7.0 REASONABLY AVAILABLE CONTROL MEASURE (RACM) ANALYSIS

This section provides an analysis of both potential transportation control measures (TCMs) for onroad mobile sources and non-TCM potential control measures for point, area, off-road and onroad source categories in order to determine whether or not any of these measures could be considered reasonably available control measures (RACM) and would advance the attainment date. The analysis will determine if any RACM are available for inclusion in the 8-hour ozone attainment demonstration plans for the New Jersey portions of the Northern New Jersey/New York/Connecticut and Southern New Jersey/Philadelphia moderate 8-hour ozone nonattainment areas.

In accordance with Section 172(c)(1) of the Clean Air Act, states, as part of their effort to attain National Ambient Air Quality Standards (NAAQS), such as those established for ozone, are required to implement all RACMs as expeditiously as practicable. Specifically, 42 U.S.C. §7502(c)(1) states the following:

> "In general – Such plan provisions shall provide for the implementation of all reasonably available control measures as expeditiously as practicable (including such reductions in emissions from existing sources in the area as may be obtained through the adoption, at a minimum, of reasonably available control technology) and shall provide for attainment of the national primary ambient air quality standards."

Furthermore, in the Final Rule to Implement the 8-Hour Ozone National Ambient Air Quality Standard – Phase 2[1], the USEPA describes how States must include with their attainment demonstration a RACM analysis. The purpose of the RACM analysis is to determine whether or not reasonably available control measures exist that would advance the attainment date for nonattainment areas. Control measures that would advance the attainment date are considered RACMs that must be included in the SIP. RACMs are necessary to ensure that the attainment date is achieved "as expeditious as practicable".

7.1 What is a RACM?

A Reasonably Available Control Measure (RACM) is defined by the USEPA as any potential control measure for application to point[2], area, onroad and nonroad emission source categories that meets the following criteria:

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[1] 70 Fed. Reg. 71701 (November 29, 2005)

[2] RACM applies only to those point sources not already addressed as part of the Reasonably Available Control Technology (RACT) analysis. New Jersey proposed its RACT analysis for 8-hour ozone on February 2, 2007. As a part of the RACT analysis, the State plans to amend various subchapters of New Jersey Administrative Code, Title 7, Chapter 27 (N.J.A.C. 7:27) to implement RACT. The changes primarily impact Subchapter 16, "Control of Air Pollution by Volatile Organic Compounds," and Subchapter 19, "Control and Prohibition of Air Pollution from Oxides of Nitrogen." The State has committed to propose all ozone RACT rules by November 2007, and adopt by May 2008, subject to public comment and in accordance with the New Jersey Administrative Procedures Act (APA) (N.J.S.A. 52:14B-1 et. seq.) and the Air Pollution Control Act (APCA) (N.J.S.A. 26:2C-1 et. seq.).

- The control measure is technologically feasible
- The control measure is economically feasible
- The control measure does not cause "substantial widespread and long-term adverse impacts"
- The control measure is not "absurd, unenforceable, or impracticable"
- The control measure can advance the attainment date by at least one year

Each of these criteria is more fully discussed in Section 7.2.

The USEPA has documented guidance regarding completion of a RACM analysis. These guidance documents are listed in Table 7.1.

Table 7.1: USEPA RACM Guidance Documents

Guidance Document Title	Description
Federal Register/Vol. 44, No. 66/April 4, 1979/General Preamble for Proposed Rulemaking	Guidance on the Need to Include All RACM in the SIP
Federal Register/Vol. 57, No. 74/April 16, 1992/Proposed Rules/General Preamble	Guidance on What the USEPA Does Not Consider RACM
EPA Memorandum, "Guidance on the RACM Requirement and Attainment Demonstration Submissions for Ozone Nonattainment Areas", from John S. Seitz, EPA Director Office of Air Quality Planning and Standards to the EPA Regional Air Division Directors Regions I-IX, dated November, 1999.	Guidance on Justification for Not Including Measures in the SIP
EPA Memorandum, "Additional Submission on RACM From States With Severe 1-hour Ozone Nonattainment Area SIPs", from John S. Seitz, EPA Director office of Air Quality Planning and Standards and Marge Oge, EPA Director Office of Transportation and Air Quality to Regional Air Division Directors, Regions I, II, III, V and VI, December 14, 2000.	Guidance on Justification for Not Including Measures in the SIP
Federal Register/Vol. 66, No. 2/January 3, 2001/Final Rule for Approval and Promulgation of Air Quality Implementation Plans; Connecticut; One-Hour Ozone Attainment Demonstration and Attainment Date Extension for the Greater Connecticut Ozone Nonattainment Area	Guidance on Advancing the Attainment Date

7.2 Methodology

The 8-hour ozone RACM analysis involved a review of potential control measures for mobile (both onroad and nonroad), stationary area, and stationary/point (not already subject to ozone RACT requirements) emission source categories in order to document whether or not there are measures which would meet the reasonably available control

measures criteria as defined in Section 7.1. The New Jersey Department of Transportation (NJDOT) conducted the RACM analysis for Transportation Control Measures (TCMs). In so much as VOC and NO_x also contribute to the formation of $PM_{2.5}$, any identified control measures from New Jersey's ozone RACM analysis for these pollutants would also result in $PM_{2.5}$ and regional haze benefits. As such, this ozone RACM analysis also serves as the $PM_{2.5}$ RACM analysis for those precursors.

