformity budget and Contingency Plan to support the re-designation. Therefore, Camden County is considered a maintenance area for CO.

Particulate matter (PM) is the general term used for a mixture of solid particles and liquid droplets found in the air. Small particulates are not filtered by the nose and throat like larger particulates, and can reach deep in the lungs causing lung disease. PM irritates the membranes of the respiratory system and therefore affects sensitive groups such as the elderly, individuals with cardiopulmonary disease such as asthma, and children. PM is created by a wide variety of natural sources and by fossil fuel combustion of sources such as boilers, home heating, motor vehicles and power generation as well as chemical reactions in the atmosphere. PM is monitored and measured according to its size. PM<sub>10</sub> refers to “coarse” inhalable particulates greater than 2.5 micrometers but less than or equal to 10 micrometers in diameter. PM<sub>2.5</sub> refers to “fine” inhalable particles less than or equal to 2.5 micrometers in diameter. Due to the serious health effects associated with fine inhalable particulate matter, USEPA and NJDEP began monitoring PM<sub>2.5</sub> in 1999.

The closest PM<sub>2.5</sub> monitoring station to the study area is located within Pennsauken Township at the Morris-Delair Water Treatment Plant. To determine PM<sub>2.5</sub> attainment, an average is calculated based on the 98<sup>th</sup> percentile 24-hour concentration (ug/m<sup>3</sup>) and annual mean over the past three (3) years. PM<sub>2.5</sub> monitoring data (24-hr and Annual Mean), 3-year averages and respective standards are shown in Table 3.3.2. The 3-year average of 24-hour PM<sub>2.5</sub> concentration is 34.5 ug/m<sup>3</sup>, which does not exceed the standard (35 ug/m<sup>3</sup>). In addition, an annual mean of 13.0 ug/m<sup>3</sup> averaged over the most recent 3-year period does not exceed the standard (15 ug/m<sup>3</sup>) set forth.

Table 3.3.2  
PM<sub>2.5</sub> MONITORING DATA  
(CAMDEN COUNTY; Pennsauken Township 2006-2008)

<b>Year</b>	<b>24-hour Concentration <sup>(1)</sup> (ug/m<sup>3</sup>)</b>	<b>Annual Mean Concentration (ug/m<sup>3</sup>)</b>
2006	37.8	12.36
2007	35.1	13.87
2008	30.5	12.70
3-Year Average	34.5	13.0
Standard	35	15

<sup>(1)</sup> 98<sup>th</sup> percentile concentration

Source: <http://www.epa.gov/air/data/monvals.html?st~NJ~New%20Jersey>

The entire state of New Jersey is in O<sub>3</sub> non-attainment. Naturally occurring O<sub>3</sub> in the upper atmosphere protects the population from harmful ultraviolet rays. Ground-level O<sub>3</sub> is created

when nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOCs) react in the presence of sunlight and heat. Ground-level O<sub>3</sub> can cause serious adverse health effects by damaging cells that line our airways. Therefore, O<sub>3</sub> can aggravate respiratory disease and cause people to be more susceptible to respiratory infections. The incomplete combustion of fossil fuel, power plants and other sources of combustion emit the primary source of NO<sub>x</sub>. In recent years documented O<sub>3</sub> levels had been decreasing. In 2008, the USEPA created a more stringent 8-hour O<sub>3</sub> standard and therefore precursors (NO<sub>x</sub> and VOCs) are monitored very carefully.

Ozone is a regional pollutant and is monitored at the NJDEP trailer in Camden. To determine attainment at each monitoring station, an average is calculated over the most recent three-year period based on the 2<sup>nd</sup> highest daily 1-hour maximum concentration and the 4<sup>th</sup> highest daily 8-hour maximum concentration. O<sub>3</sub> monitoring data (1-hr and 8-hr) representing Camden County, 3-year averages and appropriate standards are included within Table 3.3.3. The 3-year average 1-hour and 8-hour O<sub>3</sub> concentrations at the Camden County monitoring station are 0.110 ppm and 0.087 ppm, respectively. The average 8-hour O<sub>3</sub> concentration documented within Camden County over the previous three (3) years exceeds the 8-hour standard of 0.075 ppm.

Table 3.3.3  
OZONE MONITORING DATA  
(CAMDEN COUNTY; Camden 2006-2008)

Year	1-Hour Concentration <sup>1</sup> (ppm)	8-Hour Concentration <sup>2</sup> (ppm)
2006	0.106	0.087
2007	0.115	0.092
2008	0.109	0.083
3-Year Average	0.110	0.087
Standard	0.12	0.075

<sup>1</sup> – 2<sup>nd</sup> highest daily maximum

<sup>2</sup> – 4<sup>th</sup> highest daily maximum

Source: <http://www.epa.gov/air/data/repssst.html?st~NJ~New%20Jersey>

#### 3.3.4. AIR QUALITY MODELING METHODOLOGY

The project is located within a CO maintenance area therefore a microscale analysis was necessary to ensure localized air quality impacts would not result. Traffic data utilized for the air quality analysis was obtained from C.P. Statile, PA, Professional Engineers & Planners, found in

section 3.13 of the EA document. Traffic analyses representing 2032 “No-Build” and 2032 “Build” peak traffic conditions were utilized to quantify air quality impacts.

Under current regulations, CO impact is determined through microscale modeling at critical intersections. All project-affected intersections directly adjacent to the site are unsignalized. A critical unsignalized intersection is based on the “Build” Level of Service (LOS) of the uninterrupted left-turn movement. A left-turn movement from an uninterrupted roadway operating at a “Build” LOS of E or F is considered a critical unsignalized intersection. In reviewing the two (2) unsignalized intersections adjacent to the site, northbound/southbound Derosse Avenue is the uninterrupted roadway. A four-way intersection with Derosse Avenue at Bannard/parking lot exit will be created. In addition, a four-way intersection with Derosse Avenue and S. Zimmerman Avenue/parking lot entrance is proposed. Table 3.3.4 details the left-turn movement LOSs of the adjacent intersections. Due to the acceptable levels of service at the project-affected unsignalized intersections, no microscale CO modeling at these intersections is necessary.

TABLE 3.3.4  
2032 “Build” Unsignalized Intersection Levels of Service (LOS)

Intersection	Left-Turn LOS (AM)	Left-Turn LOS (PM)
Eastbound Derosse Avenue at Bannard Avenue/Parking Lot Exit	A	A
Eastbound Derosse Avenue at S. Zimmerman/Parking Lot Entrance	A	A
Westbound Derosse Avenue at S. Zimmerman/Parking Lot Entrance	A	A

The project study area includes one (1) signalized intersection along River Road at Derosse Avenue. A critical signalized intersection is defined as possessing a total LOS of D or worse under the future 2032 “Build” condition. Table 3.3.5 details the total LOS of this intersection. Due to the acceptable LOS at this project-affected signalized intersection, no microscale CO modeling at this intersection is necessary.

TABLE 3.3.5  
2011 “Build” Signalized Intersection Levels of Service (LOS)

Intersection	Total Approach LOS (AM)	Total Approach LOS (PM)
River Road at Derausse Avenue	B	B

Although CO modeling at this project-affected intersection is not required based on LOS, a cumulative CO analysis was performed to evaluate the local impact of the parking lot as well as increased traffic accessing the station. In doing so, CO contributions from adjacent roadways were also quantified. Therefore, the 2032 “No-Build” CO analysis was performed based on the adjacent roadways while the 2032 “Build” CO analysis evaluated the cumulative contribution of the surface parking lot as well as adjacent roadways.

To analyze the surface parking lot contribution under the 2032 “Build” condition, an analysis was performed based on the peak exiting periods (1-hour and 8-hour). Cold-start vehicles produce more emissions than vehicles under hot-stabilized conditions. Conservatively, all vehicles entering and exiting the parking lot were assumed to be light-duty gasoline vehicles (LDGV). The surface parking lot is rectangular in shape, with sidewalks proposed along the entire site.

To analyze roadway CO contribution, NJDEP requires specific methodology at intersections which is outlined in the “Air Quality Analysis for Intersections” document released by the Bureau of Air Quality Evaluation, dated November 2001. Two (2) USEPA models were utilized; MOBILE6.2 to calculate emission factors for input to the air dispersion model, CAL3QHC.

The newly released USEPA MOBILE6.2 model calculates carbon monoxide emission factors based on New Jersey-specific vehicular mixes of gasoline and diesel-fueled motor vehicles. This model calculates mobile emission factors for a specific project year based on the range of database years specified by the user. The model takes the age of the vehicles as well as the speeds and drive cycles of the user-specified roadway (freeway, arterial, local or ramp) as factors in the calculation. Databases specific to New Jersey Inspection Maintenance and Anti-Tampering Programs are also utilized. CO emission rates were compiled to represent vehicles moving as well as idling. For the parking lot analysis, MOBILE6.2 was also utilized to identify emission factors representing hot (entering) and cold (exiting) vehicles. MOBILE6.2 input/output files are included within Appendix F.

The USEPA CAL3QHC air dispersion model is capable of predicting CO concentrations due to roadway segments. Cartesian coordinates are utilized to allow the computer model to understand and evaluate the specific roadway configuration within the project study area. For accurate modeling results, more than 1600 feet of roadway links from the receptor site is required. All cruise speeds link inputs include coordinates, traffic volumes, emission factor and lane width (including an additional 3 meters on each side for an adequate mixing zone).

Air quality concentrations generated by vehicular-related sources are also influenced by such factors as wind direction, wind speed and atmospheric stability. The pollutant concentrations predicted at any given location, due to pollutant mixing, is inversely related to wind speeds. Therefore, lower wind speeds result in higher estimated CO concentrations. A worst-case wind speed of one meter per second (1 m/s), and an atmospheric mixing height of 1000 meters were assumed. NJDEP requires a conservative atmospheric stability class, therefore for this project, “D” was assumed. In addition, the project study area was modeled utilizing a surface roughness of 108 centimeters (residential).

Due to wind angle, the receptor may be influenced by different roadway links. Therefore, the wind angle was varied in five-degree increments, from 0 to 360°, to determine the worst-case wind direction resulting in maximum one-hour concentrations.

NJDEP requires air quality receptors modeled at “reasonable” locations. Receptors were placed midblock, along sidewalks surrounding the site under the “Build” analysis. While only the northern sidewalk along Drouse Avenue is present under the “No-Build” condition, identical receptor locations were utilized for comparative purposes. CAL3QHC input/output files for 2032 “No-Build” and 2032 “Build” conditions are included within Appendix F.

Ambient background levels are then added to each one-hour concentration to yield the total CO concentration at each receptor site. The NJDEP approved one-hour ambient background concentration of 3.0 ppm was utilized. Resultant one-hour CO concentrations are then compared to the standard of 35 ppm.

To evaluate an eight-hour air quality impact, each one-hour computer modeled concentration was multiplied by a 0.7 persistence factor. This value represents the role traffic and meteorological

conditions may have on an overall eight-hour period. The NJDEP approved eight-hour ambient background CO concentration of 2.1 ppm was applied, and then compared to the 9 ppm standard.

3.3.5. 2032 “NO-BUILD” AIR QUALITY ANALYSIS

Based on AM and PM peak traffic conditions, CO concentrations were predicted. Table 3.3.6 and Figure 14, within Appendix A, details the peak CO concentrations. The 2032 “No-Build” CO concentration worksheets are also included within Appendix F.

**TABLE 3.3.6**  
Peak 1 & 8-Hour 2032 “No-Build” Concentrations (ppm)<sup>1</sup>

<b>Receptor Location</b>	<b>Peak 1-hour Concentration</b>	<b>Peak 8-hour Concentration</b>
North Sidewalk	3.0	2.1
South Sidewalk	3.0	2.1
East Sidewalk	3.0	2.1
West Sidewalk	3.0	2.1

<sup>1</sup> – units in parts per million (ppm)  
1-hour standard – 35 ppm  
8-hour standard – 9 ppm

The peak 1-hour concentration of 3.0 ppm and peak 8-hour concentration of 2.1 ppm was predicted at all receptor locations. Peak concentrations predicted under 2032 “No-Build” condition does not exceed the NAAQS set forth for CO.

3.3.6. 2032 “BUILD” AIR QUALITY ANALYSIS

A cumulative air quality analysis was performed for the proposed 283-space parking lot as well as adjacent roadways. Intersections directly adjacent to the site (access driveways) are unsignalized and will remain unsignalized with implementation of the project. The only signalized intersection within the project study area is River Road at Derausse Avenue. No signal or geometric improvements are proposed at the signalized intersection of River Road and Derausse Avenue. In addition, no New Jersey Transit bus service will be available at the transfer

station. Although the trains from both lines will be scheduled to stop at the rail transfer station, no additional trains per day are proposed.

CO concentrations were predicted along the sidewalks surrounding the site. Worksheets detailing CO contributions due to the parking lot at various receptor locations are included within Appendix F. Figure 15, found in Appendix A, details peak CO concentrations predicted due to the parking lot and adjacent roadways. Peak 2032 “Build” CO concentrations are detailed within Table 3.3.7 below. Appendix F includes 2032 “Build” CO concentration worksheets. The peak 1-hour concentration of 3.2 ppm and peak 8-hour concentration of 2.8 ppm was predicted at both east and west sidewalk receptor locations. Peak concentrations predicted under 2032 “Build” condition do not exceed the NAAQS set forth for CO.

**TABLE 3.3.7**  
Peak 1 & 8-Hour 2032 “Build” Concentrations (ppm)<sup>1</sup>

Receptor Location	Peak 1-hour Concentration	Peak 8-hour Concentration
North Sidewalk	3.1	2.4
South Sidewalk	3.1	2.4
East Sidewalk	3.2	2.8
West Sidewalk	3.2	2.8

<sup>1</sup> – units in parts per million (ppm)  
1-hour standard – 35 ppm  
8-hour standard – 9 ppm

### 3.3.7. CONFORMITY DETERMINATION

The USEPA promulgated the Transportation Conformity Rules (TCR) under the CAAA, effective December 27, 1993. The TCR provides criteria and procedures for determining conformity to State Implementation Plans (SIP) of transportation programs, plans, and projects funded or approved under Title 23 U.S.C. or the Federal Transit Act. This project is located in a CO maintenance area and PM<sub>2.5</sub> and ozone (O<sub>3</sub>) non-attainment areas, hence conformity determination is required. The conformity requirements for are as follows:

1. The project must originate from a conforming transportation plan and program.

2. In non-attainment areas, the project must eliminate or reduce the severity and number of violations of the NAAQS.

Regional emissions estimations are quantified by the controlling Metropolitan Planning Authority (MPO) for planned transportation projects. Conformity is demonstrated if the emissions resulting from planned transportation projects do not exceed air emission budgets. A list of planned transportation projects is included within an approved Statewide Transportation Improvement Plan (STIP). The Pennsauken Junction Transit Center and Park and Ride project (DB# T300) is included within the FY 2009-2018 STIP, specifying NJTRANSIT projects (See Appendix F). Transportation projects included within an approved STIP (Statewide Transportation is considered to conform to the rule. Therefore, quantifying O<sub>3</sub> levels related to this project for purposes of FTA review is not necessary.

