GILBERT ROAD
EXTENSION

ENVIRONMENTAL ASSESSMENT

AIR QUALITY TECHNICAL REPORT

April 2013

VALLEY METRO

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Gilbert Road Extension

Air Quality Technical Report

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1.0 INTRODUCTION

This Air Quality technical report is being prepared to support the Environmental Assessment (EA) for high capacity transit improvements being considered in the study area for the Gilbert Road Extension. This chapter begins with a short background of the study and a description of the alternatives being considered in the EA.

1.1 STUDY BACKGROUND

The Gilbert Road Extension EA evaluates the impacts of a proposed two-mile easterly extension of the light rail transit (LRT) system along Main Street to the intersection of Main Street and Gilbert Road in the City of Mesa, Arizona. The purpose of the project is to accommodate future regional travel demand needs and improve access to destinations for residents of Mesa and the East Valley region.

1.2 BUILD ALTERNATIVE

In May 2009, the City of Mesa City Council (the Council) approved a Locally Preferred Alternative (LPA) that recommended extending the region's current LRT system by 3.1 miles from the existing Sycamore Station to Mesa Drive (the future eastern terminus of the existing LRT starter line) and also to extend LRT out to Gilbert Road. As part of this decision, the Council approved funding for a planning study to develop and evaluate potential LRT alignment design alternatives, given the strong ridership demand, regional bus network optimization opportunities, and as a preferred long-range site for a park-and-ride facility to capitalize on emerging travel demand markets. This extension from east of Mesa Drive to Gilbert Road is the subject of the EA. The Gilbert Road Extension and study area are presented in Figure 1.

1.3 ALTERNATIVES CONSIDERED

The EA evaluates the following alternatives:

- No-Build Alternative (serves as the baseline for comparison of effects)
- Build Alternative (4-Lane)
- Build Alternative (2-Lane)
  - Build Alternative (2-Lane Roundabouts) is a design option for this alternative

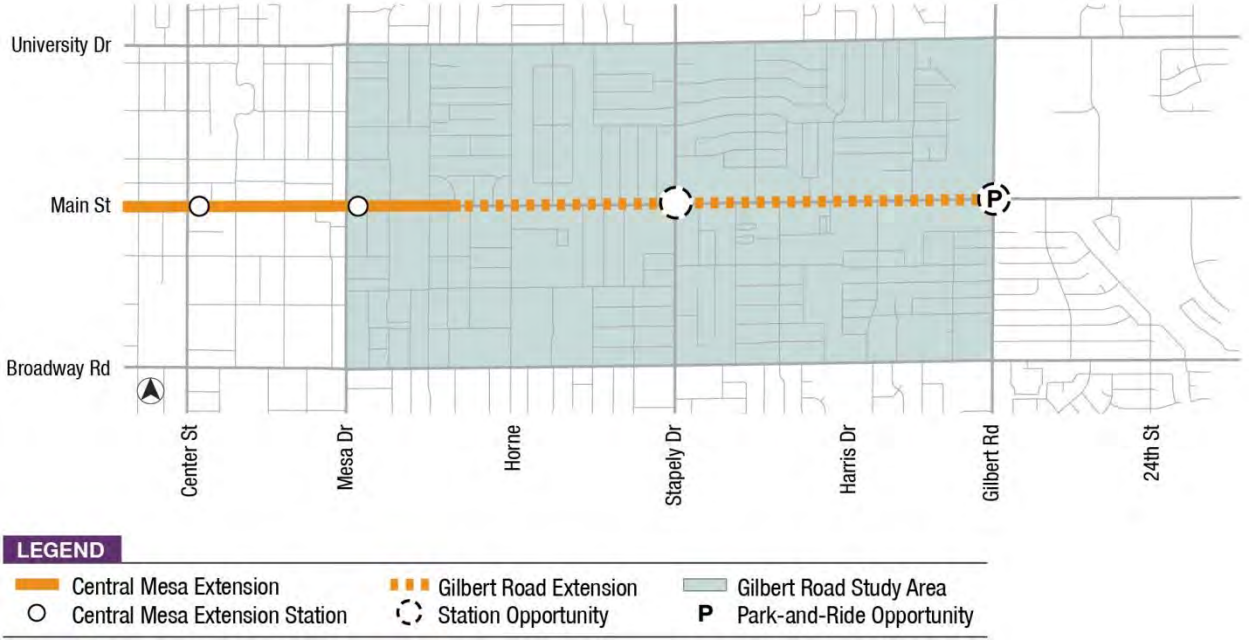
Each of the Build Alternatives includes a double-tracked (one track per direction) LRT fixed guideway operating within the median of Main Street. LRT stations would be provided at Stapley Drive and Gilbert Road. The Build Alternative (4-Lane) maintains the existing roadway configuration consisting of two travel lanes in each direction. The Build Alternative (2-Lane) narrows the roadway configuration to one lane in each direction. The Build Alternative (2-Lane Roundabouts) is a design option for the 2-Lane

alternative and consists of using modern roundabouts instead of traffic signals at 5 locations where Main Street intersects the following neighborhood collector streets:

- Horne
- Miller Street
- North Lazona Drive
- North Harris Drive
- South Williams

The evaluation of the alternatives is for the year 2031 which coincides with the planning horizon year for the Regional Transportation Plan (RTP) prepared by the Maricopa Association of Governments (MAG).

FIGURE 1: GILBERT ROAD EXTENSION AND STUDY AREA



1.4 PARK-AND-RIDE FACILITY

A park-and-ride facility will be provided at the eastern end-of-line station at Gilbert Road. Two options are evaluated:

- Park-and-Ride (North Option)
- Park-and-Ride (South Option)

The Park-and-Ride (North Option) would be located at the northwest corner of Gilbert Road/Main Street, and the Park-and-Ride (South Option) would be located at the

southwest corner of that intersection. Both would necessitate demolition of existing structures and relocation of several businesses. The park-and-ride facility may consist of all surface parking, or a structure may be built. The type of facility will be determined as design advances and the specific need for parking spaces is better known.

2.0 AFFECTED ENVIRONMENT

2.1 APPLICABLE AIR QUALITY STANDARDS

The federal and state ambient air quality standards are applicable to the Maricopa County region. The National Ambient Air Quality Standards (NAAQS) were established by the federal Clean Air Act (CAA) of 1970, as amended in 1977 and 1990. The NAAQS represent the maximum levels of pollution considered safe, with an adequate margin of safety, to protect public health and welfare. The six primary air pollutants of concern for which NAAQS have been established are carbon monoxide (CO), ozone (O_3), particulate matter (PM) equal to or smaller than 10 microns (PM_{10}) or 2.5 microns ($PM_{2.5}$) in diameter, sulfur dioxide (SO_2), nitrogen dioxide (NO_2), and lead (Pb). In Arizona, the state ambient air quality standards are identical to the federal NAAQS.

Table 1 presents the current NAAQS for each of the six pollutants for different averaging periods. The "primary" standards have been established to protect public health. The "secondary" standards are intended to protect the nation's welfare, including protection against visibility impairment, damage to animals, crops, vegetation, and buildings. When an area violates a health-based standard, the CAA requires that the area be designated as nonattainment for that pollutant.

2.2 ATTAINMENT STATUS

The Maricopa County area is currently designated as a federal nonattainment area for 8-hour O_3 and PM_{10}, maintenance area for CO, and unclassifiable/attainment for SO_2, Pb, NO_2, and $PM_{2.5}$.

The nonattainment area is located in the Salt River Valley at 1,100 feet above mean sea level and is almost completely surrounded by mountains. The climate in the nonattainment area is arid continental, with temperatures ranging from a mean of 52 degrees Fahrenheit in January to 91 degrees, in July. The sun shines 86 percent of the time and the annual rainfall is about 7.44 inches. In general, the prevailing wind direction is from E/SE to W/SW.

2.2.1 Carbon Monoxide

Carbon monoxide is a colorless, odorless, and (at much higher levels) poisonous gas, formed when carbon in fuels is not burned completely. It is a product of motor vehicle exhaust, which contributes about 60 percent of all CO emissions nationwide. High concentrations of CO generally occur in areas with heavy traffic congestion. Other sources of CO emissions include industrial processes such as carbon black manufacturing, non-transportation fuel combustion, and natural sources such as wildfires.