The evaluation criteria used for the analysis are discussed in detail below:

1. **Technological Feasibility** – This criterion is an evaluation of the following to determine feasibility of timely implementation:

    - Manufacturing processes, operating procedures, availability of raw materials and the physical layout of the plant (if applicable). Relevant technology must exist or be reasonably expected to exist within the schedule allotted, be sufficiently available, and be applied to achieve a stated result.

    - Other adverse environmental impacts such as water pollution, waste disposal issues, and energy requirements.

    - Technological changes to vehicles, fuels, necessary infrastructure and similar considerations (for transportation measures).

2. **Economic Feasibility** – This criterion considers an evaluation of the following to determine feasibility of timely implementation:

    - The cost of reducing emissions (cost per ton of emission reduced), capital costs and operating costs. The costs associated with a measure must be justifiable relative to benefits, and compare favorably with other potential emissions control measures (of all types on all emissions sources). Operating costs include both direct or variable costs and indirect or fixed costs.

    - The NJDEP has determined the following about the economic feasibility of RACM measures[3]:

        - Control measures with cost-effectiveness ratios below the local RACT amount[4] are *presumptively* feasible from an economic standpoint.

        - Control measures with cost-effectiveness ratios above the RACT level but below $5,000/ton (the San Joaquin and Houston-Galveston low-end cutoffs) are *probably* economically feasible.

[3] "Economic Feasibility and Reasonably Available Control Measures (RACM)". Internal NJDEP Communication prepared by the NJDEP Division of Science, Research, and Technology, August 3, 2006.
[4] According to the NO_x SIP Call (63 Fed. Reg. 57400 (10/27/98)), the RACT limit is $2,000/ton. The USEPA cutoff for de minimis exemption from RACT is $1,300/ton.

- Control measures with ratios between $5,000/ton and $25,000 or $50,000/ton (the values cited by the Transportation Research Board (TRB) for Congestion Mitigation and Air Quality program (CMAQ)-funded TCMs) *may* be economically feasible but require further analysis.

- Control measures with ratios above $25,000 or $50,000/ton are *probably not* economically feasible.

- In the absence of general rules, RACM feasibility decisions must continue to be made and justified on a case by case basis.

3. **Other local considerations including measures that do not cause "substantial widespread and long-term adverse impacts" and measures that are not "absurd, unenforceable, or impracticable**" – These criteria will be evaluated based on the following to determine feasibility of implementation:

   - Considerations such as disruption of fuel supplies, discrimination among various population groups, critical reduction in mobility, and other similar concerns.

   - Must be legally enforceable, and legal under federal and state law.

   - Must be practical, realistic, and have a strong potential to achieve estimated emissions reductions.

   - Must be capable of being implemented and producing the anticipated emissions reductions in the required timeframe. This includes consideration of the schedule for planning, regulatory action, implementation and time to achieve the targeted results.

4. **Advancement of the Attainment Date** – This criterion requires that selected measures advance the attainment date by at least one year.

   According to USEPA guidance,[5] areas that have an attainment date of no later than June 15, 2010 must implement the emission reductions needed for attainment no later than the beginning of the 2009 ozone season (June 2009). Otherwise the emission reductions will not affect the monitored ozone in 2009 which is the last ozone season before the attainment date of June 15, 2010. In order to advance the attainment date by one year, the potential RACM measures would have to achieve the emission reductions needed for attainment by June 2008.[6]

[5] USEPA. Guidance on the Use of Models and Other Related Analyses in Attainment Demonstrations for the 8-Hour Ozone NAAQS. United States Environmental Protection Agency, Office of Air Quality Planning and Standards, Emissions, Monitoring, and Analysis Division, Air Quality Modeling Group, Research Triangle Park, NC, EPA-454/R-05-002, October 2005.

[6] In order to assess the level of emission reductions required to advance the attainment date for each area it was necessary to quantify the VOC and NO_x reductions expected in the year prior to the attainment year.

7.2.1 Potential Control Measure Evaluation for Non-Transportation Control Measures

Step I - Identification of Potential Control Measures

A list of 457 original potential non-transportation control measures (TCMs) was compiled through review of various sources, including Regional Planning Organizations (RPOs), other State Organizations, existing NJDEP documents, USEPA regions, and Early Action documents.

The initial list of potential control measures was reviewed to eliminate any measures that did not address a top VOC or NO_x emitting category in the 2002 inventory or in the regional inventory. However, measures that had the potential to achieve high emission reductions were not excluded, regardless of whether or not they addressed a top inventory category (either state or regional). The top 15 VOC and NO_x emitting categories in the New Jersey 2002 Periodic Emission Inventory are included in Figures 7.1 and 7.2.