As stated within the Delaware Valley Regional Planning Commission (DVRPC), *Connections: The Regional Plan For a Sustainable Future* document dated July 2009, “increased use of alternative modes of transportation and fewer vehicles miles can reduce vehicle-based emissions.” The Pennsauken Transfer Station project is intended to connect two (2) rail lines; the Atlantic City Rail Line (A.C.R.L) and the RiverLINE, therefore reductions in vehicle miles traveled (VMTs) are expected. VMTs provided by NJTRANSIT were reviewed. The project, connecting the A.C.R.L and RiverLINE, contribute to a 9.69 million VMT savings.

Emission reductions were calculated based on the 9.69 million VMT savings for O<sub>3</sub> precursors, VOC and NO<sub>x</sub>. Emission factors were calculated based on the MOBILE6.2 model for 2032 “Build” condition. For purposes of this analysis, emission factors were obtained based on the maximum emissions for all roadway types (arterial, local, ramp or freeways). The specific equation utilized to calculate emission is shown in Table 3.3.8. The emission calculation spreadsheet as well as MOBILE6.2 input/output files are detailed within Appendix F.

**TABLE 3.3.8  
EMISSION CALCULATION**

$\frac{\text{VMT (miles/year)} \times \text{Emission Factor (grams/mile)}}{\text{Conversion Factors (453.6 grams/pound)} \times (2000.0 \text{ pounds/ton})} = \text{Emissions (tons/year)}$
<p>VMT = Vehicle Miles Traveled Per Year</p>

Predicted emissions were calculated in tons per year, assuming the project is built. Table 3.3.9 details the reduction in ozone precursors (NO<sub>x</sub> and VOC) under the 2032 “Build” condition. Due to the project-specific contribution in VMT reduction, combined with new EPA engine and fuel standards, regional O<sub>3</sub> levels are expected to further decline. Since New Jersey is in O<sub>3</sub> non-attainment, the project would provide regional benefits.

**TABLE 3.3.9  
POLLUTANT REDUCTIONS  
(VOC and NO<sub>x</sub>; 2032 “Build” Condition)**

Pollutant	Reduction (tons/year)
VOC	216.83
NO <sub>x</sub>	254.21

In March 2006, USEPA established project-level conformity determinations for PM<sub>2.5</sub> non-attainment areas. The *Transportation Conformity Guidance for Qualitative Hot-Spot Analysis in PM<sub>2.5</sub> and PM<sub>10</sub> Non-Attainment and Maintenance Areas* (EPA 420-B-06-902) document has been released to assist with determining projects of air quality concern. Under 40 CFR 90.123 (b)(iii), the project would be considered a new transfer point, however with no additional diesel vehicles congregating. Therefore, the Pennsauken Junction Transit Center and Park and Ride project would not be considered a project of PM<sub>2.5</sub> concern since this project would not cause an increase in diesel vehicles. As stated with the EPA guidance document, this type of project would be expected to have a neutral influence on PM<sub>2.5</sub> emissions.

In addition, the results of the microscale CO analysis documents that the predicted CO levels with project implementation are well below the one-hour (35 ppm) or the eight-hour (9 ppm) NAAQS. Therefore, this project will provide regional air quality benefits and comply with the conformity requirements established by the Clean Air Act Amendments of 1990.

MOBILE6 INPUT FILE :

\* MOBILE6 inputs for New Jersey average winter conditions.

\*\*\*\*\*  
\*\*\* OUTPUT COMMANDS \*\*\*  
\*\*\*\*\*

SPREADSHEET :

DATABASE OUTPUT :  
WITH FIELDNAMES :  
DATABASE EMISSIONS : 2111 1111 11  
DATABASE VEHICLES : 22222 22222222 1 222 22222222 111  
DATABASE HOURS : 1,12  
DATABASE YEARS : 2008, 2032

POLLUTANTS : CO NOX HC  
REPORT FILE : N:\Mobile6\Projects\Output15\PennOz.txt

\* Reporting summary output only; no database output.  
\* Exhaust emissions reported as start, running, and total.

RUN DATA

EXPAND EXHAUST :

\*\*\*\*\*  
\*\*\* EXTERNAL CONDITIONS COMMANDS \*\*\*  
\*\*\*\*\*

MIN/MAX TEMP : 26.7 41.2  
ABSOLUTE HUMIDITY : 20.0

\* Hourly temp distribution not provided.  
\* MOBILE6 will calculate temp distribution from min/max temp.  
\* Min/max temps and humidity are the statewide average normal  
\* values for the winter months of December, January and February  
\* Default cloud cover, peak sun  
\* Default sunrise, sunset

\*\*\*\*\*  
\*\*\* VEHICLE FLEET CHARACTERISTICS COMMANDS \*\*\*  
\*\*\*\*\*

REG DIST : N:\Mobile6\Projects\regdnj.d

\* Registration distribution by age for MOBILE6 vehicle types  
\* provided by NJDOT (from June 4, 2003 NJMVC Data).  
\* Using default Diesel Fractions, Milage Accumulation Rates,  
\* and Natural Gas Vehicle fractions.

\*\*\*\*\*  
\*\*\* ACTIVITY COMMANDS \*\*\*  
\*\*\*\*\*

VMT FRACTIONS :  
0.5532 0.0554 0.1844 0.0801 0.0368 0.0265 0.0026 0.0021  
0.0016 0.0059 0.0069 0.0076 0.0270 0.0013 0.0006 0.0080

\* VMT fractions from DVRPC, December, 2003  
\* Start/Soak data use MOBILE6 defaults

\*\*\*\*\*  
\*\*\* STATE PROGRAMS \*\*\*  
\*\*\*\*\*

\* I/M program from NJ MOBILE6 SIP, 2003

ANTI-TAMP PROG :  
85 75 50 22222 22222222 2 12 098. 12211112

I/M EFFECTIVENESS : 0.94 0.94 0.94

\* First I/M program

I/M PROGRAM : 1 1974 2050 2 TRC IDLE  
I/M MODEL YEARS : 1 1941 1980  
I/M VEHICLES : 1 22222 22222222 2  
I/M STRINGENCY : 1 30.0  
I/M COMPLIANCE : 1 98.0  
I/M WAIVER RATES : 1 0.0 0.0

\* Second I/M program

I/M PROGRAM : 2 2004 2050 2 TRC OBD I/M  
I/M MODEL YEARS : 2 1996 2050  
I/M VEHICLES : 2 22222 11111111 1  
I/M STRINGENCY : 2 30.0  
I/M COMPLIANCE : 2 98.0  
I/M WAIVER RATES : 2 0.0 3.0  
I/M GRACE PERIOD : 2 4

\* Third I/M program

I/M PROGRAM : 3 2000 2050 2 TRC ASM 5015 PHASE-IN  
I/M MODEL YEARS : 3 1981 1995  
I/M VEHICLES : 3 22222 11111111 1  
I/M STRINGENCY : 3 30.0  
I/M COMPLIANCE : 3 98.0  
I/M WAIVER RATES : 3 0.0 3.0

\* Fourth I/M program

I/M PROGRAM : 4 2000 2050 2 TRC IDLE  
I/M MODEL YEARS : 4 1981 2050  
I/M VEHICLES : 4 11111 22222222 2  
I/M STRINGENCY : 4 30.0  
I/M COMPLIANCE : 4 98.0  
I/M WAIVER RATES : 4 0.0 0.0  
I/M GRACE PERIOD : 4 4

\* Fifth I/M program

I/M PROGRAM : 5 1998 2050 2 TRC GC  
I/M MODEL YEARS : 5 1970 2050  
I/M VEHICLES : 5 11111 22222222 2  
I/M COMPLIANCE : 5 98.0  
I/M WAIVER RATES : 5 0.0 0.0  
I/M GRACE PERIOD : 5 4

\* Sixth I/M program

I/M PROGRAM : 6 1998 2050 2 TRC GC  
I/M MODEL YEARS : 6 1970 1995  
I/M VEHICLES : 6 22222 11111111 1  
I/M COMPLIANCE : 6 98.0  
I/M WAIVER RATES : 6 0.0 0.0

\* Seventh I/M program

I/M PROGRAM : 7 2004 2050 2 TRC EVAP OBD & GC  
I/M MODEL YEARS : 7 1996 2050  
I/M VEHICLES : 7 22222 11111111 1  
I/M COMPLIANCE : 7 98.0  
I/M WAIVER RATES : 7 0.0 0.0  
I/M GRACE PERIOD : 7 4

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\*\*\* FUEL COMMANDS \*\*\*  
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FUEL RVP : 15.0  
STAGE II REFUELING :  
89 1 85 70  
FUEL PROGRAM : 2 N

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\*\*\* ALTERNATIVE EMISSION REGULATIONS AND CONTROL MEASURES \*\*\*  
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\* Northeast NLEV program

94+ LDG IMP : N:\Mobile6\Projects\nlevne.d

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\*\*\* Scenario Record \*\*\*  
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SCENARIO RECORD : Idle  
CALENDAR YEAR : 2032  
AVERAGE SPEED : 2.5 Arterial

SCENARIO RECORD : Idle Cold  
CALENDAR YEAR : 2032  
SOAK DISTRIBUTION : N:\Mobile6\Run\SkDstCld.d  
AVERAGE SPEED : 2.5 Arterial

SCENARIO RECORD : 5 mph Cold  
CALENDAR YEAR : 2032  
SOAK DISTRIBUTION : N:\Mobile6\Run\SkDstCld.d  
AVERAGE SPEED : 5.0 Arterial

SCENARIO RECORD : 5 mph Hot  
CALENDAR YEAR : 2032  
SOAK DISTRIBUTION : N:\Mobile6\Run\SkDstHot.d  
AVERAGE SPEED : 5.0 Arterial

SCENARIO RECORD : Arterial (35 mph)  
CALENDAR YEAR : 2032  
AVERAGE SPEED : 35.0 Arterial

SCENARIO RECORD : Local (Default Speed)  
CALENDAR YEAR : 2032  
AVERAGE SPEED : 12.9 Local

SCENARIO RECORD : Ramp (Default Speed)  
CALENDAR YEAR : 2032  
AVERAGE SPEED : 34.6 Ramp

SCENARIO RECORD : Freeway (55 mph)  
CALENDAR YEAR : 2032  
AVERAGE SPEED : 55.0 Freeway

END OF RUN





PENNOZ

Calendar Year: 2032
Month: Jan.
Altitude: Low
Minimum Temperature: 26.7 (F)
Maximum Temperature: 41.2 (F)
Absolute Humidity: 20. grains/lb
Fuel Sulfur Content: 30. ppm
Exhaust I/M Program: Yes
Evap I/M Program: Yes
ATP Program: Yes
Reformulated Gas: Yes

Table with columns: Vehicle Type, LDGV, LDGT12 <6000, LDGT34 >6000, LDGT (All), HDGV, LDDV, LDDT, HDDV, MC, All Veh. Rows include VMT Distribution, Composite Emission Factors (g/mi), Exhaust emissions (g/mi) for VOC, CO, and NOx.

\* #####
\* 5 mph Cold
\* File 1, Run 1, Scenario 3.
\* #####
\* Reading start SOAK distribution from the following external
\* data file: N:\MOBILE6\RUN\SKDSTCLD.D
M583 Warning:
The user supplied arterial average speed of 5.0
will be used for all hours of the day. 100% of VMT
has been assigned to the arterial/collector roadway
type for all hours of the day and all vehicle types.
M112 Warning:
Wintertime Reformulated Gasoline Rules Apply
M 48 Warning:
there are no sales for vehicle class HDGV8b
M 48 Warning:
there are no sales for vehicle class LDDT12
LEV phase-in data read from file N:\MOBILE6\PROJECTS\NLEVNE.D
Calendar Year: 2032
Month: Jan.
Altitude: Low
Minimum Temperature: 26.7 (F)

PENNOZ

Maximum Temperature: 41.2 (F)
Absolute Humidity: 20. grains/lb
Fuel Sulfur Content: 30. ppm

Exhaust I/M Program: Yes
Evap I/M Program: Yes
ATP Program: Yes
Reformulated Gas: Yes

Table with columns: Vehicle Type, LDGV, LDGT12 <6000, LDGT34 >6000, LDGT (All), HDGV, LDDV, LDDT, HDDV, MC, All Veh. Rows include VMT Distribution, Composite Emission Factors (g/mi), and Exhaust emissions (g/mi) for VOC, CO, and NOx.