TABLE 1: NATIONAL AMBIENT AIR QUALITY STANDARDS

Pollutant [final rule cite]		Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide [76 FR 54294, Aug 31, 2011]		primary	8-hour	9 ppm	Not to be exceeded more than once per year
			1-hour	35 ppm	
Lead [73 FR 66964, Nov 12, 2008]		primary and secondary	Rolling 3 month average	0.15 $\mu g/m^3$ (1)	Not to be exceeded
Nitrogen Dioxide [75 FR 6474, Feb 9, 2010] [61 FR 52852, Oct 8, 1996]		primary	1-hour	100 ppb	98th percentile, averaged over 3 years
		primary and secondary	Annual	53 ppb (2)	Annual Mean
Ozone [73 FR 16436, Mar 27, 2008]		primary and secondary	8-hour	0.075 ppm (3)	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
Particle Pollution Dec 14, 2012	$PM_{2.5}$	primary	Annual	12 $\mu g/m^3$	annual mean, averaged over 3 years
		secondary	Annual	15 $\mu g/m^3$	annual mean, averaged over 3 years
		primary and secondary	24-hour	35 $\mu g/m^3$	98th percentile, averaged over 3 years
	PM_{10}	primary and secondary	24-hour	150 $\mu g/m^3$	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide [75 FR 35520, Jun 22, 2010] [38 FR 25678, Sept 14, 1973]		primary	1-hour	75 ppb (4)	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

Units of measure for the standards are parts per million (ppm) by volume, parts per billion (ppb) by volume, and micrograms per cubic meter of air ($\mu g/m^3$).

(1) Final rule signed October 15, 2008. The 1978 lead standard (1.5 µg/m3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
(2) The official level of the annual NO2 standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of clearer comparison to the 1-hour standard.
(3) Final rule signed March 12, 2008. The 1997 ozone standard (0.08 ppm, annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years) and related implementation rules remain in place. In 1997, EPA revoked the 1-hour ozone standard (0.12 ppm, not to be exceeded more than once per year) in all areas, although some areas have continued obligations under that standard ("anti-backsliding"). The 1-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is less than or equal to 1.
(4) Final rule signed June 2, 2010. The 1971 annual and 24-hour SO2 standards were revoked in that same rulemaking. However, these standards remain in effect until one year after an area is designated for the 2010 standard, except in areas designated nonattainment for the 1971 standards, where the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standard are approved.

Source: http://epa.gov/air/criteria.html

Peak concentrations typically occur along roadways and near intersections with high levels of traffic congestion. Calm winds during the late fall and winter, coupled with night and early morning ground-based temperature inversions, can cause a build-up of CO concentrations in urban areas.

On March 9, 2005, the Environmental Protection Agency (EPA) published the final rule in the Federal Register redesignating the Phoenix metropolitan area to attainment for CO, as well as approving the attainment demonstration and maintenance plan showing maintenance of the CO standard through 2015. The Phoenix metropolitan area has not had a violation of the CO standard since 1996 and has been reporting clean monitoring data for more than ten years.

2.2.2 Ozone

Ozone is the prime ingredient of smog in our cities and other areas of the country. Though it occurs naturally in the stratosphere to provide a protective layer high above the earth, at ground-level it is the prime ingredient of smog. Ozone is not emitted directly into the air, but is formed by gases called nitrogen oxides (NOx) and volatile

organic compounds (VOCs) that in the presence of heat and sunlight react to form ozone. Ground-level ozone forms readily in the atmosphere, usually during hot weather, and affects the respiratory system in people and animals, as well as affects the growth of plants. NOx is emitted from motor vehicles, power plants and other sources of combustion. VOCs are emitted from a variety of sources, including motor vehicles, chemical plants, refineries, factories, consumer and commercial products, and other industrial sources.

On June 14, 2005, EPA published the final rule in the Federal Register redesignating the Phoenix metropolitan area to attainment of the 1-hour ozone standard, the primary component of smog, and approving the plan showing maintenance of the standard through 2015. The 1-hour ozone standard was revoked on June 15, 2005 for most areas and replaced with the 8-hour ozone standard.

The Phoenix metropolitan area has been designated an 8-hour ozone nonattainment area and classified as Subpart 1 (Basic). The *Eight-Hour Ozone Plan for the Maricopa Nonattainment Area* was submitted to EPA on June 15, 2007. In addition, the *MAG Eight-Hour Ozone Redesignation Request and Maintenance Plan for the Maricopa County Nonattainment Area* was submitted in February 2009.

In 2011, there were 18 unique days when at least one monitor exceeded the standard. There were 70 individual exceedances of the 8-hour standard which occurred at 14 different monitoring sites. Also in 2011, there was one violation of the 8-hour standard (the 8-hour average NAAQS for ozone is violated when the three-year average of the fourth high is greater than 0.075 ppm).

2.2.3 PM_{10}

The term "particulate matter" (PM) includes both solid particles and liquid droplets found in the air. Many manmade and natural sources emit PM directly or emit other pollutants that react in the atmosphere to form PM. These solid and liquid particles come in a wide range of sizes. Particles less than 10 micrometers in diameter (PM_{10}) pose a health concern because they can be inhaled into and accumulate in the respiratory system. Sources of PM_{10} include crushing or grinding operations and dust from paved or unpaved roads.

EPA published a final rule approving the *Revised MAG 1999 Serious Area Particulate Plan* on July 25, 2002. The Plan for the region projected attainment of the 24-hour and annual standards by 2006; however, the region is still experiencing violations of both the 24-hour and annual standards. It is important to note that EPA revoked the annual PM_{10} standard on October 17, 2006 effective December 18, 2006.

On June 6, 2007, EPA published a final rule in the Federal Register finding that the Maricopa County PM_{10} Nonattainment Area did not attain the 24-hour standard for PM_{10} by December 31, 2006. In December 2007, MAG submitted the 2007 Five Percent Plan for PM_{10} to EPA.

On January 25, 2011, the State of Arizona withdrew the PM_{10} plan for the Maricopa County nonattainment area. As a result of the withdrawal, EPA issued a Finding of Failure to Submit in the Federal Register on February 14, 2011. EPA also withdrew its previous finding that the motor vehicle emissions budget in the PM_{10} plan was adequate. The area must now use a previously approved budget (The Revised MAG 1999 Serious Area Plan) for air quality planning purposes.

It should be noted that the Final MAG 2012 Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area, dated May 2012 has been submitted to EPA; however, EPA has not taken any action on the Plan.

For calendar year 2011, there were 19 unique days when at least one monitor exceeded the standard and 11 sites violated the 24-hour standard.