Measures that are already in place in New Jersey or are more stringently addressed at the Federal level were also eliminated from the analysis at this time.

Finally, measures whose potential emission reduction benefit was not quantifiable and measures that had no net emission reduction benefit in New Jersey were eliminated from the analysis.

One year is used as the advancement time since ozone attainment is based on measurements taken during a 5 month ozone season each year.

Figure 7.1: 2002 New Jersey VOC Emission Inventory Top 15 by SCC

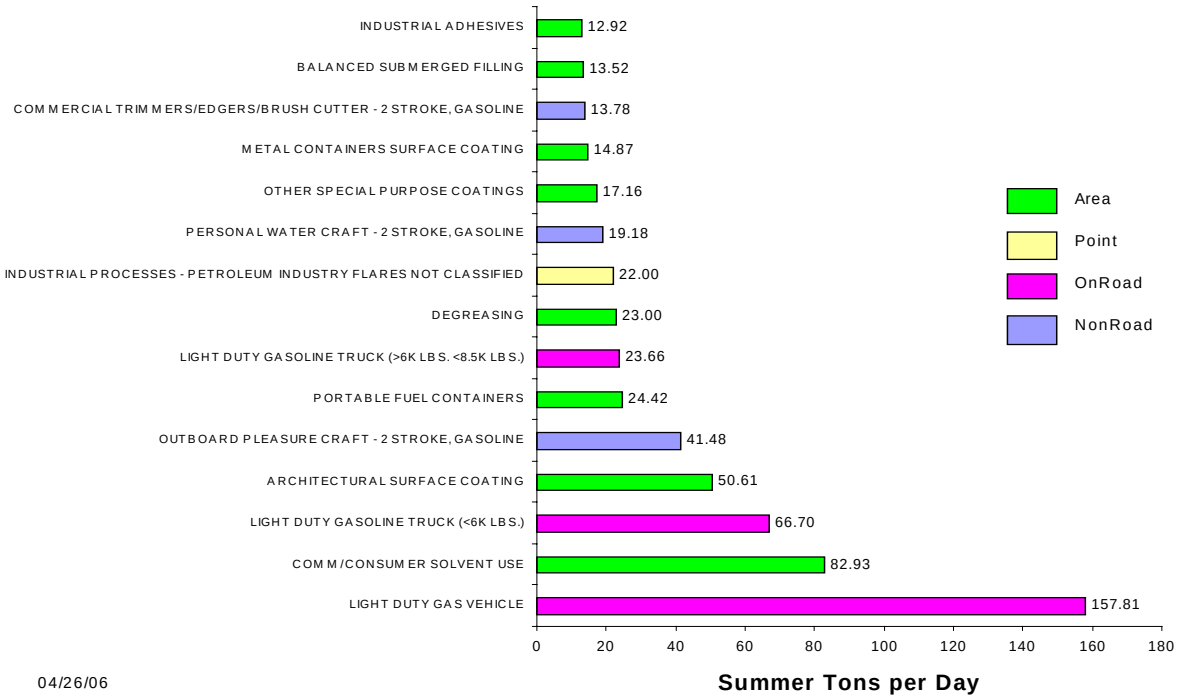
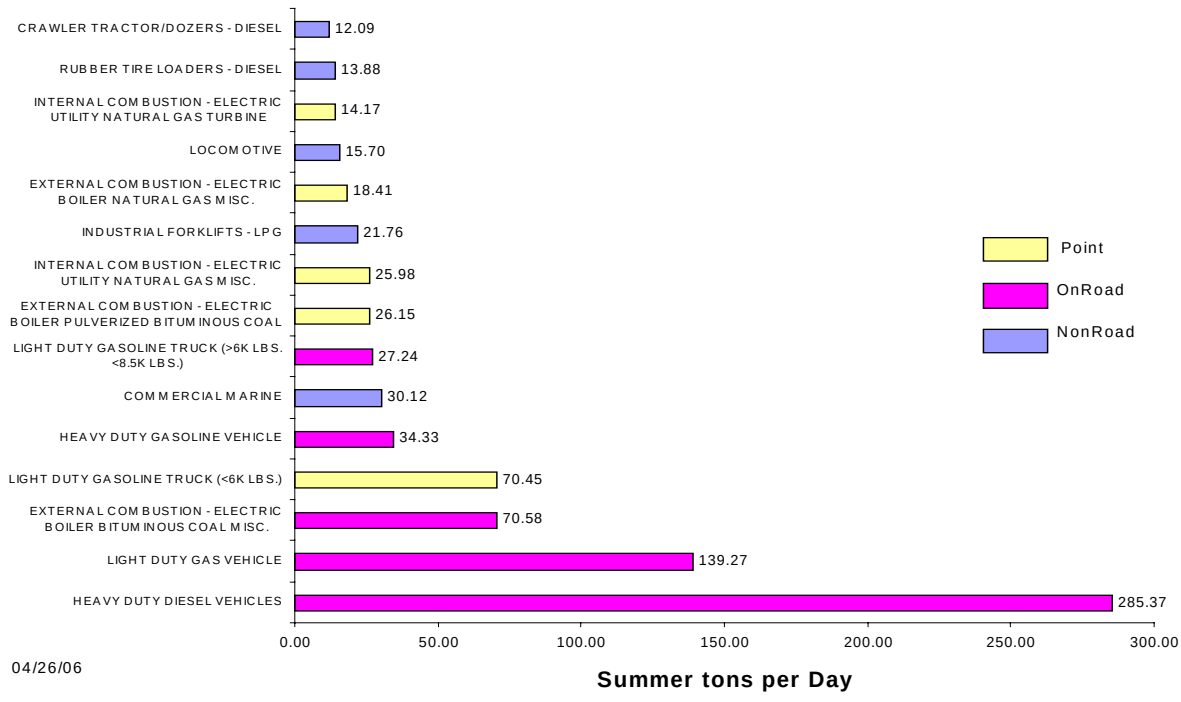