\* #####
\* 5 mph Hot
\* File 1, Run 1, Scenario 4.
\* #####
\* Reading start SOAK distribution from the following external
\* data file: N:\MOBILE6\RUN\SKDSTHOT.D
M583 Warning:
The user supplied arterial average speed of 5.0
will be used for all hours of the day. 100% of VMT
has been assigned to the arterial/collector roadway
type for all hours of the day and all vehicle types.
M112 Warning:
Wintertime Reformulated Gasoline Rules Apply
M 48 Warning:
there are no sales for vehicle class HDGV8b
M 48 Warning:
there are no sales for vehicle class LDDT12
LEV phase-in data read from file N:\MOBILE6\PROJECTS\NLEVNE.D
Calendar Year: 2032
Month: Jan.
Altitude: Low
Minimum Temperature: 26.7 (F)
Maximum Temperature: 41.2 (F)
Absolute Humidity: 20. grains/lb
Fuel Sulfur Content: 30. ppm





Exhaust emissions (g/mi):					PENNOZ					
VOC Start:	0.068	0.081	0.100	0.087		0.014	0.021		0.962	
VOC Running:	0.069	0.094	0.127	0.105		0.061	0.129		2.487	
VOC Total Exhaust:	0.137	0.175	0.227	0.192	0.247	0.074	0.150	0.445	3.45	0.203
CO Start:	7.09	5.64	5.37	5.55		0.217	0.088		5.684	
CO Running:	3.04	3.04	3.52	3.19		0.758	0.447		20.151	
CO Total Exhaust:	10.13	8.68	8.89	8.74	15.18	0.975	0.535	0.442	25.83	9.305
NOx Start:	0.025	0.036	0.045	0.039		0.001	0.002		0.747	
NOx Running:	0.104	0.168	0.242	0.192		0.030	0.127		0.884	
NOx Total Exhaust:	0.128	0.204	0.288	0.231	0.146	0.031	0.129	0.613	1.63	0.205

\* #####  
 \* Ramp (Default Speed)  
 \* File 1, Run 1, Scenario 7.  
 \* #####  
 M586 Warning:  
 100% of VMT has been assigned to the freeway ramp roadway type for all hours of the day for all vehicle types with an average speed of 34.6 mph.  
 M112 Warning:  
 Wintertime Reformulated Gasoline Rules Apply  
 M 48 Warning:  
 there are no sales for vehicle class HDGV8b  
 M 48 Warning:  
 there are no sales for vehicle class LDDT12  
 LEV phase-in data read from file N:\MOBILE6\PROJECTS\NLEVNE.D  
 Calendar Year: 2032  
 Month: Jan.  
 Altitude: Low  
 Minimum Temperature: 26.7 (F)  
 Maximum Temperature: 41.2 (F)  
 Absolute Humidity: 20. grains/lb  
 Fuel Sulfur Content: 30. ppm  
 Exhaust I/M Program: Yes  
 Evap I/M Program: Yes  
 ATP Program: Yes  
 Reformulated Gas: Yes

Vehicle Type:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:										
VMT Distribution:	0.5527	0.2398	0.1152		0.0242	0.0005	0.0017	0.0579	0.0080	1.0000

Composite Emission Factors (g/mi):										
Composite VOC :	0.204	0.219	0.264	0.234	0.195	0.043	0.082	0.212	2.35	0.232
Composite CO :	12.52	10.98	11.17	11.04	5.62	0.504	0.257	0.167	12.73	11.088
Composite NOx :	0.165	0.236	0.378	0.282	0.176	0.023	0.095	0.450	2.00	0.238

Exhaust emissions (g/mi):										
VOC Start:	0.068	0.081	0.100	0.087		0.014	0.021		0.962	
VOC Running:	0.056	0.070	0.097	0.079		0.029	0.061		1.196	
VOC Total Exhaust:	0.124	0.151	0.197	0.166	0.071	0.043	0.082	0.212	2.16	0.159
CO Start:	7.09	5.64	5.37	5.55		0.217	0.088		5.684	
CO Running:	5.42	5.34	5.81	5.49		0.287	0.169		7.047	
CO Total Exhaust:	12.52	10.98	11.17	11.04	5.62	0.504	0.257	0.167	12.73	11.088

PENNOZ

NOx Start:	0.025	0.036	0.045	0.039		0.001	0.002		0.747	
NOx Running:	0.141	0.200	0.333	0.243		0.022	0.093		1.251	
NOx Total Exhaust:	0.165	0.236	0.378	0.282	0.176	0.023	0.095	0.450	2.00	0.238

\* #####  
 \* Freeway (55 mph)  
 \* File 1, Run 1, Scenario 8.  
 \* #####

M582 warning:  
 The user supplied freeway average speed of 55.0 will be used for all hours of the day. 100% of VMT has been assigned to a fixed combination of freeways and freeway ramps for all hours of the day and all vehicle types.

M112 warning:  
 Wintertime Reformulated Gasoline Rules Apply

M 48 warning:  
 there are no sales for vehicle class HDGV8b

M 48 warning:  
 there are no sales for vehicle class LDDT12

LEV phase-in data read from file N:\MOBILE6\PROJECTS\NLEVNE.D

Calendar Year: 2032  
 Month: Jan.  
 Altitude: Low  
 Minimum Temperature: 26.7 (F)  
 Maximum Temperature: 41.2 (F)  
 Absolute Humidity: 20. grains/lb  
 Fuel Sulfur Content: 30. ppm

Exhaust I/M Program: Yes  
 Evap I/M Program: Yes  
 ATP Program: Yes  
 Reformulated Gas: Yes

Vehicle Type:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:										
VMT Distribution:	0.5527	0.2398	0.1152		0.0242	0.0005	0.0017	0.0579	0.0080	1.0000

Composite Emission Factors (g/mi):

Composite VOC :	0.179	0.203	0.239	0.215	0.156	0.035	0.066	0.157	2.39	0.207
Composite CO :	11.37	9.98	10.27	10.07	6.18	0.484	0.246	0.155	14.57	10.137
Composite NOx :	0.150	0.227	0.338	0.263	0.206	0.033	0.141	0.670	2.51	0.240

Exhaust emissions (g/mi):

VOC Start:	0.068	0.081	0.100	0.087		0.014	0.021		0.962	
VOC Running:	0.047	0.065	0.083	0.071		0.021	0.046		1.230	
VOC Total Exhaust:	0.114	0.147	0.183	0.158	0.046	0.035	0.066	0.157	2.19	0.147
CO Start:	7.09	5.64	5.37	5.55		0.217	0.088		5.684	
CO Running:	4.28	4.34	4.90	4.52		0.267	0.157		8.883	
CO Total Exhaust:	11.37	9.98	10.27	10.07	6.18	0.484	0.246	0.155	14.57	10.137
NOx Start:	0.025	0.036	0.045	0.039		0.001	0.002		0.747	
NOx Running:	0.125	0.191	0.293	0.224		0.033	0.138		1.768	
NOx Total Exhaust:	0.150	0.227	0.338	0.263	0.206	0.033	0.141	0.670	2.51	0.240

'Pennsauken Transfer 2032 NOB AM', 60 , 108 , 0 , 0 , 4 , 0.3048 , 1 , 1  
'RCVW', 187.2 , -30.6 , 5.9  
'RCVN', 361.4 , -278.3 , 5.9  
'RCVE', 350.5 , -547.7 , 5.9  
'RCVS', 169.7 , -294.8 , 5.9  
'Pennsauken Transfer 2032 No-Build AM Z=40', 24 , 1 , 1 , 'CO'  
1  
'DWB1-DWBRiverFF', 'AG', 1015.8 , -2031.2 , 658.5 , -1075.5 , 100 , 9.3 , 0 , 34  
2  
'DWB2-DWB1Queue', 'AG', 678.2 , -1128 , 1015.8 , -2031.2 , 0 , 25 , 2  
60 , 38 , 2 , 100 , 48.1 , 2599 , 1 , 3  
1  
'DWBRiverFF-DWBBan', 'AG', 658.5 , -1075.5 , 466.4 , -504.2 , 41 , 9.3 , 0 , 34  
1  
'DWBBan-DWBSZim', 'AG', 466.4 , -504.2 , 319.7 , -55.5 , 33 , 9.3 , 0 , 34  
1  
'DWBSZim-DWBNZim', 'AG', 319.7 , -55.5 , 279.6 , 74.3 , 33 , 9.3 , 0 , 34  
1  
'DWBNZim-End', 'AG', 279.6 , 74.3 , -150.1 , 1498 , 28 , 9.3 , 0 , 34  
1  
'DEB1-DEBNZim', 'AG', -162.7 , 1498 , 260.3 , 73 , 29 , 9.3 , 0 , 34  
1  
'DEBNZim-DEBSZim', 'AG', 260.3 , 73 , 307.8 , -57.2 , 45 , 9.3 , 0 , 34  
1  
'DEBZim-DEBBan', 'AG', 307.8 , -57.2 , 454.7 , -508.6 , 52 , 9.3 , 0 , 34  
1  
'DEBBan-DEBRiverFF', 'AG', 454.7 , -508.6 , 623.4 , -1075.5 , 62 , 9.3 , 0 , 34  
2  
'DEBBan-DEBRiverQue', 'AG', 605.9 , -1025.2 , 454.7 , -508.6 , 0 , 25 , 2  
60 , 38 , 2 , 62 , 48.1 , 2492 , 1 , 3  
1  
'DEBBan-End', 'AG', 623.4 , -1075.5 , 1002.9 , -2040.4 , 77 , 9.3 , 0 , 34  
1  
'RNBSstart-RNBDF', 'AG', -750.1 , -1562.9 , 649.7 , -1106.1 , 214 , 9.3 , 0 , 34  
2  
'RNBSstart-RNBDeQueue', 'AG', 601.5 , -1123.7 , -750.1 , -1562.9 , 0 , 25 , 1  
60 , 35 , 2 , 214 , 48.1 , 1418 , 1 , 3  
1  
'RNBD-End', 'AG', 649.7 , -1106.1 , 2013.7 , -939.1 , 193 , 9.3 , 0 , 34  
1  
'RSBStart-DFF', 'AG', 2016.1 , -922.3 , 658.5 , -1075.5 , 228 , 9.3 , 0 , 34  
2  
'RSB1-DQueue', 'AG', 708.8 , -1075.5 , 2016.1 , -922.3 , 0 , 25 , 2  
60 , 35 , 2 , 228 , 48.1 , 2642 , 1 , 3  
1  
'RSBFF-End', 'AG', 658.5 , -1075.5 , -756.1 , -1546 , 293 , 9.3 , 0 , 34  
1  
'BNB1-BNB2', 'AG', 488.1 , -504.1 , 2061.3 , -388.1 , 7 , 9.3 , 0 , 32  
1  
'BSB1-BSB2', 'AG', 2058.9 , -376.9 , 485.9 , -492.9 , 11 , 9.3 , 0 , 32  
1  
'SZNB1-SZNB2', 'AG', 337.5 , -57.3 , 1961.6 , 41.8 , 6 , 9.3 , 0 , 31  
1  
'SZSB1-SZSB2', 'AG', 1960.3 , 51.1 , 336.5 , -49.1 , 8 , 9.3 , 0 , 31  
1  
'NZNB1-NZNB2', 'AG', 296.6 , 79.7 , 1886.6 , 199.5 , 5 , 9.3 , 0 , 28  
1  
'NZNB1-NZNB2', 'AG', 1886.6 , 210.4 , 296.6 , 83.7 , 21 , 9.3 , 0 , 28  
1 , 0 , 4 , 1000 , 0 , 'Y', 5 , 1 , 72

JOB: Pennsauken Transfer 2032 NOB AM

RUN: Pennsauken Transfer 2032 No-Build AM Z=4

DATE : 5/ 6/ 9

TIME : 11:21:49

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S      VD = .0 CM/S      Z0 = 108. CM  
 U = 1.0 M/S      CLAS = 4 (D)      ATIM = 60. MINUTES      MIXH = 1000. M      AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	* X1	Y1	X2	Y2	* LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. DWB1-DWBRiverFF	* 1015.8	-2031.2	658.5	-1075.5	* 1020.	340.	AG	100.	9.3	.0	34.0		
2. DWB2-DWB1Queue	* 678.2	-1128.0	681.8	-1137.7	* 10.	160.	AG	163.	100.0	.0	25.0	.06	.5
3. DWBRiverFF-DWBBan	* 658.5	-1075.5	466.4	-504.2	* 603.	341.	AG	41.	9.3	.0	34.0		
4. DWBBan-DWBSZim	* 466.4	-504.2	319.7	-55.5	* 472.	342.	AG	33.	9.3	.0	34.0		
5. DWBSZim-DWBNZim	* 319.7	-55.5	279.6	74.3	* 136.	343.	AG	33.	9.3	.0	34.0		
6. DWBNZim-End	* 279.6	74.3	-150.1	1498.0	* 1487.	343.	AG	28.	9.3	.0	34.0		
7. DEB1-DEBNZim	* -162.7	1498.0	260.3	73.0	* 1486.	163.	AG	29.	9.3	.0	34.0		
8. DEBNZim-DEBSZim	* 260.3	73.0	307.8	-57.2	* 139.	160.	AG	45.	9.3	.0	34.0		
9. DEBZim-DEBBan	* 307.8	-57.2	454.7	-508.6	* 475.	162.	AG	52.	9.3	.0	34.0		
10. DEBBan-DEBRiverFF	* 454.7	-508.6	623.4	-1075.5	* 591.	163.	AG	62.	9.3	.0	34.0		
11. DEBBan-DEBRiverQue	* 605.9	-1025.2	604.1	-1019.0	* 6.	344.	AG	163.	100.0	.0	25.0	.04	.3
12. DEBBan-End	* 623.4	-1075.5	1002.9	-2040.4	* 1037.	159.	AG	77.	9.3	.0	34.0		
13. RNBStart-RNBDFF	* -750.1	-1562.9	649.7	-1106.1	* 1472.	72.	AG	214.	9.3	.0	34.0		
14. RNBStart-RNBDeQueu	* 601.5	-1123.7	562.5	-1136.4	* 41.	252.	AG	75.	100.0	.0	25.0	.43	2.1
15. RNBD-End	* 649.7	-1106.1	2013.7	-939.1	* 1374.	83.	AG	193.	9.3	.0	34.0		
16. RSBStart-DFE	* 2016.1	-922.3	658.5	-1075.5	* 1366.	264.	AG	228.	9.3	.0	34.0		
17. RSB1-DQueue	* 708.8	-1075.5	730.5	-1073.0	* 22.	83.	AG	151.	100.0	.0	25.0	.12	1.1
18. RSBFF-End	* 658.5	-1075.5	-756.1	-1546.0	* 1491.	252.	AG	293.	9.3	.0	34.0		
19. BNB1-BNB2	* 488.1	-504.1	2061.3	-388.1	* 1577.	86.	AG	7.	9.3	.0	32.0		
20. BSB1-BSB2	* 2058.9	-376.9	485.9	-492.9	* 1577.	266.	AG	11.	9.3	.0	32.0		
21. SZNB1-SZNB2	* 337.5	-57.3	1961.6	41.8	* 1627.	87.	AG	6.	9.3	.0	31.0		
22. SZSB1-SZSB2	* 1960.3	51.1	336.5	-49.1	* 1627.	266.	AG	8.	9.3	.0	31.0		
23. NZNB1-NZNB2	* 296.6	79.7	1886.6	199.5	* 1595.	86.	AG	5.	9.3	.0	28.0		
24. NZNB1-NZNB2	* 1886.6	210.4	296.6	83.7	* 1595.	265.	AG	21.	9.3	.0	28.0		