2.3 AIR QUALITY MONITORING IN THE PROJECT AREA

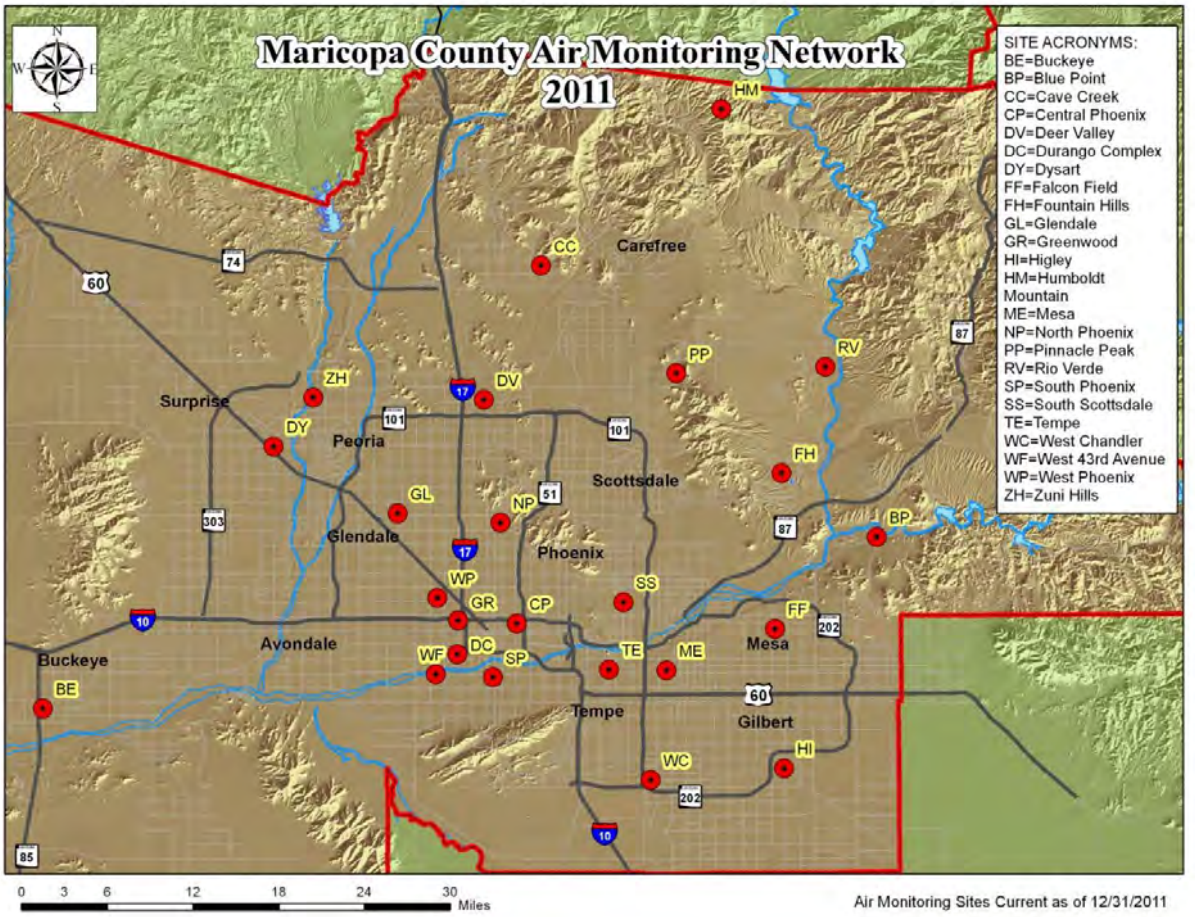
The Maricopa County Air Quality Department *2011 Air Monitoring Network Review* includes monitoring stations at 24 different sites in Maricopa County. There are three monitoring stations located near the study area: (1) Mesa, located at Broadway Road and Brooks Avenue; (2) Tempe, located at Apache Boulevard and College Avenue; and (3) South Scottsdale, located at Thomas Road and Miller Road. Their locations are shown in Figure 2 as ME, TE, and SS, respectively. All three monitors are of neighborhood scale and focus on population exposure.

It is important to note that ambient air monitoring networks are designed to sample air pollution in a variety of settings, assess the health welfare effects, and assist in determining sources of air pollution. Since it is physically and fiscally impossible to monitor the air quality everywhere within the county, a representative sample of the air quality must be obtained. Maricopa County conducts annual monitoring reviews to meet statutory obligations and to refine the monitoring network to ensure that the citizens of Maricopa County are provided with quality and relevant data.

The Mesa site is located at Brooks Reservoir at the western edge of the city near the Tempe border. It is centered in an area that contains residential, industrial, and a small amount of agricultural activity. An open field borders the site on the west with commercial development to the north, and light industry east and south of the site. Carbon monoxide, $PM_{2.5}$, and PM_{10} are the criteria pollutants monitored at this State and Local Air Monitoring Stations (SLAMS) site. A summary of air quality data collected

at this monitoring site, excerpted from the *2011 Air Monitoring Network Review*, is provided in Table 2.

FIGURE 2: AIR QUALITY MONITORING STATIONS



Source: MCAQD 2009 Air Monitoring Network Review

TABLE 2: MESA AIR MONITORING SITE DATA

	2009	2010	2011
CO			
Max. 8-hr CO Avg. (ppm)	1.5	1.4	1.5
Number of 8-hr CO exceedances	0	0	0
PM_{10}			
Max. 24-hr PM_{10} Avg. (ug/m3)	87	86	127
Number of 24-hr PM_{10} exceedances	0	0	0
Annual PM_{10} Avg. (ug/m3)	22.8	17.4	26.7

Source: Maricopa County Air Quality Department, 2011 Air Monitoring Network Review.

The Tempe monitoring site was established in 2000. The site was established to fill in a spatial gap between the metropolitan Phoenix area and the City of Mesa. Ozone and

CO (both SLAMS) are monitored at the site. A summary of air quality data collected at this monitoring site excerpted from the *2011 Air Monitoring Network Review* is provided in Table 3.

TABLE 3: TEMPE AIR MONITORING SITE DATA

	2009	2010	2011
CO			
Max. 8-hr CO Avg. (ppm)	2.9	1.9	3.2
Number of 8-hr CO exceedances	0	0	0
O_3			
Max. 8-hr O_3 Avg. (ppm)	0.070	0.075	0.076*
Number of Daily Exceedances ≥ 0.075 ppm (as of 2008)	0	6	1
Three-year Avg. of 4th High (ppm)	0.073	0.071	0.068

* Indicates an exceedance of standard.
Source: Maricopa County Air Quality Department, 2011 Air Monitoring Network Review.

The South Scottsdale site is located at a City of Scottsdale Fire Station. The area surrounding the site is residential with a density of 2500 to 5000 persons per square mile. This site is located 12 miles east of metropolitan Central Phoenix. Carbon monoxide, ozone**,** NO2, SO2, and PM_{10} (all SLAMS) are the criteria pollutants monitored at this station. A summary of air quality data collected at this monitoring site excerpted from the *2011 Air Monitoring Network Review* is provided in Table 4.

TABLE 4: SOUTH SCOTTSDALE AIR MONITORING SITE DATA

	2009	2010	2011
CO			
Max. 8-hr CO Avg. (ppm)	1.4	1.6	1.4
Number of 8-hr CO exceedances	0	0	0
O_3			
Max. 8-hr O_3 Avg. (ppm)	0.074	0.084*	0.083*
Number of Daily Exceedances ≥ 0.075 ppm (as of 2008)	0	4	3
Three-year Avg. of 4th High (ppm)	0.075	0.075	0.074
PM_{10}			
Max. 24-hr PM_{10} Avg. (ug/m3)	135	37	119
Number of 24-hr PM_{10} exceedances	0	0	0
Annual PM_{10} Avg. (ug/m3)	25.5	17.4	25.8

* Indicates an exceedance of standard.
Source: Maricopa County Air Quality Department, 2011 Air Monitoring Network Review.

It should be noted that the Arizona Department of Environmental Quality also operates a few air monitors in Maricopa County. However, there are no criteria pollutant monitors located near the study area.

2.4 AIR QUALITY EMISSIONS

As previously indicated, the Maricopa County area is currently designated as a federal nonattainment area for 8-hour O_3 and PM_{10}, and maintenance for CO. The applicable air quality standards are expressed in terms of concentrations. Concentrations can be measured through ambient air quality monitoring or estimated by combining pollutant emissions and meteorology in an air quality model.

Regional emission source categories generally are classified as follows:

- point and area sources: examples include electric utilities and industrial processes, such as manufacturing;
- onroad mobile sources: examples include automobiles, heavy-duty trucks, and buses;
- nonroad mobile sources: examples include lawn and garden equipment, construction equipment, aircraft engines; and
- miscellaneous sources: examples include fires and windblown dust.

Air quality impact analysis is generally focused on motor vehicles. The power to move a motor vehicle comes from burning fuel in an engine. Pollution from vehicles comes from the by-products of this combustion process. In addition, emissions escape through fuel evaporation.

The combustion process results in emissions that are released from the tailpipe while a vehicle is operating. Exhaust emissions occur during two modes: cold start (starting and driving a vehicle the first few minutes results in higher emissions because the emissions control equipment has not yet reached its optimal operating temperature) and running exhaust emissions (pollutants are emitted from the vehicle's tailpipe during driving and idling after the vehicle is warmed up).

Evaporative emissions occur in several ways such as: running losses (the hot engine and exhaust system vaporize gasoline while the vehicle is running), hot soak (the engine remains hot for a period of time after the vehicle is turned off, and gasoline evaporation continues when the car is parked while cooling down), and diurnal emissions (even when the vehicle is parked for long periods of time, gasoline evaporation occurs as the temperature rises during the day). In addition, particulate emissions (PM_{10} and $PM_{2.5}$) are directly emitted via tailpipe (vehicle exhaust), brake wear, and tire wear. Reentrained road dust from paved and unpaved roads also produces particulate emissions.