Figure 7.2: 2002 New Jersey NO_x Emission Inventory Top 15 by SCC



All identical measures that remained in the analysis at this point were combined.

There were 81 potential non-TCM control measures that advanced to the next phase of the analysis, as shown in Table F2.1 in Appendix F2.

NJDEP Workgroup Efforts

The NJDEP organized the "Reducing Air Pollution Together Initiative", which began at a public workshop on June 29, 2005. This workshop served to initiate a dialogue between the NJDEP and interested and affected parties about reducing emissions in order to improve air quality in New Jersey. Over 200 persons representing various industries, environmental and civic groups attended the initial workshop.

At the workshop, six workgroups were formed to focus on key sources of emissions resulting in nonattainment of federal air quality standards and to recommend control strategies to reduce these emissions.

The goals of each workgroup were to:

- Identify strategies to achieve emission reductions
- Prioritize reasonable and effective control measures
- Identify implementation issues and potential solutions
- Identify additional sources of data to enhance the state's future emissions inventories

Table 7.2 lists the six workgroups and their mission.

Table 7.2: Reducing Air Pollution Together Initiative Workgroups

Workgroup	Workgroup Mission
Diesel Initiatives (DI)	To recommend potential ways to control and/or reduce emissions from diesel engines. Topics include vehicles (all categories – Light Duty Diesel Vehicles (LDDVs), Medium Duty Diesel Vehicles (MDDVs) and Heavy Duty Diesel Vehicles (HDDVs), nonroad equipment (e.g. construction equipment), commercial marine vessels (ships), locomotives and stationary diesel engines. Discussion topics include use of fuels that would reduce emissions, as well as retrofit technologies and idling strategies.
Gasoline Cars and Trucks (C&T)	To recommend potential ways to control and/or reduce emissions from gasoline-fueled motor vehicles and trucks (including SUVs and heavier trucks) and their use. This includes inspection and maintenance as well as transportation control measures.
Homes and Restaurants (HR)	To recommend potential ways to control and/or reduce emissions from the varied sources of combustion used by homeowners and restaurants. Topics include wood burning, space heating, energy efficiency, and emissions from restaurant operations.
Non-Automobile Gasoline Engines (NA)	To recommend potential ways to control and/or reduce emissions from gasoline engines other than those used in cars and trucks. Topics include engines used on outboard pleasure craft and in lawnmowers.
Stationary Combustion Sources (SCS)	To recommend potential ways to control and/or reduce emissions from facilities identified as stationary sources of combustion, including both Electric Generating Units (EGUs) and non-EGUs. The focus will be on NO_x, SO_2, VOC and particulate emissions.
Volatile Organic Compounds from Processes and Consumer Products (VOC)	To recommend potential ways to control and/or reduce VOC emissions from various chemical products and/or processes. Topics include all consumer products (from paints and deodorants to gas cans) as well as industrial processes.

The workgroups met during the summer of 2005 and developed potential air emission control strategies. Reports containing their recommendations for further consideration were submitted to the NJDEP on October 31, 2005. A total of 250 potential control measures (See Table F2.2 in Appendix F2) were submitted to NJDEP. The members of the workgroup ranked the measures from highest to lowest potential.

The workgroup process is discussed in further detail in Section 4 of this SIP document.

White Paper Measures

After the workgroup reports were submitted, the 250 workgroup measures were further evaluated by NJDEP and ranked (High, Medium, Low, Not Ranked) so that every measure could be compared equally. Each workgroup state team worked with the NJDEP Air Quality Management Team to determine which of the workgroup recommended strategies should be further evaluated for possible inclusion in the SIP and/or implementation. The final list of measures to be further evaluated was provided to the workgroup members. Sixty draft white papers were developed by the NJDEP staff.

The draft white papers were presented to the public at a workshop on May 17, 2006.[7] The NJDEP accepted public comments on the white papers and updated the white papers, as appropriate.