JOB: Pennsauken Transfer 2032 NOB AM

RUN: Pennsauken Transfer 2032 No-Build AM Z=4

DATE : 5/ 6/ 9  
 TIME : 11:21:49

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 ADDITIONAL QUEUE LINK PARAMETERS  
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LINK DESCRIPTION	* * *	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
2. DWB2-DWB1Queue	* * *	60	38	2.0	100	2599	48.10	1	3
11. DEBBan-DEBRiverQue	* * *	60	38	2.0	62	2492	48.10	1	3
14. RNBStart-RNBDeQueu	* * *	60	35	2.0	214	1418	48.10	1	3
17. RSB1-DQueue	* * *	60	35	2.0	228	2642	48.10	1	3

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 RECEPTOR LOCATIONS  
 -----

RECEPTOR	* * *	COORDINATES (FT)			* * *
		X	Y	Z	
1. RCVW	* * *	187.2	-30.6	5.9	* * *
2. RCVN	* * *	361.4	-278.3	5.9	* * *
3. RCVE	* * *	350.5	-547.7	5.9	* * *
4. RCVS	* * *	169.7	-294.8	5.9	* * *

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 5.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM)	REC1	REC2	REC3	REC4
5.	*	.0	.0	.0	.0
10.	*	.0	.0	.0	.0
15.	*	.0	.0	.0	.0
20.	*	.0	.0	.0	.0
25.	*	.0	.0	.0	.0
30.	*	.0	.0	.0	.0
35.	*	.0	.0	.0	.0
40.	*	.0	.0	.0	.0
45.	*	.0	.0	.0	.0
50.	*	.0	.0	.0	.0
55.	*	.0	.0	.0	.0
60.	*	.0	.0	.0	.0
65.	*	.0	.0	.0	.0
70.	*	.0	.0	.0	.0
75.	*	.0	.0	.0	.0
80.	*	.0	.0	.0	.0
85.	*	.0	.0	.0	.0
90.	*	.0	.0	.0	.0
95.	*	.0	.0	.0	.0
100.	*	.0	.0	.0	.0
105.	*	.0	.0	.0	.0
110.	*	.0	.0	.0	.0
115.	*	.0	.0	.0	.0
120.	*	.0	.0	.0	.0
125.	*	.0	.0	.0	.0
130.	*	.0	.0	.0	.0
135.	*	.0	.0	.0	.0
140.	*	.0	.0	.0	.0
145.	*	.0	.0	.0	.0
150.	*	.0	.0	.0	.0
155.	*	.0	.0	.0	.0
160.	*	.0	.0	.0	.0
165.	*	.0	.0	.0	.0
170.	*	.0	.0	.0	.0
175.	*	.0	.0	.0	.0
180.	*	.0	.0	.0	.0
185.	*	.0	.0	.0	.0
190.	*	.0	.0	.0	.0
195.	*	.0	.0	.0	.0
200.	*	.0	.0	.0	.0
205.	*	.0	.0	.0	.0
210.	*	.0	.0	.0	.0

WIND	* CONCENTRATION				
ANGLE	*	(PPM)			
(DEGR)	* REC1	REC2	REC3	REC4	
215.	*	.0	.0	.0	.0
220.	*	.0	.0	.0	.0
225.	*	.0	.0	.0	.0
230.	*	.0	.0	.0	.0
235.	*	.0	.0	.0	.0
240.	*	.0	.0	.0	.0
245.	*	.0	.0	.0	.0
250.	*	.0	.0	.0	.0
255.	*	.0	.0	.0	.0
260.	*	.0	.0	.0	.0
265.	*	.0	.0	.0	.0
270.	*	.0	.0	.0	.0
275.	*	.0	.0	.0	.0
280.	*	.0	.0	.0	.0
285.	*	.0	.0	.0	.0
290.	*	.0	.0	.0	.0
295.	*	.0	.0	.0	.0
300.	*	.0	.0	.0	.0
305.	*	.0	.0	.0	.0
310.	*	.0	.0	.0	.0
315.	*	.0	.0	.0	.0
320.	*	.0	.0	.0	.0
325.	*	.0	.0	.0	.0
330.	*	.0	.0	.0	.0
335.	*	.0	.0	.0	.0
340.	*	.0	.0	.0	.0
345.	*	.0	.0	.0	.0
350.	*	.0	.0	.0	.0
355.	*	.0	.0	.0	.0
360.	*	.0	.0	.0	.0
MAX	*	.0	.0	.0	.0
DEGR.	*	5	5	5	5

THE HIGHEST CONCENTRATION OF .00 PPM OCCURRED AT RECEPTOR

DATE : 5/ 6/ 9  
 TIME : 11:21:49

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
 THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

LINK #	*	CO/LINK (PPM)			
		REC1	REC2	REC3	REC4
	*	ANGLE (DEGREES)			
	*	5	5	5	5
1	*	.0	.0	.0	.0
2	*	.0	.0	.0	.0
3	*	.0	.0	.0	.0
4	*	.0	.0	.0	.0
5	*	.0	.0	.0	.0
6	*	.0	.0	.0	.0
7	*	.0	.0	.0	.0
8	*	.0	.0	.0	.0
9	*	.0	.0	.0	.0
10	*	.0	.0	.0	.0
11	*	.0	.0	.0	.0
12	*	.0	.0	.0	.0
13	*	.0	.0	.0	.0
14	*	.0	.0	.0	.0
15	*	.0	.0	.0	.0
16	*	.0	.0	.0	.0
17	*	.0	.0	.0	.0
18	*	.0	.0	.0	.0
19	*	.0	.0	.0	.0
20	*	.0	.0	.0	.0
21	*	.0	.0	.0	.0
22	*	.0	.0	.0	.0
23	*	.0	.0	.0	.0
24	*	.0	.0	.0	.0

'Pennsauken Transfer 2032 NOB PM', 60 , 108 , 0 , 0 , 4 , 0.3048 , 1 , 1  
'RCVW', 187.2 , -30.6 , 5.9  
'RCVN', 361.4 , -278.3 , 5.9  
'RCVE', 350.5 , -547.7 , 5.9  
'RCVS', 169.7 , -294.8 , 5.9  
'Pennsauken Transfer 2032 No-Build PM Z=40', 24 , 1 , 1 , 'CO'  
1  
'DWB1-DWBRiverFF', 'AG', 1015.8 , -2031.2 , 658.5 , -1075.5 , 92 , 9.3 , 0 , 34  
2  
'DWB2-DWB1Queue', 'AG', 678.2 , -1128 , 1015.8 , -2031.2 , 0 , 25 , 2  
60 , 38 , 2 , 100 , 48.1 , 2591 , 1 , 3  
1  
'DWBRiverFF-DWBBan', 'AG', 658.5 , -1075.5 , 466.4 , -504.2 , 52 , 9.3 , 0 , 34  
1  
'DWBBan-DWBSZim', 'AG', 466.4 , -504.2 , 319.7 , -55.5 , 41 , 9.3 , 0 , 34  
1  
'DWBSZim-DWBNZim', 'AG', 319.7 , -55.5 , 279.6 , 74.3 , 36 , 9.3 , 0 , 34  
1  
'DWBNZim-End', 'AG', 279.6 , 74.3 , -150.1 , 1498 , 19 , 9.3 , 0 , 34  
1  
'DEB1-DEBNZim', 'AG', -162.7 , 1498 , 260.3 , 73 , 28 , 9.3 , 0 , 34  
1  
'DEBNZim-DEBSZim', 'AG', 260.3 , 73 , 307.8 , -57.2 , 41 , 9.3 , 0 , 34  
1  
'DEBZim-DEBBan', 'AG', 307.8 , -57.2 , 454.7 , -508.6 , 61 , 9.3 , 0 , 34  
1  
'DEBBan-DEBRiverFF', 'AG', 454.7 , -508.6 , 623.4 , -1075.5 , 73 , 9.3 , 0 , 34  
2  
'DEBBan-DEBRiverQue', 'AG', 605.9 , -1025.2 , 454.7 , -508.6 , 0 , 25 , 2  
60 , 38 , 2 , 62 , 48.1 , 2743 , 1 , 3  
1  
'DEBBan-End', 'AG', 623.4 , -1075.5 , 1002.9 , -2040.4 , 106 , 9.3 , 0 , 34  
1  
'RNBSstart-RNBDF', 'AG', -750.1 , -1562.9 , 649.7 , -1106.1 , 372 , 9.3 , 0 , 34  
2  
'RNBSstart-RNBDeQueue', 'AG', 601.5 , -1123.7 , -750.1 , -1562.9 , 0 , 25 , 1  
60 , 35 , 2 , 214 , 48.1 , 1544 , 1 , 3  
1  
'RNBD-End', 'AG', 649.7 , -1106.1 , 2013.7 , -939.1 , 317 , 9.3 , 0 , 34  
1  
'RSBStart-DFF', 'AG', 2016.1 , -922.3 , 658.5 , -1075.5 , 272 , 9.3 , 0 , 34  
2  
'RSB1-DQueue', 'AG', 708.8 , -1075.5 , 2016.1 , -922.3 , 0 , 25 , 2  
60 , 35 , 2 , 228 , 48.1 , 2939 , 1 , 3  
1  
'RSBFF-End', 'AG', 658.5 , -1075.5 , -756.1 , -1546 , 337 , 9.3 , 0 , 34  
1  
'BNB1-BNB2', 'AG', 488.1 , -504.1 , 2061.3 , -388.1 , 12 , 9.3 , 0 , 32  
1  
'BSB1-BSB2', 'AG', 2058.9 , -376.9 , 485.9 , -492.9 , 11 , 9.3 , 0 , 32  
1  
'SZNB1-SZNB2', 'AG', 337.5 , -57.3 , 1961.6 , 41.8 , 8 , 9.3 , 0 , 31  
1  
'SZSB1-SZSB2', 'AG', 1960.3 , 51.1 , 336.5 , -49.1 , 12 , 9.3 , 0 , 31  
1  
'NZNB1-NZNB2', 'AG', 296.6 , 79.7 , 1886.6 , 199.5 , 17 , 9.3 , 0 , 28  
1  
'NZNB1-NZNB2', 'AG', 1886.6 , 210.4 , 296.6 , 83.7 , 11 , 9.3 , 0 , 28  
1 , 0 , 4 , 1000 , 0 , 'Y', 5 , 1 , 72

JOB: Pennsauken Transfer 2032 NOB PM

RUN: Pennsauken Transfer 2032 No-Build PM Z=4

DATE : 5/ 6/ 9

TIME : 11:24: 1

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S      VD = .0 CM/S      Z0 = 108. CM  
 U = 1.0 M/S      CLAS = 4 (D)      ATIM = 60. MINUTES      MIXH = 1000. M      AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	* X1	Y1	X2	Y2	* LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. DWB1-DWBRiverFF	* 1015.8	-2031.2	658.5	-1075.5	* 1020.	340.	AG	92.	9.3	.0	34.0		
2. DWB2-DWB1Queue	* 678.2	-1128.0	681.8	-1137.7	* 10.	160.	AG	163.	100.0	.0	25.0	.06	.5
3. DWBRiverFF-DWBBan	* 658.5	-1075.5	466.4	-504.2	* 603.	341.	AG	52.	9.3	.0	34.0		
4. DWBBan-DWBSZim	* 466.4	-504.2	319.7	-55.5	* 472.	342.	AG	41.	9.3	.0	34.0		
5. DWBSZim-DWBNZim	* 319.7	-55.5	279.6	74.3	* 136.	343.	AG	36.	9.3	.0	34.0		
6. DWBNZim-End	* 279.6	74.3	-150.1	1498.0	* 1487.	343.	AG	19.	9.3	.0	34.0		
7. DEB1-DEBNZim	* -162.7	1498.0	260.3	73.0	* 1486.	163.	AG	28.	9.3	.0	34.0		
8. DEBNZim-DEBSZim	* 260.3	73.0	307.8	-57.2	* 139.	160.	AG	41.	9.3	.0	34.0		
9. DEBZim-DEBBan	* 307.8	-57.2	454.7	-508.6	* 475.	162.	AG	61.	9.3	.0	34.0		
10. DEBBan-DEBRiverFF	* 454.7	-508.6	623.4	-1075.5	* 591.	163.	AG	73.	9.3	.0	34.0		
11. DEBBan-DEBRiverQue	* 605.9	-1025.2	604.1	-1019.0	* 6.	344.	AG	163.	100.0	.0	25.0	.04	.3
12. DEBBan-End	* 623.4	-1075.5	1002.9	-2040.4	* 1037.	159.	AG	106.	9.3	.0	34.0		
13. RNBStart-RNBDFF	* -750.1	-1562.9	649.7	-1106.1	* 1472.	72.	AG	372.	9.3	.0	34.0		
14. RNBStart-RNBDeQueue	* 601.5	-1123.7	562.5	-1136.4	* 41.	252.	AG	75.	100.0	.0	25.0	.40	2.1
15. RNBD-End	* 649.7	-1106.1	2013.7	-939.1	* 1374.	83.	AG	317.	9.3	.0	34.0		
16. RSBStart-DFE	* 2016.1	-922.3	658.5	-1075.5	* 1366.	264.	AG	272.	9.3	.0	34.0		
17. RSB1-DQueue	* 708.8	-1075.5	730.5	-1073.0	* 22.	83.	AG	151.	100.0	.0	25.0	.11	1.1
18. RSBFF-End	* 658.5	-1075.5	-756.1	-1546.0	* 1491.	252.	AG	337.	9.3	.0	34.0		
19. BNB1-BNB2	* 488.1	-504.1	2061.3	-388.1	* 1577.	86.	AG	12.	9.3	.0	32.0		
20. BSB1-BSB2	* 2058.9	-376.9	485.9	-492.9	* 1577.	266.	AG	11.	9.3	.0	32.0		
21. SZNB1-SZNB2	* 337.5	-57.3	1961.6	41.8	* 1627.	87.	AG	8.	9.3	.0	31.0		
22. SZSB1-SZSB2	* 1960.3	51.1	336.5	-49.1	* 1627.	266.	AG	12.	9.3	.0	31.0		
23. NZNB1-NZNB2	* 296.6	79.7	1886.6	199.5	* 1595.	86.	AG	17.	9.3	.0	28.0		
24. NZNB1-NZNB2	* 1886.6	210.4	296.6	83.7	* 1595.	265.	AG	11.	9.3	.0	28.0		