2.5 AIR QUALITY MODELING REQUIREMENTS

2.5.1 Clean Air Act Amendments

Section 176(c) of the Clean Air Act (CAA, 1990) requires that Federal agencies and Metropolitan Planning Organizations (MPOs) not approve any transportation project, program, or plan which does not conform to the approved State Implementation Plan (SIP). The 1990 amendments to the CAA expanded Section 176(c) to more explicitly define conformity to an implementation plan to mean:

Conformity to the plan's purpose of eliminating or reducing the severity and number of violations of the national ambient air quality standards and achieving expeditious attainment of such standards; and that such activities will not (i) cause or contribute to any new violation of any standard in any area; (ii) increase the frequency or severity of any existing violation of any standard in any area; or (iii) delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.

The expanded Section 176(c) also provided conditions for approval of transportation plans, programs, and projects and required that the EPA promulgate conformity determination criteria and procedures.

2.5.2 Federal Transportation Conformity Rule

The federal transportation conformity rule (40 Code of Federal Regulations Parts 51 and 93) specifies criteria and procedures for conformity determinations for transportation plans, programs, and projects and their respective amendments. The federal transportation conformity rule was first promulgated in 1993 by EPA, following the passage of amendments to the federal CAA in 1990. The federal transportation conformity rule has been revised several times since its initial release to reflect both EPA rule changes and court opinions.

The conformity rule applies nationwide to “all nonattainment and maintenance areas for transportation-related criteria pollutants for which the area is designated nonattainment or has a maintenance plan” (40 CFR 93.102). As previously indicated, portions of Maricopa County are designated as a nonattainment or maintenance area with respect to federal air quality standards for three criteria pollutants, CO, eight-hour ozone, and particulate matter less than or equal to ten microns in diameter (PM_{10}). Transportation plans, programs, and projects for the nonattainment or maintenance areas in the Maricopa County area must satisfy the requirements of the federal transportation conformity rule.

Section 93.104 of the Federal Transportation Conformity Rule requires that the Federal Highway Administration and Federal Transit Administration (FHWA/FTA) projects must be found to conform before they are adopted, accepted, approved, or funded. Section 93.116 of the Federal Transportation Conformity Rule addresses criteria and procedures for localized CO, PM_{10}, and $PM_{2.5}$ violations (hot-spots). As previously indicated, the Maricopa County area is in attainment for $PM_{2.5}$.

The criteria states that the FHWA/FTA project must not cause or contribute to any new localized CO and/or PM_{10} violations or increase the frequency or severity of any existing CO and/or PM_{10} violations in nonattainment and maintenance areas. This criterion is satisfied if it is demonstrated that during the time frame of the transportation plan (or regional emissions analysis) no new local violations will be created and the severity or number of existing violations will not be increased as a result of the project. The demonstration must be performed according to the consultation requirements of §93.105(c)(1)(i) and the methodology requirements of §93.123.

It is important to note that Section 93.116(b) which requires that each project eliminate or reduce the severity and number of localized CO violations in the area, does NOT apply since a CO maintenance plan has been approved by EPA.

In addition, all projects involving federal funding and/or approval are subject to the National Environmental Policy Act (NEPA). According to NEPA, the project must not violate any NAAQS or the project must incorporate all practicable means to avoid or minimize expected exceedances of NAAQS.

Please note that EPA published Transportation Conformity Rule $PM_{2.5}$ and PM_{10} Amendments on March 24, 2010 (effective April 23, 2010) that clarified the regulations concerning hot-spot analysis for $PM_{2.5}$ and PM_{10} nonattainment and maintenance areas as well as CO nonattainment and maintenance areas. However, the final rule notes that the revisions “do not reflect any substantive changes to existing requirements for project-level conformity determinations…project-level conformity determinations, including any hot-spot analyses, will continue to be performed in the same manner as current practice”.

2.5.2.1 Carbon Monoxide Hot-spot Requirements

Section 93.123 of the Federal Transportation Conformity Rule provides procedures for determining localized CO concentrations (hot-spot analysis). The demonstrations must be based on quantitative analysis using the applicable air quality models, data bases, and other requirements specified in 40 CFR part 51, Appendix W (Guideline on Air Quality Models). These procedures shall be used in the following cases:

(i) For projects in or affecting locations, areas, or categories of sites which are identified in the applicable implementation plan as sites of violation or possible violation;

(ii) For projects affecting intersections that are at Level-of-Service (LOS) D, E, or F, or those that will change to LOS D, E, or F because of increased traffic volumes related to the project;

(iii) For any project affecting one or more of the top three intersections in the nonattainment or maintenance area with highest traffic volumes, as identified in the applicable implementation plan; and

(iv) For any project affecting one or more of the top three intersections in the nonattainment or maintenance area with the worst LOS, as identified in the applicable implementation plan.

These requirements are addressed for the Gilbert Road Extension, including a park-and-ride facility, in the Carbon Monoxide Screening discussion in Section 3.2.

2.5.2.2 Ozone Requirements

It is important to note that there are no requirements for addressing localized ozone concentrations (hot-spot analysis) in the federal transportation conformity rule.

2.5.2.3 PM_{10} Hot-spot Requirements

Section 93.123 of the Federal Transportation Conformity Rule also provides procedures for determining localized PM_{10} concentrations (hot-spot analysis). The hot-spot demonstration must be based on quantitative analysis methods for the following types of projects:

(i) New or expanded highway projects that have a significant number of or significant increase in diesel vehicles;

(ii) Projects affecting intersections that are at LOS D, E, or F with a significant number of diesel vehicles, or those that will change to LOS D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;

(iii) New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location:

(iv) Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location; and

(v) Projects in or affecting locations, areas, or categories of sites which are identified in the PM_{10} or $PM_{2.5}$ applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

However, where quantitative analysis methods are not available, the demonstration must be based on a qualitative consideration of local factors. In addition, the requirements for quantitative analysis will not take effect until EPA releases modeling guidance and announces in the *Federal Register* that the requirements are in effect. In December 2010, EPA released final Transportation Conformity Guidance for Quantitative Hot-spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas. Local air quality impacts must be modeled for certain transportation projects that involve significant diesel emissions. EPA also announced a two-year grace period for completing quantitative hot-spot analysis. Any project-level analysis begun after December 20, 2012 must be quantitative assuming it has been determined to be a project of air quality concern.

In March 2006, EPA and FHWA issued joint guidance on how to perform qualitative hot-spot analyses in PM_{10} and $PM_{2.5}$ nonattainment and maintenance areas. As indicated previously, the Maricopa County area is designated unclassifiable/attainment for the $PM_{2.5}$ standard. However, these PM_{10} requirements are addressed for the Gilbert Road Extension, including a park-and-ride facility, in the PM_{10} Screening discussion in Section 3.3.

3.0 METHODOLOGY FOR IMPACT EVALUATION

3.1 REGIONAL CONFORMITY DEMONSTRATION

MAG is the designated MPO in Maricopa County, Arizona, and is responsible for regional transportation and air quality planning. In March 2013, MAG approved the latest *New Finding of Conformity for the FY 2011-2015 MAG Transportation Improvement Program and Regional Transportation Plan 2010 Update*, As Amended.

The analysis demonstrates that the criteria specified in the federal transportation conformity rule for a conformity determination are satisfied by the Transportation Improvement Program (TIP) and Regional Transportation Plan (RTP). A finding of conformity for the FY 2011-2015 MAG TIP and RTP 2010 Update, as amended is therefore supported. It is important to note that the Gilbert Road Extension, including the park-and-ride facility, was included in the MAG TIP/RTP and conformity analysis adopted by the MAG Regional Council in March 2013.

The MAG regional emissions analysis was conducted for the horizon year 2031 for CO, eight-hour ozone, and PM_{10}. The conformity demonstration complies with the Federal Transportation Rule and indicates that the TIP/RTP will not (i) cause or contribute to any new violation of any standard in any area; (ii) increase the frequency or severity of any existing violation of any standard in any area; or (iii) delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.

The MAG TIP/RTP, as amended and the latest conformity analysis were approved by the MAG Regional Council on March 27, 2013. Federal approval by FHWA and FTA is pending.

3.2 CARBON MONOXIDE SCREENING

Section 2.5.2.1 summarized the carbon monoxide hot-spot requirements per the Transportation Conformity Rule. The following addresses each of the requirements:

(i) The Maricopa County region has not recorded a violation of the CO standard since 1996. In addition, the area has an approved Carbon Monoxide Maintenance Plan which does not identify any sites of violation or possible violation through the 2015 horizon year. As a result, the project does not meet this criteria for CO hot-spot analysis.