The 60 white papers were evaluated to identify additional potential control measures for the RACM analysis. After this evaluation, 21 white papers were added to the RACM analysis and were fully evaluated according to RACM criteria (3 of the 21 white papers overlapped with regional control measures and 3 overlapped with existing potential RACM measures). A total of 9 white paper control measures passed all of the RACM criteria. The 21 white paper measures that were added to the RACM analysis are included in Table 7.3 along with measures suggested by the Ozone Transport Commission (OTC).

The remaining 39 white papers were not considered as part of the RACM analysis for one of the following reasons: the measure addressed in the white paper was subject to RACT, the white paper addressed a PM control measure, emission reduction benefits could not be quantified for the measure, or the white paper did not address one specific control measure.

Ozone Transport Commission (OTC) Identified Measures

New Jersey worked with other states in the Ozone Transport Region to explore reasonable control measures for potentially significant reductions to attain the 8-hour ozone NAAQS and to achieve regional haze goals. The OTC staff and member states formed workgroups to: review stationary point and area source categories, electric generating units, and mobile sources; identify candidate emission units; and consider potential control strategies to reduce NO_x, VOC and SO_2 emissions. The workgroups were made up of staff from OTC member states.

The NJDEP incorporated the OTC potential candidate measures into New Jersey's RACM analysis. The OTC potential candidate measures were analyzed according to the RACM criteria discussed in Section 7.2. There were 4 OTC measures that fit the RACM criteria. Three of these measures overlapped with NJDEP white paper measures. Measures identified by the OTC regional effort, in addition to measures identified by NJDEP workgroup efforts that were added to the RACM analysis are included in Table 7.3.

[7] A complete list of white papers, as well as links to these white papers, can be found at http://www.nj.gov/dep/airworkgroups/docs/wp_summary_table_web.xls.

Table 7.3: Measures Identified from NJDEP Workgroup and OTC Regional Efforts

New Jersey Identifier	Measure Name	NJDEP White Paper Identifier/OTC Regional Measure Source
Area		
2	Consumer Products	OTC, VOC001
3	Portable Fuel Containers	OTC, VOC002
4	Adhesives and Sealants (Industrial)	OTC, VOC011
5	Smoke Management Plan	GEN001
6	Vapor Recovery Systems at Gasoline Service Stations	VOC003
7	Architectural and Industrial Maintenance Coatings	VOC010
Onroad		
30	Diesel Engine Chip Reflash	OTC
31	Efficient Vehicle Purchase Incentives/Disincentives	CT004
32	Onroad Vehicle Idling	DI001
33	Early Retirement Program for Heavy Duty Diesel Vehicles	DI009
34	Opacity Cutpoint Revision	DI011
35	Light Duty Diesel Vehicle Inspection	DI012
36	Medium Duty Vehicle Inspection	DI013
46	Low Income Vehicle Repair Assistance Program (LIRAP)	CT002
Nonroad		
74	Nonroad Idling	DI002
75	Idling Reduction for Train Engines	DI003
76	Leveraging Airport Leases to Achieve Reductions from Ground Support Equipment	DI006
77	Increasing the Rate of Small Engine Turnovers and Portable Fuel Container Turnovers through the Use of Incentive-Based Initiatives	NA002 (& NA006)
78	Insure Proper Disposal of Fuel Samples After Daily Aircraft Pre-Flight Checks	NA005
79	Stage II Vapor Recovery Compatibility for Boat Fueling and Marina Gasoline Fueling Facilities	NA007
85	Providing Electric Power to Ships (Cold Ironing) at the Ports (Shoreside Power)	DI004
89	Graduated Registration Fees for Recreational Boats	NA008

Step II – RACM Criteria Analysis

Technological Feasibility Analysis:

The 103 identified non-TCM measures (81 from the sources discussed in Section 7.2.1, 21 from NJDEP white papers, and 1 OTC measure) were analyzed according to the RACM criterion discussed in Section 7.2 for technological feasibility. A total of 85 measures passed the technological feasibility criterion. Table F2.1 in Appendix F2 includes a list of all measures considered and the reasons that they passed or failed each RACM criterion. If sufficient information was not available for a technological feasibility determination to be made for a measure, the measure was evaluated for the remaining criteria, and a "N/A" determination was made for technological feasibility.

Only measures that passed the technological feasibility evaluation (or were N/A) moved on to the economic feasibility determination.

Economic Feasibility Analysis and Other Local Considerations:

The remaining 85 measures were analyzed according to the RACM criteria outlined in Section 7.2 for economic feasibility and other local considerations. Local considerations are those measures that do not cause "substantial widespread and long-term adverse impact" and measures that are not "absurd, unenforceable, and impracticable". The analysis for these criteria was done simultaneously on all 85 measures. There were 27 measures eliminated solely because they could not be implemented by June 2008 (in order to advance the attainment date by one year, the potential RACM measures would have to achieve the emission reductions needed for attainment by June 2008). These measures will be further evaluated and considered by New Jersey for possible implementation in the future. A total of 17 viable measures listed in Table 7.4 advanced to the final stage of the analysis. Table F2.5 in Appendix F2 lists the determinations for each RACM criterion for all 103 identified measures.