DATE : 5/ 6/ 9  
 TIME : 11:24: 1

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 ADDITIONAL QUEUE LINK PARAMETERS  
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LINK DESCRIPTION	* * * *	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
2. DWB2-DWB1Queue	*	60	38	2.0	100	2591	48.10	1	3
11. DEBBan-DEBRiverQue	*	60	38	2.0	62	2743	48.10	1	3
14. RNBStart-RNBDeQueu	*	60	35	2.0	214	1544	48.10	1	3
17. RSB1-DQueue	*	60	35	2.0	228	2939	48.10	1	3

RECEPTOR LOCATIONS  
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RECEPTOR	* * * *	COORDINATES (FT)			* * * *
		X	Y	Z	
1. RCVW	*	187.2	-30.6	5.9	*
2. RCVN	*	361.4	-278.3	5.9	*
3. RCVE	*	350.5	-547.7	5.9	*
4. RCVS	*	169.7	-294.8	5.9	*

MODEL RESULTS

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REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 5.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM)	REC1	REC2	REC3	REC4
5.	*	.0	.0	.0	.0
10.	*	.0	.0	.0	.0
15.	*	.0	.0	.0	.0
20.	*	.0	.0	.0	.0
25.	*	.0	.0	.0	.0
30.	*	.0	.0	.0	.0
35.	*	.0	.0	.0	.0
40.	*	.0	.0	.0	.0
45.	*	.0	.0	.0	.0
50.	*	.0	.0	.0	.0
55.	*	.0	.0	.0	.0
60.	*	.0	.0	.0	.0
65.	*	.0	.0	.0	.0
70.	*	.0	.0	.0	.0
75.	*	.0	.0	.0	.0
80.	*	.0	.0	.0	.0
85.	*	.0	.0	.0	.0
90.	*	.0	.0	.0	.0
95.	*	.0	.0	.0	.0
100.	*	.0	.0	.0	.0
105.	*	.0	.0	.0	.0
110.	*	.0	.0	.0	.0
115.	*	.0	.0	.0	.0
120.	*	.0	.0	.0	.0
125.	*	.0	.0	.0	.0
130.	*	.0	.0	.0	.0
135.	*	.0	.0	.0	.0
140.	*	.0	.0	.0	.0
145.	*	.0	.0	.0	.0
150.	*	.0	.0	.0	.0
155.	*	.0	.0	.0	.0
160.	*	.0	.0	.0	.0
165.	*	.0	.0	.0	.0
170.	*	.0	.0	.0	.0
175.	*	.0	.0	.0	.0
180.	*	.0	.0	.0	.0
185.	*	.0	.0	.0	.0
190.	*	.0	.0	.0	.0
195.	*	.0	.0	.0	.0
200.	*	.0	.0	.0	.0
205.	*	.0	.0	.0	.0
210.	*	.0	.0	.0	.0

WIND \* CONCENTRATION

ANGLE *	(PPM)			
(DEGR) *	REC1	REC2	REC3	REC4
215. *	.0	.0	.0	.0
220. *	.0	.0	.0	.0
225. *	.0	.0	.0	.0
230. *	.0	.0	.0	.0
235. *	.0	.0	.0	.0
240. *	.0	.0	.0	.0
245. *	.0	.0	.0	.0
250. *	.0	.0	.0	.0
255. *	.0	.0	.0	.0
260. *	.0	.0	.0	.0
265. *	.0	.0	.0	.0
270. *	.0	.0	.0	.0
275. *	.0	.0	.0	.0
280. *	.0	.0	.0	.0
285. *	.0	.0	.0	.0
290. *	.0	.0	.0	.0
295. *	.0	.0	.0	.0
300. *	.0	.0	.0	.0
305. *	.0	.0	.0	.0
310. *	.0	.0	.0	.0
315. *	.0	.0	.0	.0
320. *	.0	.0	.0	.0
325. *	.0	.0	.0	.0
330. *	.0	.0	.0	.0
335. *	.0	.0	.0	.0
340. *	.0	.0	.0	.0
345. *	.0	.0	.0	.0
350. *	.0	.0	.0	.0
355. *	.0	.0	.0	.0
360. *	.0	.0	.0	.0
MAX *	.0	.0	.0	.0
DEGR. *	5	5	5	5

THE HIGHEST CONCENTRATION OF .00 PPM OCCURRED AT RECEPTOR

DATE : 5/ 6/ 9  
TIME : 11:24: 1

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

LINK #	*	CO/LINK (PPM)			
		REC1	REC2	REC3	REC4
	*	5	5	5	5
1	*	.0	.0	.0	.0
2	*	.0	.0	.0	.0
3	*	.0	.0	.0	.0
4	*	.0	.0	.0	.0
5	*	.0	.0	.0	.0
6	*	.0	.0	.0	.0
7	*	.0	.0	.0	.0
8	*	.0	.0	.0	.0
9	*	.0	.0	.0	.0
10	*	.0	.0	.0	.0
11	*	.0	.0	.0	.0
12	*	.0	.0	.0	.0
13	*	.0	.0	.0	.0
14	*	.0	.0	.0	.0
15	*	.0	.0	.0	.0
16	*	.0	.0	.0	.0
17	*	.0	.0	.0	.0
18	*	.0	.0	.0	.0
19	*	.0	.0	.0	.0
20	*	.0	.0	.0	.0
21	*	.0	.0	.0	.0
22	*	.0	.0	.0	.0
23	*	.0	.0	.0	.0
24	*	.0	.0	.0	.0

'Pennsauken Transfer 2032 BUILD AM', 60 , 108 , 0 , 0 , 4 , 0.3048 , 1 , 1  
'RCVW', 187.2 , -30.6 , 5.9  
'RCVN', 361.4 , -278.3 , 5.9  
'RCVE', 350.5 , -547.7 , 5.9  
'RCVS', 169.7 , -294.8 , 5.9  
'Pennsauken Transfer 2032 Build AM Z=40', 26 , 1 , 1 , 'CO'  
1  
'DWB1-DWBRiverFF', 'AG', 1015.8 , -2031.2 , 658.5 , -1075.5 , 120 , 9.3 , 0 , 34  
2  
'DWB2-DWB1Queue', 'AG', 678.2 , -1128 , 1015.8 , -2031.2 , 0 , 25 , 2  
60 , 38 , 2 , 120 , 48.1 , 2677 , 1 , 3  
1  
'DWBRiverFF-DWBBan', 'AG', 658.5 , -1075.5 , 466.4 , -504.2 , 147 , 9.3 , 0 , 34  
1  
'DWBBan-DWBSZim', 'AG', 466.4 , -504.2 , 319.7 , -55.5 , 140 , 9.3 , 0 , 34  
1  
'DWBSZim-DWBNZim', 'AG', 319.7 , -55.5 , 279.6 , 74.3 , 33 , 9.3 , 0 , 34  
1  
'DWBNZim-End', 'AG', 279.6 , 74.3 , -150.1 , 1498 , 28 , 9.3 , 0 , 34  
1  
'DEB1-DEBNZim', 'AG', -162.7 , 1498 , 260.3 , 73 , 29 , 9.3 , 0 , 34  
1  
'DEBNZim-DEBSZim', 'AG', 260.3 , 73 , 307.8 , -57.2 , 47 , 9.3 , 0 , 34  
1  
'DEBZim-DEBBan', 'AG', 307.8 , -57.2 , 454.7 , -508.6 , 52 , 9.3 , 0 , 34  
1  
'DEBBan-DEBRiverFF', 'AG', 454.7 , -508.6 , 623.4 , -1075.5 , 63 , 9.3 , 0 , 34  
2  
'DEBBan-DEBRiverQue', 'AG', 605.9 , -1025.2 , 454.7 , -508.6 , 0 , 25 , 2  
60 , 38 , 2 , 63 , 48.1 , 2479 , 1 , 3  
1  
'DEBBan-End', 'AG', 623.4 , -1075.5 , 1002.9 , -2040.4 , 77 , 9.3 , 0 , 34  
1  
'RNBSstart-RNBDF', 'AG', -750.1 , -1562.9 , 649.7 , -1106.1 , 255 , 9.3 , 0 , 34  
2  
'RNBSstart-RNBDeQueue', 'AG', 601.5 , -1123.7 , -750.1 , -1562.9 , 0 , 25 , 1  
60 , 35 , 2 , 255 , 48.1 , 1257 , 1 , 3  
1  
'RNBD-End', 'AG', 649.7 , -1106.1 , 2013.7 , -939.1 , 194 , 9.3 , 0 , 34  
1  
'RSBStart-DFF', 'AG', 2016.1 , -922.3 , 658.5 , -1075.5 , 273 , 9.3 , 0 , 34  
2  
'RSB1-DQueue', 'AG', 708.8 , -1075.5 , 2016.1 , -922.3 , 0 , 25 , 2  
60 , 35 , 2 , 273 , 48.1 , 2663 , 1 , 3  
1  
'RSBFF-End', 'AG', 658.5 , -1075.5 , -756.1 , -1546 , 293 , 9.3 , 0 , 34  
1  
'BNB1-BNB2', 'AG', 488.1 , -504.1 , 2061.3 , -388.1 , 7 , 9.3 , 0 , 32  
1  
'BSB1-BSB2', 'AG', 2058.9 , -376.9 , 485.9 , -492.9 , 11 , 9.3 , 0 , 32  
1  
'SZNB1-SZNB2', 'AG', 337.5 , -57.3 , 1961.6 , 41.8 , 6 , 9.3 , 0 , 31  
1  
'SZSB1-SZSB2', 'AG', 1960.3 , 51.1 , 336.5 , -49.1 , 10 , 9.3 , 0 , 31  
1  
'NZNB1-NZNB2', 'AG', 296.6 , 79.7 , 1886.6 , 199.5 , 5 , 9.3 , 0 , 28  
1  
'NZNB1-NZNB2', 'AG', 1886.6 , 210.4 , 296.6 , 83.7 , 22 , 9.3 , 0 , 28  
1  
'PL Exit', 'AG', 266.4 , -523.1 , 439.6 , -510.5 , 30 , 21.8 , 0 , 38  
1  
'PL Entrance', 'AG', 295.9 , -57.5 , 132.4 , -74.9 , 109 , 8.3 , 0 , 38  
1 , 0 , 4 , 1000 , 0 , 'Y', 5 , 1 , 72

JOB: Pennsauken Transfer 2032 BUILD AM

RUN: Pennsauken Transfer 2032 Build AM Z=40

DATE : 5/ 6/ 9  
 TIME : 10:54:32

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S      VD = .0 CM/S      Z0 = 108. CM  
 U = 1.0 M/S      CLAS = 4 (D)      ATIM = 60. MINUTES      MIXH = 1000. M      AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	* X1	Y1	X2	Y2	* LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. DWB1-DWBRiverFF	* 1015.8	-2031.2	658.5	-1075.5	* 1020.	340.	AG	120.	9.3	.0	34.0		
2. DWB2-DWB1Queue	* 678.2	-1128.0	682.6	-1139.7	* 12.	160.	AG	163.	100.0	.0	25.0	.07	.6
3. DWBRiverFF-DWBBan	* 658.5	-1075.5	466.4	-504.2	* 603.	341.	AG	147.	9.3	.0	34.0		
4. DWBBan-DWBSZim	* 466.4	-504.2	319.7	-55.5	* 472.	342.	AG	140.	9.3	.0	34.0		
5. DWBSZim-DWBNZim	* 319.7	-55.5	279.6	74.3	* 136.	343.	AG	33.	9.3	.0	34.0		
6. DWBNZim-End	* 279.6	74.3	-150.1	1498.0	* 1487.	343.	AG	28.	9.3	.0	34.0		
7. DEB1-DEBNZim	* -162.7	1498.0	260.3	73.0	* 1486.	163.	AG	29.	9.3	.0	34.0		
8. DEBNZim-DEBSZim	* 260.3	73.0	307.8	-57.2	* 139.	160.	AG	47.	9.3	.0	34.0		
9. DEBZim-DEBBan	* 307.8	-57.2	454.7	-508.6	* 475.	162.	AG	52.	9.3	.0	34.0		
10. DEBBan-DEBRiverFF	* 454.7	-508.6	623.4	-1075.5	* 591.	163.	AG	63.	9.3	.0	34.0		
11. DEBBan-DEBRiverQue	* 605.9	-1025.2	604.1	-1019.0	* 6.	344.	AG	163.	100.0	.0	25.0	.04	.3
12. DEBBan-End	* 623.4	-1075.5	1002.9	-2040.4	* 1037.	159.	AG	77.	9.3	.0	34.0		
13. RNBStart-RNBDFF	* -750.1	-1562.9	649.7	-1106.1	* 1472.	72.	AG	255.	9.3	.0	34.0		
14. RNBStart-RNBDeQueue	* 601.5	-1123.7	555.1	-1138.8	* 49.	252.	AG	75.	100.0	.0	25.0	.58	2.5
15. RNBD-End	* 649.7	-1106.1	2013.7	-939.1	* 1374.	83.	AG	194.	9.3	.0	34.0		
16. RSBStart-DFF	* 2016.1	-922.3	658.5	-1075.5	* 1366.	264.	AG	273.	9.3	.0	34.0		
17. RSB1-DQueue	* 708.8	-1075.5	734.7	-1072.5	* 26.	83.	AG	151.	100.0	.0	25.0	.15	1.3
18. RSBFF-End	* 658.5	-1075.5	-756.1	-1546.0	* 1491.	252.	AG	293.	9.3	.0	34.0		
19. BNB1-BNB2	* 488.1	-504.1	2061.3	-388.1	* 1577.	86.	AG	7.	9.3	.0	32.0		
20. BSB1-BSB2	* 2058.9	-376.9	485.9	-492.9	* 1577.	266.	AG	11.	9.3	.0	32.0		
21. SZNB1-SZNB2	* 337.5	-57.3	1961.6	41.8	* 1627.	87.	AG	6.	9.3	.0	31.0		
22. SZSB1-SZSB2	* 1960.3	51.1	336.5	-49.1	* 1627.	266.	AG	10.	9.3	.0	31.0		
23. NZNB1-NZNB2	* 296.6	79.7	1886.6	199.5	* 1595.	86.	AG	5.	9.3	.0	28.0		
24. NZNB1-NZNB2	* 1886.6	210.4	296.6	83.7	* 1595.	265.	AG	22.	9.3	.0	28.0		
25. PL Exit	* 266.4	-523.1	439.6	-510.5	* 174.	86.	AG	30.	21.8	.0	38.0		
26. PL Entrance	* 295.9	-57.5	132.4	-74.9	* 164.	264.	AG	109.	8.3	.0	38.0		