(ii) EPA issued the Guideline for Modeling Carbon Monoxide from Roadway Intersections in November 1992. The Guideline indicates that all signalized intersections in the study area should be reviewed. As part of the procedure for determining critical intersections, those intersections at LOS D, E, or F in the base year or those that will change to LOS D, E, or F because of increased volumes of traffic

related to a new project should be considered for modeling. Those intersections should then be ranked based on traffic volumes. The Guideline concludes that the top three intersections based on the worst LOS and the highest traffic volumes should be selected for modeling. It is assumed that if the selected intersections do not show an exceedance of the CO standards, none of the ranked intersections will.

The signalized intersections in the study area were obtained from HDR Engineering. The LOS for the intersections was obtained for the PM peak period for the 2010 existing conditions and analysis year 2031 No-Build, Build Alternative (4-Lane), and Build Alternative (2-Lane) and is summarized in Table 5; this data reflects the estimated impact of the Gilbert Road Extension, including the park-and-ride facility. The PM peak period was selected because it is the PM traffic, rather than AM traffic, that typically has the most effect on peak CO concentrations.

TABLE 5: LOS FOR PM PEAK FOR SIGNALIZED INTERSECTION

Intersection	2010 Existing	2031 No-Build	2031 Build (4-Lane)	2031 Build (2-Lane)
University Dr / Mesa Dr	C	D	D	D
University Dr / Horne	A	A	A	A
University Dr / Stapley	C	D	D	D
University Dr / Gilbert Rd	C	C	C	C
University Dr / Lindsay Rd	B	B	B	B
Main St / Mesa Dr	C	D	D	D
Main St / Horne	A	A	A	A
Main St / Stapley	C	D	D	***E, F***
Main St / Lazona Dr	A	A	A	A
Main St / Williams	A	A	A	A
Main St / Gilbert Rd	C	D	D	***E, F***
Main St / Lindsay Rd	B	C	C	C
Broadway Rd / Mesa Dr	C	D	D	D
Broadway Rd / Horne	A	A	A	A
Broadway Rd / Stapley	C	D	D	D
Broadway Rd / Gilbert Rd	C	C	C	C
Broadway Rd / Lindsay Rd	B	B	B	B

Bolded/Italicized: those intersections at LOS D, E, or F or those that will change to LOS D, E, or F because of increased volumes of traffic related to the project and will be considered for modeling
Source: April 26, 2012 (intersections) and August 23, 2012 (MAG Travel Demand Model LOS) provided in an e-mail from HDR Engineering.

The intersections that meet the LOS criteria for screening have been bolded and italicized. This data reflects the estimated impact of the Gilbert Road Extension, including the park-and-ride facility. In summary, 17 signalized intersections in the study area were reviewed. Only two intersections meet the LOS criteria; as a result, ranking based on traffic volumes is not necessary to select the top three intersections for air quality modeling.

Section 93.123 (iii) & (iv) of the CO hot spot analysis requirements of the Transportation Conformity Rule apply to any project affecting one or more of the top three intersections in the nonattainment or maintenance plan with the highest traffic volumes and worst LOS, respectively; since the approved Maintenance Plan does not identify the top three intersections with the highest traffic volumes and worst LOS, additional hot-spot analysis is not required.

3.3 PM_{10} SCREENING

Section 2.5.2.3 summarized the PM_{10} hot-spot requirements per the Transportation Conformity Rule. For PM_{10} areas without approved conformity SIPs (the Maricopa County region does not have an approved conformity SIP), guidance is used to complete the qualitative PM_{10} hot-spot analyses only for "projects of air quality concern" as defined in the Section 93.123 of the Transportation Conformity Rule. Guidance was issued jointly by EPA and FHWA in March 2006 entitled Transportation Conformity Guidance for Qualitative Hot-Spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas. The Gilbert Road Extension, including the park-and-ride facility, does not meet any of the screening criteria in Section 93.123 used to define a "project of air quality concern" as further discussed below:

(i) the Gilbert Road Extension, including the park-and-ride facility, is not a new highway project, nor does it expand a highway.

(ii) the affected intersections do not experience significant numbers of diesel vehicles; nor will the project result in increased traffic volumes from a significant number of diesel vehicles related to the project.

(iii) & (iv) new or expanded bus and rail terminals and transfer points associated with the project will not have a significant number of diesel vehicles congregating at a single location. The associated bus fleet in the future is assumed to be mostly CNG (12/7/12 e-mail from Teri Collins, Valley Metro to Robert Forrest, Valley Metro Rail).

(v) the Revised 1999 Serious Area PM_{10} SIP for the Maricopa County region projected attainment of the PM_{10} standards by 2006. However, the region has continued to record exceedances of the 24-hour standard through 2011. A number of monitors violate the 24-hour standard from 2009 – 2011 and it is important to note that a number of these PM-10 exceedances have been flagged as exceptional events. In addition, none of the monitors are located within the study area, nor are they located within approximately 5 miles of the study area.

Since none of the screening criteria were met, the project has been determined NOT to be a Project of Air Quality Concern. Therefore, no additional qualitative assessment is required.

4.0 POTENTIAL OPERATION IMPACTS AND MITIGATION

The results of the screening for CO or PM_{10} as documented in the previous section, indicated that detailed hot-spot analysis is needed for CO, but not PM_{10}. The general requirements for CO hot-spot analysis per Section 93.123 of the Federal Transportation Conformity Rule include the following:

(1) Estimated pollutant concentrations must be based on the total emissions burden which may result from the implementation of the project, summed together with future background concentrations. The total concentration must be estimated and analyzed at appropriate receptor locations in the area substantially affected by the project.

(2) Hot-spot analyses must include the entire project, and may be performed only after the major design features which will significantly impact concentrations have been identified. The future background concentration should be estimated by multiplying current background by the ratio of future to current traffic and the ratio of future to current emission factors.

(3) Hot-spot analysis assumptions must be consistent with those in the regional emissions analysis for those inputs which are required for both analyses.

(4) Mitigation or control measures shall be assumed in the hot-spot analysis only where there are written commitments from the project sponsor and/or operator to implement such measures, as required by §93.125(a).

The hot-spot analysis assumptions are consistent with the regional analysis as documented below. Future background concentrations were estimated in accordance with EPA guidance and added to the hot-spot results to estimate total concentrations which may result from the project. Additional control measures (beyond those assumed in the regional analysis) were not included in the hot-spot analysis.

4.1 HOT-SPOT ANALYSIS

The EPA Guideline for Modeling Carbon Monoxide from Roadway Intersections, November 1992 is designed to evaluate air quality impacts at one or more roadway intersections where vehicular traffic may cause or contribute to increased emissions of CO. The Guideline is appropriate for project level conformity analysis and may be used for EAs. The overall procedure for consistent selection and analysis of intersections includes the following:

- Gathering of data related to the project of concern, including traffic and operating characteristics, and roadway configurations and geometry.

- Computation of traffic flow conditions and emission for intersections, based on both those vehicles moving through the intersection without stopping (free-flow) and those that are delayed and stopped (queued vehicles).
- Selection of receptor locations.
- Use of dispersion models to calculate estimated concentrations
- Overall tabulation of total concentrations due to the intersection and background.

4.1.1 Roadway Configurations and Geometry

As documented in Section 3.2, the EPA Guideline was followed for the Carbon Monoxide Screening. There are two intersections selected for modeling.

The geometry for the selected intersections have been prepared (see Appendix A) as follows:

- No-Build Alternative: existing configurations measured from to-scale aerials provided by HDR (November 2012).
- Build Alternative (4-Lane): configurations measured from to-scale aerials with added line drawings provided by HDR (dated May 2012); note that there is no configuration change due to the location of the Park-and-Ride location (North or South Options).
- Build Alternative (2-Lane): configurations measured from to-scale aerials with added line drawings provided by HDR (dated May 2012); note that there is no configuration change due to the Roundabout design option and/or the location of the Park-and-Ride location (North or South Options).

4.1.2 Emission Estimates

Carbon monoxide emission factors were estimated using the EPA Mobile 6.2 for the winter season (consistent with episode day conditions) for the 2031 horizon year of the RTP analysis. The MOBILE model was developed by EPA for the purpose of estimating motor vehicle emission factors, in units of grams per mile, for specified vehicle fleet, fuel, temperature and speed conditions. It is important to note that any project-level analysis begun after December 20, 2012 must utilize MOVES2010; the Gilbert Road Extension analysis was begun July 2012.