Table 7.4: List of 17 Potential Non-TCM RACMs

Identifier	Measure Name
Area	
2	Consumer Products
3	Portable Fuel Containers
4	Adhesives and Sealants (Industrial)
5	Smoke Management Plan
18	Degreasing Controls
20	Tehama County: TCAPCD Rule 4.22: Industrial Use of Organic Solvents
25	Emission Reductions from Composting
26	Reformulation of Aerosol Coatings to CARB Tier 2 Standards
Onroad	
32	Onroad Vehicle Idling
34	Opacity Cutpoint Revision
36	Medium Duty Vehicle Inspection
63	Technology to Identify Smoking Vehicles
Nonroad	
74	Nonroad Idling
75	Idling Reduction for Train Engines
78	Insure Proper Disposal of Fuel Samples After Daily Aircraft Pre-Flight Checks
89	Graduated Registration Fees for Recreational Boats
97	Auxiliary Power Units (APUs) for Locomotives

7.2.2 NJDOT Potential Control Measure Analysis for Transportation Control Measures and Other Onroad Mobile Measures

Transportation Control Measures (TCMs) are transportation strategies specific to onroad mobile sources, which reduce emissions by reducing the number and/or length of vehicle trips and/or improve traffic flow. After the passage of the Clean Air Act Amendments of 1990, New Jersey made a full-scale commitment to TCMs.[8] The State's transportation capital program continues to stress transit projects, system preservation, and systems management over the provision of new highway capacity. The NJDOT has continued to commit to the support and implementation of air quality-friendly transportation projects and programs.

Step I – Evaluation Criteria for Potential Transportation Control Measures

The TCMs considered for this RACM evaluation were identified by NJDOT in consultation with the NJDEP. Detailed summaries of each of the 26 measures identified by NJDOT (including TCMs and onroad mobile measures) are located in Appendix F1. Two of the 26 measures were combined with similar measures that were identified during the pre-screening analysis discussed in Section 7.2.1 and were eliminated from the analysis.

Step II – Identification of Potential Transportation Control Measures

The 26 TCMs and onroad mobile measures were evaluated based on the criteria outlined in Section 7.2. These criteria include technological and economic feasibility, other local considerations (measures that do not cause "substantial widespread and long-term adverse impact" and measures that are not "absurd, unenforceable, and impracticable"), and advancement of the attainment date. Emissions reductions must be sufficient to advance the attainment date in each 8-hour ozone nonattainment area from 2010 to 2009 (meaning reductions by summer 2008 instead of 2009).

The NJDOT performed a political feasibility analysis on the 26 measures and ranked the measures as "high", "medium", or "low". The political feasibility analysis is included in Appendix F3. The NJDEP evaluated the rationale for measures that were ranked "medium" or "low" for political feasibility by NJDOT against the RACM criteria described in Section 7.2. The results of this analysis are included in table F2.5 in Appendix F2. There were 11 measures that were ranked "high" for political feasibility by NJDOT. The 11 measures advanced to the final stage of the RACM analysis. These measures are included in Table 7.5.

[8] The State included 134 TCMs in the original 15% Rate of Progress SIP in 1993. While New Jersey has since opted not to include TCMs in the SIP, the New Jersey Department of Transportation (NJDOT) has continued to commit to the support and implementation of air quality friendly transportation projects and programs.