JOB: Pennsauken Transfer 2032 BUILD AM

RUN: Pennsauken Transfer 2032 Build AM Z=40

DATE : 5/ 6/ 9  
 TIME : 10:54:32

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 ADDITIONAL QUEUE LINK PARAMETERS  
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LINK DESCRIPTION	* * * *	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
2. DWB2-DWB1Queue	*	60	38	2.0	120	2677	48.10	1	3
11. DEBBan-DEBRiverQue	*	60	38	2.0	63	2479	48.10	1	3
14. RNBStart-RNBDeQueu	*	60	35	2.0	255	1257	48.10	1	3
17. RSB1-DQueue	*	60	35	2.0	273	2663	48.10	1	3

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 RECEPTOR LOCATIONS  
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RECEPTOR	* * * *	COORDINATES (FT)			* * * *
		X	Y	Z	
1. RCVW	*	187.2	-30.6	5.9	*
2. RCVN	*	361.4	-278.3	5.9	*
3. RCVE	*	350.5	-547.7	5.9	*
4. RCVS	*	169.7	-294.8	5.9	*

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 5.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM)	REC1	REC2	REC3	REC4
5.	*	.0	.0	.0	.0
10.	*	.0	.0	.0	.0
15.	*	.0	.0	.0	.0
20.	*	.0	.0	.0	.0
25.	*	.0	.0	.0	.0
30.	*	.0	.0	.0	.0
35.	*	.0	.0	.0	.0
40.	*	.0	.0	.0	.0
45.	*	.0	.0	.0	.0
50.	*	.0	.0	.0	.0
55.	*	.0	.0	.0	.0
60.	*	.0	.0	.0	.0
65.	*	.0	.0	.0	.0
70.	*	.0	.0	.0	.0
75.	*	.0	.0	.0	.0
80.	*	.0	.0	.0	.0
85.	*	.0	.0	.0	.0
90.	*	.0	.0	.0	.0
95.	*	.0	.0	.0	.0
100.	*	.0	.0	.0	.0
105.	*	.0	.0	.0	.0
110.	*	.0	.0	.0	.0
115.	*	.0	.0	.0	.0
120.	*	.0	.0	.0	.0
125.	*	.0	.0	.0	.0
130.	*	.0	.0	.0	.0
135.	*	.0	.0	.0	.0
140.	*	.0	.0	.0	.0
145.	*	.0	.0	.0	.0
150.	*	.0	.0	.0	.0
155.	*	.0	.0	.0	.0
160.	*	.0	.0	.0	.0
165.	*	.0	.0	.0	.0
170.	*	.0	.0	.0	.0
175.	*	.0	.0	.0	.0
180.	*	.0	.0	.0	.0
185.	*	.0	.0	.0	.0
190.	*	.0	.0	.0	.0
195.	*	.0	.0	.0	.0
200.	*	.0	.0	.0	.0
205.	*	.0	.0	.0	.0
210.	*	.0	.0	.0	.0

WIND	*	CONCENTRATION			
ANGLE	*	(PPM)			
(DEGR)	*	REC1	REC2	REC3	REC4
215.	*	.0	.0	.0	.0
220.	*	.0	.0	.0	.0
225.	*	.0	.0	.0	.0
230.	*	.0	.0	.0	.0
235.	*	.0	.0	.0	.0
240.	*	.0	.0	.0	.0
245.	*	.0	.0	.0	.0
250.	*	.0	.0	.0	.0
255.	*	.0	.0	.0	.0
260.	*	.0	.0	.0	.0
265.	*	.0	.0	.0	.0
270.	*	.0	.0	.0	.0
275.	*	.0	.0	.0	.0
280.	*	.0	.0	.0	.0
285.	*	.0	.0	.0	.0
290.	*	.0	.0	.0	.0
295.	*	.0	.0	.0	.0
300.	*	.0	.0	.0	.0
305.	*	.0	.0	.0	.0
310.	*	.0	.0	.0	.0
315.	*	.0	.0	.0	.0
320.	*	.0	.0	.0	.0
325.	*	.0	.0	.0	.0
330.	*	.0	.0	.0	.0
335.	*	.0	.0	.0	.0
340.	*	.0	.0	.0	.0
345.	*	.0	.0	.0	.0
350.	*	.0	.0	.0	.0
355.	*	.0	.0	.0	.0
360.	*	.0	.0	.0	.0
MAX	*	.0	.0	.0	.0
DEGR.	*	5	5	5	5

THE HIGHEST CONCENTRATION OF .00 PPM OCCURRED AT RECEPTOR

JOB: Pennsauken Transfer 2032 BUILD AM

RUN: Pennsauken Transfer 2032 Build AM Z=40

DATE : 5/ 6/ 9  
TIME : 10:54:32RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

LINK #	*	CO/LINK (PPM)			
		REC1	REC2	REC3	REC4
	*	5	5	5	5
1	*	.0	.0	.0	.0
2	*	.0	.0	.0	.0
3	*	.0	.0	.0	.0
4	*	.0	.0	.0	.0
5	*	.0	.0	.0	.0
6	*	.0	.0	.0	.0
7	*	.0	.0	.0	.0
8	*	.0	.0	.0	.0
9	*	.0	.0	.0	.0
10	*	.0	.0	.0	.0
11	*	.0	.0	.0	.0
12	*	.0	.0	.0	.0
13	*	.0	.0	.0	.0
14	*	.0	.0	.0	.0
15	*	.0	.0	.0	.0
16	*	.0	.0	.0	.0
17	*	.0	.0	.0	.0
18	*	.0	.0	.0	.0
19	*	.0	.0	.0	.0
20	*	.0	.0	.0	.0
21	*	.0	.0	.0	.0
22	*	.0	.0	.0	.0
23	*	.0	.0	.0	.0
24	*	.0	.0	.0	.0
25	*	.0	.0	.0	.0
26	*	.0	.0	.0	.0

'Pennsauken Transfer 2032 BUILD PM', 60 , 108 , 0 , 0 , 4 , 0.3048 , 1 , 1  
'RCVW', 187.2 , -30.6 , 5.9  
'RCVN', 361.4 , -278.3 , 5.9  
'RCVE', 350.5 , -547.7 , 5.9  
'RCVS', 169.7 , -294.8 , 5.9  
'Pennsuaken Transfer 2032 Build PM Z=40', 26 , 1 , 1 , 'CO'  
1  
'DWB1-DWBRiverFF', 'AG', 1015.8 , -2031.2 , 658.5 , -1075.5 , 94 , 9.3 , 0 , 34  
2  
'DWB2-DWB1Queue', 'AG', 678.2 , -1128 , 1015.8 , -2031.2 , 0 , 25 , 2  
60 , 38 , 2 , 94 , 48.1 , 2501 , 1 , 3  
1  
'DWBRiverFF-DWBBan', 'AG', 658.5 , -1075.5 , 466.4 , -504.2 , 55 , 9.3 , 0 , 34  
1  
'DWBBan-DWBSZim', 'AG', 466.4 , -504.2 , 319.7 , -55.5 , 49 , 9.3 , 0 , 34  
1  
'DWBSZim-DWBNZim', 'AG', 319.7 , -55.5 , 279.6 , 74.3 , 19 , 9.3 , 0 , 34  
1  
'DWBNZim-End', 'AG', 279.6 , 74.3 , -150.1 , 1498 , 10 , 9.3 , 0 , 34  
1  
'DEB1-DEBNZim', 'AG', -162.7 , 1498 , 260.3 , 73 , 48 , 9.3 , 0 , 34  
1  
'DEBNZim-DEBSZim', 'AG', 260.3 , 73 , 307.8 , -57.2 , 60 , 9.3 , 0 , 34  
1  
'DEBZim-DEBBan', 'AG', 307.8 , -57.2 , 454.7 , -508.6 , 62 , 9.3 , 0 , 34  
1  
'DEBBan-DEBRiverFF', 'AG', 454.7 , -508.6 , 623.4 , -1075.5 , 137 , 9.3 , 0 , 34  
2  
'DEBBan-DEBRiverQue', 'AG', 605.9 , -1025.2 , 454.7 , -508.6 , 0 , 25 , 2  
60 , 38 , 2 , 137 , 48.1 , 2603 , 1 , 3  
1  
'DEBBan-End', 'AG', 623.4 , -1075.5 , 1002.9 , -2040.4 , 113 , 9.3 , 0 , 34  
1  
'RNBSstart-RNBDF', 'AG', -750.1 , -1562.9 , 649.7 , -1106.1 , 375 , 9.3 , 0 , 34  
2  
'RNBSstart-RNBDeQueue', 'AG', 601.5 , -1123.7 , -750.1 , -1562.9 , 0 , 25 , 1  
60 , 35 , 2 , 375 , 48.1 , 1536 , 1 , 3  
1  
'RNBD-End', 'AG', 649.7 , -1106.1 , 2013.7 , -939.1 , 351 , 9.3 , 0 , 34  
1  
'RSBStart-DFF', 'AG', 2016.1 , -922.3 , 658.5 , -1075.5 , 273 , 9.3 , 0 , 34  
2  
'RSB1-DQueue', 'AG', 708.8 , -1075.5 , 2016.1 , -922.3 , 0 , 25 , 2  
60 , 35 , 2 , 273 , 48.1 , 2937 , 1 , 3  
1  
'RSBFF-End', 'AG', 658.5 , -1075.5 , -756.1 , -1546 , 360 , 9.3 , 0 , 34  
1  
'BNB1-BNB2', 'AG', 488.1 , -504.1 , 2061.3 , -388.1 , 13 , 9.3 , 0 , 32  
1  
'BSB1-BSB2', 'AG', 2058.9 , -376.9 , 485.9 , -492.9 , 11 , 9.3 , 0 , 32  
1  
'SZNB1-SZNB2', 'AG', 337.5 , -57.3 , 1961.6 , 41.8 , 9 , 9.3 , 0 , 31  
1  
'SZSB1-SZSB2', 'AG', 1960.3 , 51.1 , 336.5 , -49.1 , 12 , 9.3 , 0 , 31  
1  
'NZNB1-NZNB2', 'AG', 296.6 , 79.7 , 1886.6 , 199.5 , 20 , 9.3 , 0 , 28  
1  
'NZNB1-NZNB2', 'AG', 1886.6 , 210.4 , 296.6 , 83.7 , 11 , 9.3 , 0 , 28  
1  
'PL Exit', 'AG', 266.4 , -523.1 , 439.6 , -510.5 , 66 , 21.8 , 0 , 38  
1  
'PL Entrance', 'AG', 295.9 , -57.5 , 132.4 , -74.9 , 30 , 8.3 , 0 , 38  
1 , 0 , 4 , 1000 , 0 , 'Y', 5 , 1 , 72

JOB: Pennsauken Transfer 2032 BUILD PM

RUN: Pennsauken Transfer 2032 Build PM Z=40

DATE : 5/ 6/ 9  
 TIME : 11:26:22

The MODE flag has been set to C for calculating CO averages.

SITE & METEOROLOGICAL VARIABLES

VS = .0 CM/S      VD = .0 CM/S      Z0 = 108. CM  
 U = 1.0 M/S      CLAS = 4 (D)      ATIM = 60. MINUTES      MIXH = 1000. M      AMB = .0 PPM

LINK VARIABLES

LINK DESCRIPTION	* X1	Y1	X2	Y2	* LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. DWB1-DWBRiverFF	* 1015.8	-2031.2	658.5	-1075.5	* 1020.	340.	AG	94.	9.3	.0	34.0		
2. DWB2-DWB1Queue	* 678.2	-1128.0	681.6	-1137.1	* 10.	160.	AG	163.	100.0	.0	25.0	.06	.5
3. DWBRiverFF-DWBBan	* 658.5	-1075.5	466.4	-504.2	* 603.	341.	AG	55.	9.3	.0	34.0		
4. DWBBan-DWBSZim	* 466.4	-504.2	319.7	-55.5	* 472.	342.	AG	49.	9.3	.0	34.0		
5. DWBSZim-DWBNZim	* 319.7	-55.5	279.6	74.3	* 136.	343.	AG	19.	9.3	.0	34.0		
6. DWBNZim-End	* 279.6	74.3	-150.1	1498.0	* 1487.	343.	AG	10.	9.3	.0	34.0		
7. DEB1-DEBNZim	* -162.7	1498.0	260.3	73.0	* 1486.	163.	AG	48.	9.3	.0	34.0		
8. DEBNZim-DEBSZim	* 260.3	73.0	307.8	-57.2	* 139.	160.	AG	60.	9.3	.0	34.0		
9. DEBZim-DEBBan	* 307.8	-57.2	454.7	-508.6	* 475.	162.	AG	62.	9.3	.0	34.0		
10. DEBBan-DEBRiverFF	* 454.7	-508.6	623.4	-1075.5	* 591.	163.	AG	137.	9.3	.0	34.0		
11. DEBBan-DEBRiverQue	* 605.9	-1025.2	601.9	-1011.6	* 14.	344.	AG	163.	100.0	.0	25.0	.09	.7
12. DEBBan-End	* 623.4	-1075.5	1002.9	-2040.4	* 1037.	159.	AG	113.	9.3	.0	34.0		
13. RNBStart-RNBDFF	* -750.1	-1562.9	649.7	-1106.1	* 1472.	72.	AG	375.	9.3	.0	34.0		
14. RNBStart-RNBDeQueue	* 601.5	-1123.7	532.6	-1146.1	* 72.	252.	AG	75.	100.0	.0	25.0	.70	3.7
15. RNBD-End	* 649.7	-1106.1	2013.7	-939.1	* 1374.	83.	AG	351.	9.3	.0	34.0		
16. RSBStart-DFF	* 2016.1	-922.3	658.5	-1075.5	* 1366.	264.	AG	273.	9.3	.0	34.0		
17. RSB1-DQueue	* 708.8	-1075.5	734.7	-1072.5	* 26.	83.	AG	151.	100.0	.0	25.0	.13	1.3
18. RSBFF-End	* 658.5	-1075.5	-756.1	-1546.0	* 1491.	252.	AG	360.	9.3	.0	34.0		
19. BNB1-BNB2	* 488.1	-504.1	2061.3	-388.1	* 1577.	86.	AG	13.	9.3	.0	32.0		
20. BSB1-BSB2	* 2058.9	-376.9	485.9	-492.9	* 1577.	266.	AG	11.	9.3	.0	32.0		
21. SZNB1-SZNB2	* 337.5	-57.3	1961.6	41.8	* 1627.	87.	AG	9.	9.3	.0	31.0		
22. SZSB1-SZSB2	* 1960.3	51.1	336.5	-49.1	* 1627.	266.	AG	12.	9.3	.0	31.0		
23. NZNB1-NZNB2	* 296.6	79.7	1886.6	199.5	* 1595.	86.	AG	20.	9.3	.0	28.0		
24. NZNB1-NZNB2	* 1886.6	210.4	296.6	83.7	* 1595.	265.	AG	11.	9.3	.0	28.0		
25. PL Exit	* 266.4	-523.1	439.6	-510.5	* 174.	86.	AG	66.	21.8	.0	38.0		
26. PL Entrance	* 295.9	-57.5	132.4	-74.9	* 164.	264.	AG	30.	8.3	.0	38.0		