Mobile 6.2 input files used for the 2031 CO estimates are consistent with the conformity analysis completed in July 2012 and approved by the MAG Regional Council on July 25, 2012, and were obtained from MAG (via May 18, 2012 e-mail from Ieesuck Jung, MAG). The input files include locally-derived motor vehicle registration distribution by model year. July 2011 vehicle registration data from the Arizona Department of Transportation was used as input to the model.

Inspection and maintenance (I/M) program benefits are also assumed in the modeling. The MOBILE 6.2 runs were weighted to account for vehicles driving in the area that do not participate in the I/M program. Consistent with the conformity analysis completed in July 2012, it is assumed that 91.6 percent of eligible onroad vehicles participate in the I/M program.

The inputs also include fuel and temperature assumptions for the winter season. The input files were modified to reflect the 2031 analysis year and average speeds for both free-flow and queue links for the selected intersection. The Guideline recommends that the vehicle speed on the link be obtained from traffic engineering data. Average speeds by segment were based on posted speed limits used in the Synchro modeling as provided by HDR. The vehicle speed for a free-flow link represents the speed experienced by drivers traveling along the link in the absence of the delay caused by the intersection traffic signal. MOBILE6.2 does not directly model idle emission rates for CO. Idling emission rates (in grams per hour) are assumed to be the same as for driving at 2.5 miles per hour. The resulting emission rate is multiplied by the average speed to yield the emission rate in grams per hour. Idle emission rates are used for vehicles in the queue links when stopped at traffic signals.

The output from the MOBILE 6.2 model includes emission factors representative of the PM peak period for the winter season. Appendix B contains the MOBILE6.2 output files; the output provides a summary of input variables and model results. Composite emission factors obtained for the microscale analysis are presented in Table 6 below rounded to one decimal place.

TABLE 6: 2031 CARBON MONOXIDE COMPOSITE EMISSION FACTORS (WINTER SEASON - ALL VEHICLES)

Speed (mph)	I/M Fleet Average	Non-I/M Fleet Average	Composite Fleet Average	Units[1]
Idle	37.095	52.125	38.4	g/hr
2.5	14.838	20.850	15.3	g/mi
30	5.934	7.441	6.1	g/mi
35	6.128	7.687	6.3	g/mi
40	6.335	7.946	6.5	g/mi

[1]g/hr = grams per hour; g/mi = grams per mile.
Source: CAC MOBILE6.2 runs. November 2012.

4.1.3 Dispersion Modeling

The hot-spot analysis was performed using the EPA CAL3QHC Version 2.0 air quality dispersion model. The model was developed to predict pollutant concentrations near roadway intersections and is the recommended model for CO hot-spot analyses. CO levels in the project area were estimated for the selected intersections resulting from the screening analysis for the "with and without" project alternatives for the 2031 horizon year.

Different emission rates occur when vehicles are stopped (idling), accelerating, decelerating and moving at different average speeds. CAL3QHC simplifies these different emission rates into the following two components:

(1) Emissions when vehicles are stopped (idling) during the red phase of a signalized intersection.

(2) Emissions when vehicles are in motion during the green phase of a signalized intersection.

A complete description of the model can be found in the CAL3QHC User's Guide. There are a number of inputs required to execute the CAL3QHC model which are described briefly below.

4.1.3.1 Site Variables

- Averaging time: the most common value is 60 minutes, since most predictions are performed for a one hour period.
- Surface roughness length: should be selected from the CAL3QHC model's recommended values for various land uses. The land use used in the traffic analysis was "City land use, Office". The corresponding surface roughness is 175.00 cm.
- Settling velocity: is set to zero
- Deposition velocity: is set to zero
- Scale conversion factor: if units are in feet, enter 0.3048

4.1.3.2 Receptor Locations

The locations at which concentrations are estimated are known as receptors. The CAL3QHC User's Guide calls for receptors to be located along a queue where the general public is likely to have access. Receptors should not be located within 3 meters (m) of the traveled roadways, where vehicle turbulence does not allow current models to make valid concentration estimates. Receptors should be placed at a height of 1.8 m. Receptors should be placed on both sides of the road near the corner and at mid-block

for each approach and departure at the intersection. It is recommended that receptors be located at 25 m and 50 m from the intersection corner. Receptors should not be located within median strips of roadway or within intersections or crosswalks.

For the CAL3QHC modeling, a receptor was placed at each corner of each intersection according to the Guideline. Additional receptors were placed at 25 and 50 m in each direction on each side of the roadway. Four additional receptors were placed within each corner quadrant for screening purposes, regardless of building locations. If an elevated CO concentration is modeled, additional receptors will be located within the quadrant.

4.1.3.3 Link Data

Free flow links are defined as straight segments of roadway that have a constant width, height, traffic volume, travel speed and vehicle emission factor. The location of the link is specified by its end point coordinates. A new link must be coded when there is a change.

Free flow links were estimated for each turning, approach, and departure lanes from the center of the intersection (0,0). The guidance indicates that a maximum of 300 m (~985 feet) is sufficient for the length of a free-flow link. The link width is defined as the width of the traveled roadway (lanes of moving traffic) plus 3 m (10 feet) on each side to account for the dispersion of the plume generated by the wake of moving vehicles.

Queue links are defined as straight segments of roadway with a constant width and emission source, on which vehicles are idling for a specified period of time. The location of a link is determined by its beginning point and an arbitrary end point which is used to specify the direction of the queue. The actual length of the queue is estimated by the CAL3QHC program based on the traffic volume and capacity of the approach.

Queue links were estimated for each turning and approach lanes from the stop line. The link width is determined by the width of the lanes on which vehicles are idling. Three meters are not added on each side since vehicles are not moving and no wake is generated. The number of travel lanes must also be defined for queue links; these were obtained from the intersection geometries.

The origin for each intersection is located in the center of the intersection with positive x-axis aligned due east and y-axis aligned due north. Since the intersection is “at-grade” and remains as such with the proposed build alternatives, the source height is zero feet.

Additional traffic variables are required for the model. This data was obtained from the HDR Inc. SYNCHRO modeling for the PM peak hour (see Appendix C).

- Traffic volumes for each link in vehicles per hour. Departure volumes are not readily available, but were calculated from the Synchro data. For example, a northbound departure is calculated as follows: northbound through volume plus westbound right turn volume plus eastbound left turn volume.
- Average signal cycle length.
- Average red time length for each approach is calculated using signal timing data from the Synchro reports. Red time for an approach is calculated by subtracting the green time for that approach from the total cycle length. This represents a worst-case assumption because vehicles are not assumed to proceed through the intersection during the yellow phase, permissive left turns on red from one-way streets and permissive right turns on red at an intersection.
- Clearance lost time (portion of the yellow phase that is not used by motorists) is set to the default of 2 seconds per the CAL3QHC guidance.
- Saturation flow rate (vehicles per hour of effective green time) for the protected scenario.
- Traffic signal type is actuated for the intersection analyzed.
- Arrival type of vehicle platoon is set to an average progression which reflects random arrivals.

4.1.3.4 Meteorological Variables

The transport and concentration of pollutants emitted from motor vehicles are influenced by meteorological factors summarized below. The values for these parameters were chosen to maximize pollutant concentrations at each predictions site (i.e., to establish a conservative, worst-case situation).

- Wind speed: CO concentrations are greatest at low wind speeds. A worst-case wind speed of one meter per second (2.2 miles per hour) was used to predict CO concentrations during peak traffic periods.
- Wind direction: Maximum CO concentrations are normally found when the wind is assumed to blow parallel to a roadway adjacent to the receptor location. At complex intersections, however, it is difficult to predict which wind angle will result in maximum concentrations. At each receptor location therefore, the approximate wind angle that would result in maximum pollutant concentrations was used in the analysis. All wind angles from 0 to 350 degrees (in 10 degree increments) were considered.
- Stability class: the atmospheric stability class that should be used for intersection analyses varies by the urban/rural nature of the area surrounding the intersection. The recommended stability class for urban areas is D (4).
- Mixing height: a mixing height (the height in the atmosphere to which pollutants will rise) of 1000 m should be used for all 1-hour and 8-hour estimates.