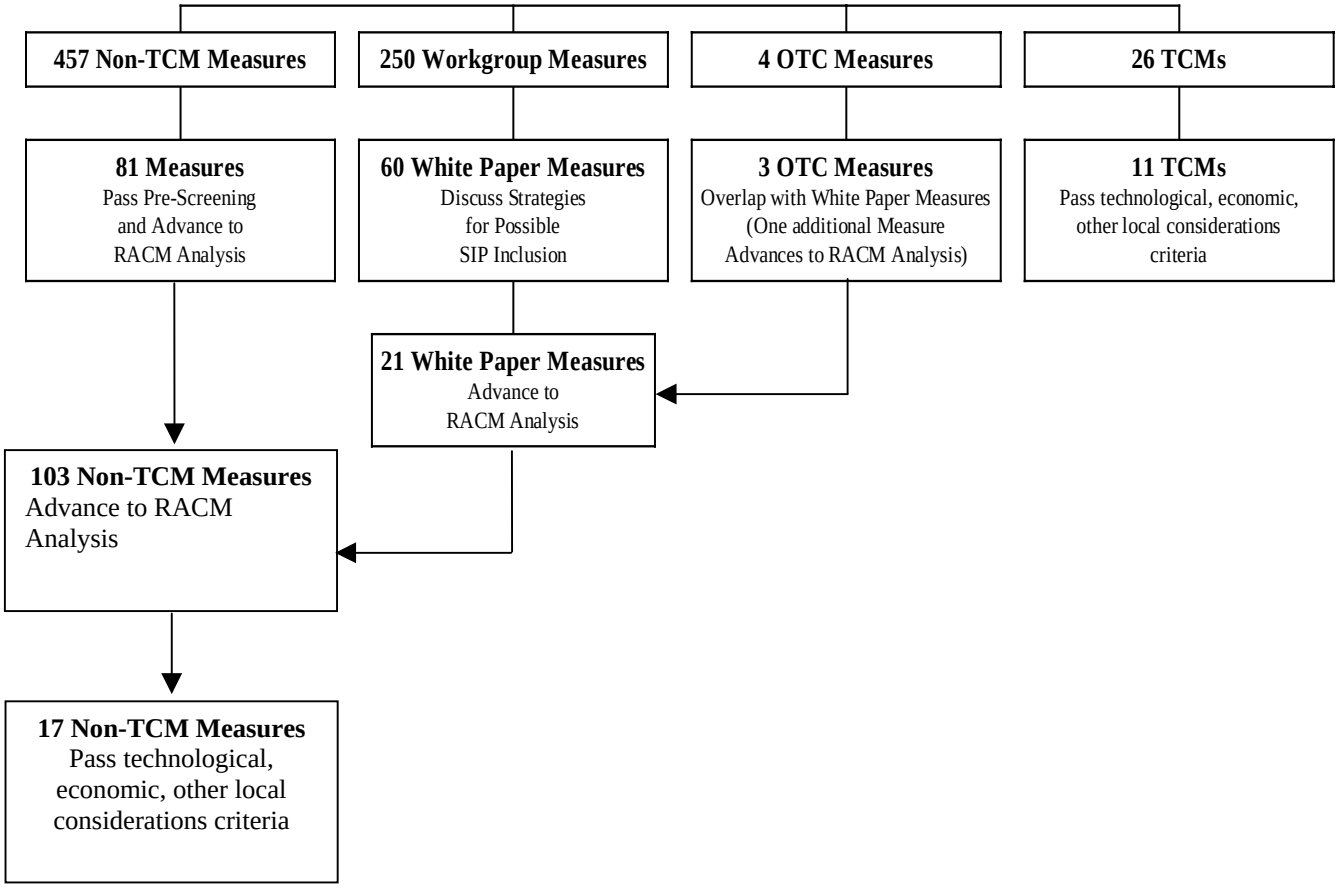
Table 7.5: Potential Transportation Control Measures (TCMs)

Identifier	Measure Name	Description
Onroad		
DOT8	Truck Idling Restrictions	Truck idling restrictions will be implemented statewide. It is assumed, in an effort to avoid fines and other negative repercussions resulting from continued idling, both fleet and individual truck owners will invest in idling reduction technology (auxiliary power units, diesel driven heating systems and automatic shut-down/start-up systems).
DOT9	Impact of Various Transit Projects	Encourage the use of transit through the completion of significant fixed guideway/rail projects
DOT11	Adoption of Smart Growth Land Use Policies	Analysis of compact development in the NY-NJ-CT Region
DOT13	Clean Fleets Replacements	100 9 year old vehicles replaced with 100 hybrid vehicles in each county
DOT16	School Bus Replacements	Twenty percent (4,246) of all Model Year 2002 and older school buses are replaced by Model year 2007 diesel buses
DOT17	IdleAire Installations	A total of 210 parking spaces at truck stops would be equipped with IdleAire technology statewide.
DOT18	Transit Bus Replacements	All Model Year 2002 and older transit buses are replaced by Model Year 2007 diesel buses
DOT20	School Bus Retrofit	All Model Year 1992-2002 school buses will utilize retrofit technology
DOT22	Commercial Vehicle Information Systems and Networks (CVISN).	Analyzed as the adoption of high-speed weigh in motion devices to replace off-line weigh stations
DOT23	Implementation of Express E-Z Pass Toll Collection	Analysis includes the impacts of adding high speed, no toll booth EZ-Pass lanes to the Union, Essex and Barnaget toll plazas
Nonroad		
DOT3	Retrofit Construction Equipment	Assume 10% of total inventory of equipment will be used on state contracted projects and that 20% of those vehicles must use a combination of ULSD and retrofit technology

7.3 Potential Measures Identified

A total of 28 measures (11 TCM and 17 Non-TCM) passed the technological feasibility, economic feasibility, and "other local considerations" RACM criteria (as shown in Figure 7.3)

Figure 7.3: Identification of Potential Control Measures



New Jersey specific potential emission reductions were estimated for the 28 measures. The potential New Jersey specific emission reduction benefits for the area source measures were estimated by using population ratios. Population data for the year 2002 was obtained online from the U.S. Census Bureau.[9] Daily Vehicle Miles Traveled (DVMT) was used to allocate the New Jersey specific emission reduction benefit for the onroad mobile measures. The DVMT data was obtained from the Federal Highway Administration[10] and the New Jersey 2002 Periodic Emission Inventory.[11]

[9] United States Census Bureau (http://www.census.gov).