JOB: Pennsauken Transfer 2032 BUILD PM

RUN: Pennsauken Transfer 2032 Build PM Z=40

DATE : 5/ 6/ 9  
 TIME : 11:26:22

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 ADDITIONAL QUEUE LINK PARAMETERS  
 -----

LINK DESCRIPTION	* * *	CYCLE LENGTH (SEC)	RED TIME (SEC)	CLEARANCE LOST TIME (SEC)	APPROACH VOL (VPH)	SATURATION FLOW RATE (VPH)	IDLE EM FAC (gm/hr)	SIGNAL TYPE	ARRIVAL RATE
2. DWB2-DWB1Queue	* * *	60	38	2.0	94	2501	48.10	1	3
11. DEBBan-DEBRiverQue	* * *	60	38	2.0	137	2603	48.10	1	3
14. RNBStart-RNBDeQueu	* * *	60	35	2.0	375	1536	48.10	1	3
17. RSB1-DQueue	* * *	60	35	2.0	273	2937	48.10	1	3

RECEPTOR LOCATIONS  
 -----

RECEPTOR	* * *	COORDINATES (FT)			* * *
		X	Y	Z	
1. RCVW	* * *	187.2	-30.6	5.9	* * *
2. RCVN	* * *	361.4	-278.3	5.9	* * *
3. RCVE	* * *	350.5	-547.7	5.9	* * *
4. RCVS	* * *	169.7	-294.8	5.9	* * *

MODEL RESULTS

REMARKS : In search of the angle corresponding to the maximum concentration, only the first angle, of the angles with same maximum concentrations, is indicated as maximum.

WIND ANGLE RANGE: 5.-360.

WIND ANGLE (DEGR)	* CONCENTRATION (PPM)	REC1	REC2	REC3	REC4
5.	*	.0	.0	.0	.0
10.	*	.0	.0	.0	.0
15.	*	.0	.0	.0	.0
20.	*	.0	.0	.0	.0
25.	*	.0	.0	.0	.0
30.	*	.0	.0	.0	.0
35.	*	.0	.0	.0	.0
40.	*	.0	.0	.0	.0
45.	*	.0	.0	.0	.0
50.	*	.0	.0	.0	.0
55.	*	.0	.0	.0	.0
60.	*	.0	.0	.0	.0
65.	*	.0	.0	.0	.0
70.	*	.0	.0	.0	.0
75.	*	.0	.0	.0	.0
80.	*	.0	.0	.0	.0
85.	*	.0	.0	.0	.0
90.	*	.0	.0	.0	.0
95.	*	.0	.0	.0	.0
100.	*	.0	.0	.0	.0
105.	*	.0	.0	.0	.0
110.	*	.0	.0	.0	.0
115.	*	.0	.0	.0	.0
120.	*	.0	.0	.0	.0
125.	*	.0	.0	.0	.0
130.	*	.0	.0	.0	.0
135.	*	.0	.0	.0	.0
140.	*	.0	.0	.0	.0
145.	*	.0	.0	.0	.0
150.	*	.0	.0	.0	.0
155.	*	.0	.0	.0	.0
160.	*	.0	.0	.0	.0
165.	*	.0	.0	.0	.0
170.	*	.0	.0	.0	.0
175.	*	.0	.0	.0	.0
180.	*	.0	.0	.0	.0
185.	*	.0	.0	.0	.0
190.	*	.0	.0	.0	.0
195.	*	.0	.0	.0	.0
200.	*	.0	.0	.0	.0
205.	*	.0	.0	.0	.0
210.	*	.0	.0	.0	.0

WIND \* CONCENTRATION

ANGLE *	(PPM)			
(DEGR) *	REC1	REC2	REC3	REC4
215. *	.0	.0	.0	.0
220. *	.0	.0	.0	.0
225. *	.0	.0	.0	.0
230. *	.0	.0	.0	.0
235. *	.0	.0	.0	.0
240. *	.0	.0	.0	.0
245. *	.0	.0	.0	.0
250. *	.0	.0	.0	.0
255. *	.0	.0	.0	.0
260. *	.0	.0	.0	.0
265. *	.0	.0	.0	.0
270. *	.0	.0	.0	.0
275. *	.0	.0	.0	.0
280. *	.0	.0	.0	.0
285. *	.0	.0	.0	.0
290. *	.0	.0	.0	.0
295. *	.0	.0	.0	.0
300. *	.0	.0	.0	.0
305. *	.0	.0	.0	.0
310. *	.0	.0	.0	.0
315. *	.0	.0	.0	.0
320. *	.0	.0	.0	.0
325. *	.0	.0	.0	.0
330. *	.0	.0	.0	.0
335. *	.0	.0	.0	.0
340. *	.0	.0	.0	.0
345. *	.0	.0	.0	.0
350. *	.0	.0	.0	.0
355. *	.0	.0	.0	.0
360. *	.0	.0	.0	.0
MAX *	.0	.0	.0	.0
DEGR. *	5	5	5	5

THE HIGHEST CONCENTRATION OF .00 PPM OCCURRED AT RECEPTOR

DATE : 5/ 6/ 9  
 TIME : 11:26:22

RECEPTOR - LINK MATRIX FOR THE ANGLE PRODUCING  
 THE MAXIMUM CONCENTRATION FOR EACH RECEPTOR

LINK #	CO/LINK (PPM)			
	REC1	REC2	REC3	REC4
	5	5	5	5
1	.0	.0	.0	.0
2	.0	.0	.0	.0
3	.0	.0	.0	.0
4	.0	.0	.0	.0
5	.0	.0	.0	.0
6	.0	.0	.0	.0
7	.0	.0	.0	.0
8	.0	.0	.0	.0
9	.0	.0	.0	.0
10	.0	.0	.0	.0
11	.0	.0	.0	.0
12	.0	.0	.0	.0
13	.0	.0	.0	.0
14	.0	.0	.0	.0
15	.0	.0	.0	.0
16	.0	.0	.0	.0
17	.0	.0	.0	.0
18	.0	.0	.0	.0
19	.0	.0	.0	.0
20	.0	.0	.0	.0
21	.0	.0	.0	.0
22	.0	.0	.0	.0
23	.0	.0	.0	.0
24	.0	.0	.0	.0
25	.0	.0	.0	.0
26	.0	.0	.0	.0

Pennsauken Transfer Station  
Carbon Monoxide Concentration Worksheet  
Condition: 2032 "No-Build"

**AM**

Receptor	1-hr Modeled Concentration	1-hr Background Concentration	TOTAL 1-HR		8-hr Concentration*	8-hr Background Concentration	TOTAL 8-HR
North Site Sidewalk	0.0	3.0	3.0		0.0	2.1	2.1
South Site Sidewalk	0.0	3.0	3.0		0.0	2.1	2.1
East Site Sidewalk	0.0	3.0	3.0		0.0	2.1	2.1
West Site Sidewalk	0.0	3.0	3.0		0.0	2.1	2.1

**PM**

Receptor	1-hr Modeled Concentration	1-hr Background Concentration	TOTAL 1-HR		8-hr Concentration*	8-hr Background Concentration	TOTAL 8-HR
North Site Sidewalk	0.0	3.0	3.0		0.0	2.1	2.1
South Site Sidewalk	0.0	3.0	3.0		0.0	2.1	2.1
East Site Sidewalk	0.0	3.0	3.0		0.0	2.1	2.1
West Site Sidewalk	0.0	3.0	3.0		0.0	2.1	2.1

\* - Persistence Factor (0.7) applied to 1-hour concentration

### AM Surface Parking Lot Analysis 2032 Build @ RCV #1 (North Sidewalk)

2032 Mobile 6.2	1-Hour CO Emission Factors		8-Hour CO Emission Factors	
	Autos		Autos	
Cold Idle [CI] (g/hr)	68.90		68.90	
5 mph Cold Auto [CA] (g/mi)	21.81		21.81	
5 mph Hot Auto [HA] (g/mi)	8.83		8.83	

	Maximum Hour	Ins		Outs		Maximum 8-Hour	Ins		Outs		Parking Lot GSF	Mean Travel Distance (ft)	Peak Hourly ER (G/sec)	8-Hr Avg. ER (G/sec)	Qa, 1-hr.	Qa, 8-hr.
		Total	LDGV	LDGV	Total		LDGV	LDGV								
		Period			Period											
Surface Parking Lot	7:45-8:45am	139	109	30	11am-7pm	700	350	350	88,437	1,167	0.109	0.770	0.000013	0.000094		

Parking Lot Contribution      **0.05**      **0.25** ppm

Receptor Location      Xu =      182 ft      Xd=      14 ft

Equations:	
Qa=(1-hour)	0.000013
Qa=(8-hour)	0.000094
Area (converted to m2)	8216.07
a(1-b)	0.115 constants
Ru=Xu+Xo	75
Xo=	19.9 constant
Xu=	55 m
Xd=	4 m
Rd=Xd+Xo	24
Xu/Qa (1-hr)=	4.327583
Xu/Qa (8-hr)=	3.029308
Xu (1-hr)	0.000057
Xv (8-hr)	0.000284
Convert g/m3 into ppm (1-hr)	0.05 ppm
Convert g/m3 into ppm (8-hr)	0.25 ppm

**PM Surface Parking Lot Analysis  
2032 Build @ RCV #1 (North Sidewalk)**

2032 Mobile 6.2	1-Hour CO Emission Factors		8-Hour CO Emission Factors	
	Autos		Autos	
Cold Idle [CI] (g/hr)	86.25		86.25	
5 mph Cold Auto [CA] (g/mi)	26.19		26.19	
5 mph Hot Auto [HA] (g/mi)	12.01		12.01	

	Maximum Hour	Ins		Outs		Maximum 8-Hour	Ins		Outs		Parking Lot GSF	Mean Travel Distance (ft)	Peak Hourly ER (G/sec)	8-Hr Avg. ER (G/sec)	Qa, 1-hr.	Qa, 8-hr.
		Total	LDGV	LDGV	Total		LDGV	LDGV								
Surface Parking Lot	4:30-5:30pm	96	30	66	11am-7pm	700	350	350	88,437	1,167	0.155	0.961	0.000019	0.000117		

Parking Lot Contribution      **0.07**      **0.31** ppm

Receptor Location      Xu =      182 ft      Xd=      14 ft

Equations:

Qa=(1-hour)	0.000019
Qa=(8-hour)	0.000117
Area (converted to m <sup>2</sup> )	8216.07
a(1-b)	0.115 constants
Ru=Xu+Xo	75
Xo=	19.9 constant
Xu=	55 m
Xd=	4 m
Rd=Xd+Xo	24
Xu/Qa (1-hr)=	4.327583
Xu/Qa (8-hr)=	3.029308
Xu (1-hr)	0.000081
Xv (8-hr)	0.000354
Convert g/m <sup>3</sup> into ppm (1-hr)	0.07 ppm
Convert g/m <sup>3</sup> into ppm (8-hr)	0.31 ppm

**AM Surface Parking Lot Analysis  
2032 Build @ RCV #2 (South Sidewalk)**

2032 Mobile 6.2	1-Hour CO Emission Factors		8-Hour CO Emission Factors	
	Autos		Autos	
Cold Idle [CI] (g/hr)	68.90		68.90	
5 mph Cold Auto [CA] (g/mi)	21.81		21.81	
5 mph Hot Auto [HA] (g/mi)	8.83		8.83	

	Maximum Hour	Ins		Outs		Maximum 8-Hour	Ins		Outs		Parking Lot GSF	Mean Travel Distance (ft)	Peak Hourly ER (G/sec)	8-Hr Avg. ER (G/sec)	Qa, 1-hr.	Qa, 8-hr.
		Total	LDGV	LDGV	Total		LDGV	LDGV								
Surface Parking Lot	7:45-8:45am	139	109	30	11am-7pm	700	350	350	88,437	1,167	0.109	0.770	0.000013	0.000094		
<b>Parking Lot Contribution</b>														<b>0.05</b>	<b>0.27</b>	<b>ppm</b>

Receptor Location                      Xu =            174 ft                      Xd=            3 ft

Equations:

Qa=(1-hour)	0.000013
Qa=(8-hour)	0.000094
Area (converted to m <sup>2</sup> )	8216.07
a(1-b)	0.115 constants
Ru=Xu+Xo	73
Xo=	19.9 constant
Xu=	53 m
Xd=	1 m
Rd=Xd+Xo	21
Xu/Qa (1-hr)=	4.674613
Xu/Qa (8-hr)=	3.272229
Xu (1-hr)	0.000062
Xv (8-hr)	0.000307
Convert g/m <sup>3</sup> into ppm (1-hr)	0.05 ppm
Convert g/m <sup>3</sup> into ppm (8-hr)	0.27 ppm