Seven CAL3QHC runs were executed to estimate the highest 1-hour CO concentration for each intersection for the 2031 analysis year:

- No-Build Alternative
- Build Alternative (4-Lane) with North Park-and Ride Option
- Build Alternative (4-Lane) with South Park-and-Ride Option
- Build Alternative (2-Lane) with North Park-and Ride Option
- Build Alternative (2-Lane) with South Park-and Ride Option
- Build Alternative (2-Lane Roundabouts) with North Park-and Ride Option
- Build Alternative (2-Lane Roundabouts) with South Park-and Ride Option

Note that while the intersection configuration might not change for the various scenarios listed above, the transportation data does. The CO hot-spot analysis was performed for the PM peak traffic period assuming worst-case parameters. This is the period when the greatest air quality effects of the proposed project are expected. Appendix D contains the CAL3QHC output files; the output provides a summary of all input variables and model results. Table 7 below provides a summary of the highest 1-hour CO concentration for 2031 for each of the CAL3QHC runs.

TABLE 7: 2031 1-HOUR HIGHEST CO CONCENTRATION (PPM)[1]

Alternative	Main St / Stapley	Main St / Gilbert
No-Build	1.40	1.80
Build Alternative (4-Lane) with North Park-and Ride Option	1.40	1.70
Build Alternative (4-Lane) with South Park-and-Ride Option	1.40	1.60
Build Alternative (2-Lane) with North Park-and Ride Option	1.10	1.60
Build Alternative (2-Lane) with South Park-and Ride Option	1.00	1.60
Build Alternative (2-Lane Roundabouts) with North Park-and Ride Option	1.00	1.60
Build Alternative (2-Lane Roundabouts) with South Park-and Ride Option	1.00	1.60

[1]Does not include background CO concentrations.
Source: CAC CAL3QHC runs. November 2012.

4.1.4 Persistence Factor

The persistence factor is the relationship between 1-hour and 8-hour traffic volumes and meteorological conditions. Monitoring data is not readily available to determine the persistence factor; therefore, the EPA default value of 0.7 was used to convert from peak 1-hour concentration to a peak 8-hour concentration. The default factor is a reasonably conservative persistence factor based on studies of monitoring data throughout many regions of the country. Table 8 below provides a summary of calculated peak 8-hour concentrations of CO; these values were obtained by multiplying the highest peak 1-hour CO estimates presented in Table 7 by 0.7.

TABLE 8: 2031 8-HOUR HIGHEST CO CONCENTRATION (PPM)[1]

Alternative	Main St / Stapley	Main St / Gilbert
No-Build	0.98	1.26
Build Alternative (4-Lane) with North Park-and Ride Option	0.98	1.19
Build Alternative (4-Lane) with South Park-and-Ride Option	0.98	1.12
Build Alternative (2-Lane) with North Park-and Ride Option	0.77	1.12
Build Alternative (2-Lane) with South Park-and Ride Option	0.70	1.12
Build Alternative (2-Lane Roundabouts) with North Park-and Ride Option	0.70	1.12
Build Alternative (2-Lane Roundabouts) with South Park-and Ride Option	0.70	1.12

[1]Does not include background CO concentrations.
Source: CAC Calculations. November 2012.

4.1.5 Background Concentrations

For project analysis, the Guideline indicates that background concentrations should be determined using local monitoring data. The background concentration should be obtained from a representative background monitoring site not affected by the intersection of interest. Background monitored data should be adjusted for the future. This is accomplished by multiplying the present CO background by the ratio of the future MOBILE CO emission factor to the current MOBILE CO emission factor and multiplying by the ratio of future to current traffic.

Air quality monitoring in the project area was provided in Section 2.3. The Tempe Air Monitoring Site is used to calculate the background concentration because it recorded the highest neighborhood CO values. The maximum 8-hour CO concentration is 3.2 ppm. The MOBILE 6.2 input files were adjusted to produce a 2010 composite emission factor using the methodology described above for the emission estimates (output files included in Appendix B). The ratio of the 2031 emission factor to 2010 emission factor was calculated and averaged for the five travel speeds resulting in a ratio of 0.67. The ratio of future to current traffic was estimated using the regional average weekday vehicle miles of travel documented in Table 3-1 in the MAG 2010 Conformity Analysis which results in a ratio of 1.66. The resulting 8-hour background concentration is 3.56 ppm.

4.2 IMPACTS

Project-level modeling is used to predict CO concentrations resulting from emissions from motor vehicles using roadways immediately adjacent to the location at which predictions are being made. A CO "background" level must be added to this value to account for CO entering the area from other sources upwind of the receptors. The total 8-hour CO concentrations presented in Table 9 are calculated by adding the "background" concentration of 3.56 ppm (per previous paragraph) with the highest 8-hour CO concentrations presented in Table 8.

TABLE 9: 2031 TOTAL 8-HOUR CO CONCENTRATIONS (PPM)[1,2]

Alternative	Main St / Stapley	Main St / Gilbert
No-Build	4.54	4.82
Build Alternative (4-Lane) with North Park-and Ride Option	4.54	4.75
Build Alternative (4-Lane) with South Park-and-Ride Option	4.54	4.68
Build Alternative (2-Lane) with North Park-and Ride Option	4.33	4.68
Build Alternative (2-Lane) with South Park-and Ride Option	4.26	4.68
Build Alternative (2-Lane Roundabouts) with North Park-and Ride Option	4.26	4.68
Build Alternative (2-Lane Roundabouts) with South Park-and Ride Option	4.26	4.68

[1]Total 8-hour concentration = 8-hour highest CO concentration (Table 8) + background concentration (3.56 ppm).
[2]NAAQS for 8-hour CO Concentration = 9 ppm.
Source: CAC calculations. November 2012.

As documented in Chapter 2, the NAAQS for CO is 9 parts per million for the 8-hour average. Total concentrations are estimated for the two intersections that meet the screening criteria. The estimated total concentrations in 2031 for the Build Alternative is approximately 45 percent below the standard. In accordance with EPA guidance, since the selected intersections with the worst LOS and highest traffic volumes do not show exceedances of the CO standard, it is assumed that the Gilbert Road Extension, including the park-and-ride facility, will not result in any exceedances.

4.3 MITIGATION

As previously indicated, additional control measures (beyond those assumed in the regional analysis) were not included in the hot-spot analysis. The impacts estimated for the Gilbert Road Extension project, including the park-and-ride facility, do not indicate an exceedance of the CO standard; therefore, no mitigation is necessary.

5.0 POTENTIAL CONSTRUCTION IMPACTS AND MITIGATION

Construction activities associated with the project would produce air pollutants from two types of sources: exhaust emissions from construction equipment and fugitive dust emissions associated with clearing and grading of the project site. The emissions associated with construction activities are of short-term duration and will cease when the project is built.

5.1 IMPACTS

5.1.1 Regional Analysis

Section 93.122(e)(2) of the federal conformity rule requires that PM_{10} from construction-related fugitive dust be included in the regional PM_{10} emissions analysis, if it is identified as a contributor to the nonattainment problem in a PM_{10} implementation plan. The motor vehicle emissions budget established in the Revised MAG 1999 Serious Area Plan for PM_{10} includes regional reentrained dust from road construction. Emissions from road construction are included as part of the PM_{10} estimates developed for the 2010 conformity analysis, as amended.

5.1.2 Hot-Spot Analysis

According to Section 93.123(c)(5) of the Federal Transportation Conformity Rule, CO and PM_{10} hot-spot analyses are not required to consider construction-related activities which cause temporary increases in emissions. Temporary increases are defined as those which occur only during the construction phase and last five years or less at any individual site.

Valley Metro has confirmed that the Gilbert Road Extension construction period would last less than five years. Consequently, the construction-related activities are considered temporary and do not require further analysis.

5.2 MITIGATION

Maricopa County Air Quality Department (MCAQD) Rule 310 will be applicable to the project. Under the MCAQD Rule 310, a dust control plan is required during the project construction phase. The dust control plan will include control measures to be implemented at the project site and/or in transit to and from the project site for the earth moving and/or dust generating operation. By implementing the requirements under the MCAQD Rule 310, the air quality impacts due to the project should be substantially reduced. As a result, air quality is not anticipated to be adversely affected during the construction phase of the proposed project after implementation of the required control measures.