[10] US Department of Transportation Federal Highway Administration – "Selected Measures for Identifying Peer States" (http://www.fhwa.dot.gov/policy/ohim/hs02/ps1.htm).

The measures were then ranked by potential statewide VOC reductions and NO_x reductions (see Table F2.3 and F2.4 in Appendix F2). It is unlikely that control measures that provide emission benefits of less than one ton per day would be significant enough, alone or in aggregate, to advance the attainment date.[12] Therefore, only control measures that provide emission benefits greater than one ton per day are considered for this analysis. There were four measures that had a potential VOC reduction greater than 1 tpd. There were also four measures that had a potential NO_x reduction 1 tpd or greater. These measures are listed in Tables 7.6 and 7.7. A potential ozone benefit was also allocated for each of the measures. The ozone benefit was estimated as a simple sum of VOC and NOx benefits.

Table 7.6: Potential RACMs Ranked by Potential VOC Reduction (Top 4)

Rank*	Identifier	Measure Name	NJ Statewide Potential VOC Reduction (tpd)
1	4	Adhesives and Sealants (Industrial)**	9.2
2	26	Reformulation of Aerosol Coatings to CARB Tier 2 Standards	5.9
3	2	Consumer Products**	1.4
4	18	Degreasing Controls	1.1
Total Potential VOC Reduction			**17.6**

Table 7.7: Potential RACMs Ranked by Potential NO_x Reduction (Top 4)

Rank*	Identifier	Measure Name	NJ Statewide Potential NO_x Reduction (tpd)
1	DOT8	Truck idling restrictions	1.6
2	DOT17	IdleAire Installations	1.5
3	DOT11	Adoption of Smart Growth Land Use Policies	1.0
4	DOT22	Commercial Vehicle Information Systems and Networks (CVISN).	1.0
Total Potential NO_x Reduction			**5.1**

*Based on potential emission benefits

**New Jersey is in the process of proposing these measures

[11] NJDEP. State Implementation Plan (SIP) Revisions for the Attainment and Maintenance of the 8-Hour Carbon Monoxide National Ambient Air Quality Standard, 1-Hour Ozone National Ambient Air Quality Standard, and Fine Particulate Matter National Ambient Air Quality Standard; and the 2002 Periodic Emission Inventory, Appendix D, Attachment 13. New Jersey Department of Environmental Protection, May 2006.

[12] NJDEP. State Implementation Plan (SIP) Revision for the Attainment and Maintenance of the 1-Hour Ozone National Ambient Air Quality Standard. Update to Meeting the Requirements of the Alternative Ozone Attainment Demonstration Policy: Additional Emission Reductions, Reasonably Available Control Measure Analysis, and Mid-Course Review. Appendix III: Reasonably Available Control Measures Analysis. New Jersey Department of Environmental Protection, September 12, 2001.

7.4 Advancement of the Attainment Date

The 28 TCMs and Non-TCMs that passed all previously discussed (technological, economic, social, legal) RACM criteria were analyzed to determine whether or not they had the potential to advance the attainment date. As stated in Section 7.2, in order to advance the attainment date in each 8-hour ozone nonattainment area from 2010 to 2009, the measures would have to, alone or collectively, achieve reduction benefits by June 2008 instead of June 2009. Although the 8 measures that pass the previously discussed RACM criteria have a potential reduction benefit of 15.5 tpd for the Northern New Jersey/New York/Connecticut nonattainment area and 7.4 tpd for the Southern New Jersey/Philadelphia nonattainment area, the measures do not show these benefits by June 2008. Table 7.8 includes a summary of the estimated potential 2009 benefits of the measures for each nonattainment area.

Table 7.8: Summary of the Potential RACMs

		Estimated 2009 Benefits (VOC tpd + NO_x tpd Combined)	
New Jersey Identifier	**Measure Name**	**NNJ/NY/CT NAA**	**SNJ/Phila. NAA**
4	Adhesives and Sealants (Industrial)	6.1	2.9
26	Reformulation of Aerosol Coatings to CARB Tier 2 Standards	3.9	1.8
2	Consumer Products	0.9	0.4
DOT11	Adoption of Smart Growth Land Use Policies	1.1	0.6
DOT8	Truck idling restrictions	1.1	0.5
DOT17	IdleAire Installations	1.0	0.5
DOT22	Commercial Vehicle Information Systems and Networks (CVISN).	0.7	0.4
18	Degreasing Controls	0.7	0.3
Total Benefit		**15.5**	**7.4**

7.5 RACM Conclusion

The State has reviewed all of the potential control measures to determine if they could meet the RACM criteria discussed in Section 7.2. Several measures are available that can provide moderate levels of emission reductions, however, none of these measures can provide benefits by the 2008 ozone season. Therefore, none of the potential control measures can be considered to be RACM and it is unnecessary to include any of these measures in the State's attainment plan.