**PM Surface Parking Lot Analysis  
2032 Build @ RCV #2 (South Sidewalk)**

2032 Mobile 6.2	1-Hour CO Emission Factors		8-Hour CO Emission Factors	
	Autos		Autos	
Cold Idle [CI] (g/hr)	86.25		86.25	
5 mph Cold Auto [CA] (g/mi)	26.19		26.19	
5 mph Hot Auto [HA] (g/mi)	12.01		12.01	

	Maximum Hour	Ins		Outs		Maximum 8-Hour	Ins		Outs		Parking Lot GSF	Mean Travel Distance (ft)	Peak Hourly ER (G/sec)	8-Hr Avg. ER (G/sec)	Qa, 1-hr.	Qa, 8-hr.
		Total	LDGV	LDGV	Total		LDGV	LDGV								
Surface Parking Lot	4:30-5:30pm	96	30	66	11am-7pm	700	350	350	88,437	1,167	0.155	0.961	0.000019	0.000117		

Parking Lot Contribution      **0.08**      **0.33** ppm

Receptor Location      Xu =      174 ft      Xd=      3 ft

Equations:

Qa=(1-hour)	0.000019
Qa=(8-hour)	0.000117
Area (converted to m <sup>2</sup> )	8216.07
a(1-b)	0.115 constants
Ru=Xu+Xo	73
Xo=	19.9 constant
Xu=	53 m
Xd=	1 m
Rd=Xd+Xo	21
Xu/Qa (1-hr)=	4.674613
Xu/Qa (8-hr)=	3.272229
Xu (1-hr)	0.000088
Xv (8-hr)	0.000383
Convert g/m <sup>3</sup> into ppm (1-hr)	0.08 ppm
Convert g/m <sup>3</sup> into ppm (8-hr)	0.33 ppm

### AM Surface Parking Lot Analysis 2032 Build @ RCV #3 (East Sidewalk)

2032 Mobile 6.2	1-Hour CO Emission Factors		8-Hour CO Emission Factors	
	Autos		Autos	
Cold Idle [CI] (g/hr)	68.90		68.90	
5 mph Cold Auto [CA] (g/mi)	21.81		21.81	
5 mph Hot Auto [HA] (g/mi)	8.83		8.83	

	Maximum Hour	1-Hour			Maximum 8-Hour	8-Hour			Parking Lot GSF	Mean Travel Distance (ft)	Peak Hourly ER (G/sec)	8-Hr Avg. ER (G/sec)	Qa, 1-hr.	Qa, 8-hr.
		Total	Ins	Outs		Total	Ins	Outs						
			LDGV	LDGV			LDGV	LDGV						
Surface Parking Lot	7:45-8:45am	139	109	30	11am-7pm	700	350	350	88,437	1,167	0.109	0.770	0.000013	0.000094
<b>Parking Lot Contribution</b>													<b>0.11</b>	<b>0.52</b> ppm

Receptor Location                      Xu =            538 ft                      Xd=            3 ft

Equations:	
Qa=(1-hour)	0.000013
Qa=(8-hour)	0.000094
Area (converted to m <sup>2</sup> )	8216.07
a(1-b)	0.115 constants
Ru=Xu+Xo	184
Xo=	19.9 constant
Xu=	164 m
Xd=	1 m
Rd=Xd+Xo	21
Xu/Qa (1-hr)=	9.096532
Xu/Qa (8-hr)=	6.367573
Xu (1-hr)	0.000121
Xv (8-hr)	0.000597
Convert g/m <sup>3</sup> into ppm (1-hr)	0.11 ppm
Convert g/m <sup>3</sup> into ppm (8-hr)	0.52 ppm

**PM Surface Parking Lot Analysis  
2032 Build @ RCV #3 (East Sidewalk)**

2032 Mobile 6.2	1-Hour CO Emission Factors		8-Hour CO Emission Factors	
	Autos		Autos	
Cold Idle [CI] (g/hr)	86.25		86.25	
5 mph Cold Auto [CA] (g/mi)	26.19		26.19	
5 mph Hot Auto [HA] (g/mi)	12.01		12.01	

	Maximum Hour	Ins		Outs		Maximum 8-Hour	Ins		Outs		Parking Lot GSF	Mean Travel Distance (ft)	Peak Hourly ER (G/sec)	8-Hr Avg. ER (G/sec)	Qa, 1-hr.	Qa, 8-hr.
		Total	LDGV	LDGV	Total		LDGV	LDGV								
Surface Parking Lot	4:30-5:30pm	96	30	66	11am-7pm	700	350	350	88,437	1,167	0.155	0.961	0.000019	0.000117		

Parking Lot Contribution      **0.15**      **0.65** ppm

Receptor Location      Xu =      538 ft      Xd=      3 ft

Equations:

Qa=(1-hour)	0.000019
Qa=(8-hour)	0.000117
Area (converted to m <sup>2</sup> )	8216.07
a(1-b)	0.115 constants
Ru=Xu+Xo	184
Xo=	19.9 constant
Xu=	164 m
Xd=	1 m
Rd=Xd+Xo	21
Xu/Qa (1-hr)=	9.096532
Xu/Qa (8-hr)=	6.367573
Xu (1-hr)	0.000171
Xv (8-hr)	0.000745
Convert g/m <sup>3</sup> into ppm (1-hr)	0.15 ppm
Convert g/m <sup>3</sup> into ppm (8-hr)	0.65 ppm

**AM Surface Parking Lot Analysis  
2032 Build @ RCV #4 (West Sidewalk)**

2032 Mobile 6.2	1-Hour CO Emission Factors		8-Hour CO Emission Factors	
	Autos		Autos	
Cold Idle [CI] (g/hr)	68.90		68.90	
5 mph Cold Auto [CA] (g/mi)	21.81		21.81	
5 mph Hot Auto [HA] (g/mi)	8.83		8.83	

	Maximum Hour	Ins		Outs		Maximum 8-Hour	Ins		Outs		Parking Lot GSF	Mean Travel Distance (ft)	Peak Hourly ER (G/sec)	8-Hr Avg. ER (G/sec)	Qa, 1-hr.	Qa, 8-hr.
		Total	LDGV	LDGV	Total		LDGV	LDGV								
Surface Parking Lot	7:45-8:45am	139	109	30		11am-7pm	700	350	350		88,437	1,167	0.109	0.770	0.000013	0.000094

Parking Lot Contribution      **0.11**      **0.52** ppm

Receptor Location      Xu =      538 ft      Xd=      3 ft

Equations:

Qa=(1-hour)	0.000013
Qa=(8-hour)	0.000094
Area (converted to m <sup>2</sup> )	8216.07
a(1-b)	0.115 constants
Ru=Xu+Xo	184
Xo=	19.9 constant
Xu=	164 m
Xd=	1 m
Rd=Xd+Xo	21
Xu/Qa (1-hr)=	9.096532
Xu/Qa (8-hr)=	6.367573
Xu (1-hr)	0.000121
Xv (8-hr)	0.000597
Convert g/m <sup>3</sup> into ppm (1-hr)	0.11 ppm
Convert g/m <sup>3</sup> into ppm (8-hr)	0.52 ppm

**PM Surface Parking Lot Analysis  
2032 Build @ RCV #4 (West Sidewalk)**

2032 Mobile 6.2	1-Hour CO Emission Factors		8-Hour CO Emission Factors	
	Autos		Autos	
Cold Idle [CI] (g/hr)	86.25		86.25	
5 mph Cold Auto [CA] (g/mi)	26.19		26.19	
5 mph Hot Auto [HA] (g/mi)	12.01		12.01	

	Maximum Hour	Ins		Outs		Maximum 8-Hour	Ins		Outs		Parking Lot GSF	Mean Travel Distance (ft)	Peak Hourly ER (G/sec)	8-Hr Avg. ER (G/sec)	Qa, 1-hr.	Qa, 8-hr.
		Total	LDGV	LDGV	Total		LDGV	LDGV								
Surface Parking Lot	4:30-5:30pm	96	30	66	700	350	350	88,437	1,167	0.155	0.961	0.000019	0.000117			

Parking Lot Contribution      **0.15**      **0.65** ppm

Receptor Location      Xu =      538 ft      Xd=      3 ft

Equations:	
Qa=(1-hour)	0.000019
Qa=(8-hour)	0.000117
Area (converted to m <sup>2</sup> )	8216.07
a(1-b)	0.115 constants
Ru=Xu+Xo	184
Xo=	19.9 constant
Xu=	164 m
Xd=	1 m
Rd=Xd+Xo	21
Xu/Qa (1-hr)=	9.096532
Xu/Qa (8-hr)=	6.367573
Xu (1-hr)	0.000171
Xv (8-hr)	0.000745
Convert g/m <sup>3</sup> into ppm (1-hr)	0.15 ppm
Convert g/m <sup>3</sup> into ppm (8-hr)	0.65 ppm

Pennsauken Transfer Station  
Carbon Monoxide Concentration Worksheet  
Condition: 2032 "Build"

**AM**

Receptor	1-hr Modeled Concentration	Parking Lot Contribution	1-hr Background Concentration	TOTAL 1-HR		8-hr Concentration*	Parking Lot Contribution	8-hr Background Concentration	TOTAL 8-HR
North Site Sidewalk	0.0	0.1	3.0	3.1		0.0	0.3	2.1	2.4
South Site Sidewalk	0.0	0.1	3.0	3.1		0.0	0.3	2.1	2.4
East Site Sidewalk	0.0	0.1	3.0	3.1		0.0	0.5	2.1	2.6
West Site Sidewalk	0.0	0.1	3.0	3.1		0.0	0.5	2.1	2.6

**PM**

Receptor	1-hr Modeled Concentration	Parking Lot Contribution	1-hr Background Concentration	TOTAL 1-HR		8-hr Concentration*	Parking Lot Contribution	8-hr Background Concentration	TOTAL 8-HR
North Site Sidewalk	0.0	0.1	3.0	3.1		0.0	0.3	2.1	2.4
South Site Sidewalk	0.0	0.1	3.0	3.1		0.0	0.3	2.1	2.4
East Site Sidewalk	0.0	0.2	3.0	3.2		0.0	0.7	2.1	2.8
West Site Sidewalk	0.0	0.2	3.0	3.2		0.0	0.7	2.1	2.8

\* - Persistence Factor (0.7) applied to 1-hour concentration

Year 2032

VMT	VOC						NO <sub>x</sub>					
	Arterial Emission	Local Emission	Ramp Emission	Freeway Emission	Max Emission Factor	Emissions (VMT*EF)	Freeway/Arterial Emission	Local Emission	Ramp Emission	Freeway Emission	Max Emission Factor	Emissions (VMT*EF)
969,000,000	0.145	0.203	0.159	0.147	0.203	<b>196,707,000</b>	0.202	0.205	0.238	0.240	0.238	<b>230,622,000</b>
						grams: <b>196,707,000</b>						grams: <b>230,622,000</b>
						tons: <b>216.83</b>						tons: <b>254.21</b>

**FY 2009-2018 STATEWIDE TRANSPORTATION IMPROVEMENT PROGRAM - NJ Transit**

<b>Transit Rail Initiatives</b>	<b>DB # T300</b>
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This program provides funding for transit expansion projects, including new fixed guideway, new station construction and rolling stock acquisition. Also included are FTA new starts projects authorized under New Jersey Urban Core or SAFETEA-LU. Potential projects in this category include (in no rank order): Northern Branch Rail; HBLR Extension to Secaucus; HBLR Secaucus-Meadowlands Connector; Passaic-Bergen rail service on the NYS&W east of Hawthorne using Diesel Multiple Unit (DMU) passenger equipment; Restoration of commuter rail service on the NYS&W west of Hawthorne; Restoration of commuter rail service to Lackawanna Cutoff; Port Morris Improvements; Rail Spur to the Meadowlands Sports Complex; West Shore--Hoboken to West Haverstraw; NERL Elizabeth Segment from NJ TRANSIT'S Northeast Corridor Midtown Elizabeth Station to Newark Liberty International Airport via the Elizabeth Waterfront; Restoration of commuter rail service on the West Trenton line; River LINE LRT Capitol Extension; Second Phase of River LINE LRT/PATCO Extension; Route 1 BRT, Second Phase of NERL (Newark Penn Station to Newark Liberty International Airport); Commuter rail extension in Monmouth and Ocean Counties; Extension of Cape May Seashore Line north to Hammonton (to Atlantic City Rail Line); Commuter Rail extension to Phillipsburg, improvements on the Atlantic City Rail Line, new Portal Bridge, new rail station improvements such as Atlantic City Line/River LINE connection, River LINE Cramer Hill Station, Moynihan Station, Penn Station New York Platform extentions, Penn Station New York Central Concourse, Penn Station New York West End Concourse, E-yard expansion, Bus Rapid Transit Initiatives, Park and Rides and Smart Card Technology Program along with other new systemwide, rail, bus, and light rail initiatives arising during the year.

Federal Funds are set-aside in the outyears for possible federal projects that will emerge from the transportation planning and environmental review process. As soon as these projects have received their necessary federal approvals the projects will appear in the STIP as individual projects.

Funding is also provided to advance projects dependent on other non-federal (including private) funding, and/or state resources available beyond planned levels.

This project is funded under the provisions of Section 13 of P.L. 1995, c.108.

**COUNTY:** Various

**MUNICIPALITY:** Various

**LEGISLATIVE DISTRICT:** Various

**SPONSOR:** NJ TRANSIT

**ASSET MANAGEMENT CATEGORY:** Congestion Relief - NJ Transit Congestion Relief

MPO	Phase	Fund	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
DVRPC	ERC	STATE	\$35.000	\$103.289	\$104.397	\$7.314						
NJTPA	ERC	CMAQ		\$70.963	\$74.705	\$23.626	\$62.766	\$38.968	\$25.894	\$66.000	\$56.975	\$75.000
NJTPA	ERC	OTHER	\$11.722	\$11.722	\$11.722	\$11.722	\$11.722	\$11.722	\$11.722	\$11.722	\$11.722	\$11.722
NJTPA	ERC	SECT 5307				\$9.624		\$25.550			\$54.614	\$91.160
NJTPA	ERC	STATE	\$127.199	\$129.298	\$96.560	\$137.054	\$172.534	\$90.742	\$80.096	\$97.630	\$80.881	\$81.510
SJTPO	ERC	OTHER	\$0.578	\$0.578	\$0.578	\$0.578	\$0.578	\$0.578	\$0.578	\$0.578	\$0.578	\$0.578