The temporary impacts anticipated during construction of the Build Alternative and the standard practices that could be implemented to minimize these short-term temporary impacts are summarized below. Contractors would be required to conform to all applicable local and regional air quality regulations during construction. A dust control plan will be developed and implemented per Rule 310 for Fugitive Dust of the Maricopa County Air Quality Department. The contractor must also conform with MAG's Uniform Standard Specifications for Public Works Construction, Section 225 as well as with Valley Metro's master specifications for dust control, applicable City of Mesa construction specifications, and the approved Erosion and Sediment Control Plan or Program as applicable. These regulations and specifications require implementation of Best Management Practices to control fugitive dust from various activities, such as land clearing, earthmoving, and other construction site activities.

Specific Best Management Practices that may be implemented include, but are not limited to:

- Minimize area of land disturbance.
- Use watering trucks to minimize dust.
- Cover trucks when hauling dirt or transferring materials.
- Stabilize surface of dirt piles if not removed immediately.
- Use windbreaks to prevent any accidental dust pollution.
- Limit vehicular paths and stabilize these temporary roads.
- Pave all unpaved construction roads and parking areas to road grade for a length no less than 50 feet where such roads and parking areas exit construction site to prevent dirt from washing onto paved roadways.
- Use dust suppressants on traveled paths which are not paved.
- Minimize dirt track-out by washing or cleaning trucks before leaving construction site.
- Reduce use, trips, and unnecessary idling of heavy equipment.
- Employ periodic, unscheduled inspections to limit unnecessary idling and to ensure that construction equipment is properly maintained and tuned.
- Prohibit tampering with engines and require continuing adherence to manufacturer's recommendations.
- Whenever possible, use alternative fuels such as natural gas and electric.
- Prepare an inventory of all equipment prior to construction and identify the suitability of add-on emissions control device for each piece of equipment before groundbreaking.
- Identify where implementation of mitigation measures is rejected based on economic infeasibility.
- Identify sensitive receptors in the project area, such as daycare centers, senior housing, and hospitals, and specify how impacts to them will be minimized.

Best Management Practices for post construction that may be implemented include, but are not limited to:

- Revegetate any disturbed land not used.
- Remove unused material.
- Remove dirt piles.
- Revegetate all vehicular paths created during construction to avoid future off-road vehicular activities.

6.0 CUMULATIVE IMPACTS

6.1 IMPACTS

The Gilbert Road Extension project is located in Maricopa County; portions of which are designated nonattainment for 8-hour ozone and PM_{10} and maintenance for CO.

The CAA requires that Federal agencies and MPOs not approve any transportation project, program, or plan which does not conform with the approved State Implementation Plan (SIP). The Federal Transportation Conformity Rule requires that FHWA/FTA projects must be found to conform before they are adopted, accepted, approved, or funded. The rule requires both a regional and project-level hot-spot analysis.

Regional Analysis: The Gilbert Road Extension project, including the park-and-ride facility, was included in the MAG TIP/RTP and conformity analysis adopted by the MAG Regional Council in March 2013.

Hot-Spot Analysis: The Gilbert Road Extension project, including the park-and-ride facility, was screened for both CO and PM_{10}. The CO screening resulted in detailed intersection analysis which demonstrated that the estimated total concentrations for the project are approximately 45 percent below the standard. The PM_{10} screening documented that the project was determined NOT to be a Project of Air Quality Concern; therefore, no further PM_{10} analysis was necessary. Construction-related activities were not included in the hot-spot analysis because the construction period is less than five years and considered temporary under the Federal Transportation Conformity Rule.

The hot-spot analysis complies with the Federal Transportation Conformity Rule and indicates that the Gilbert Road Extension project, including the park-and-ride facilities, will not (i) cause or contribute to any new violation of any standard in any area; (ii) increase the frequency or severity of any existing violation of any standard in any area; or (iii) delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.

It is important to note that interagency consultation is a requirement in the Federal Transportation Conformity Rule (Section 93.105) and is required for all actions at all times (see Table 1 of that rule). Furthermore, Section 93.116, which specifies criteria and procedures for localized CO and PM_{10} (hot spots), requires consultation. MAG also has Transportation Conformity Guidance and Procedures for compliance with the Arizona Department of Environmental Quality adopted transportation conformity rules.

While project sponsors are responsible for compliance with the project-level conformity requirements, the project sponsor should work with the applicable MPO to process project-level hot-spot analysis through interagency consultation. This Air Quality Report will be provided to MAG for review. A response to comments received will be included in the Final Report.

7.0 BIBLIOGRAPHY

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Appendix A. Intersection Geometry

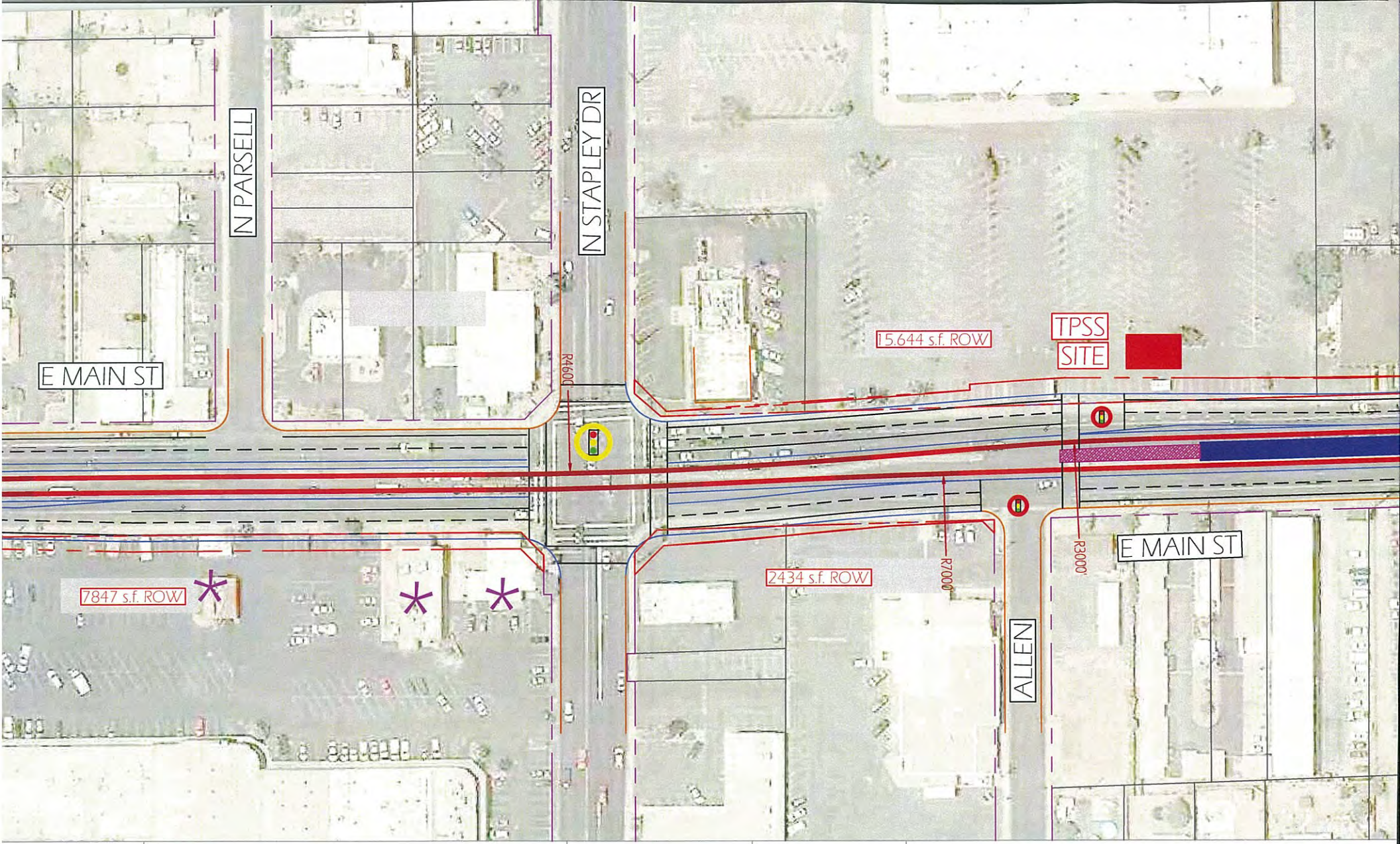
The following figures are included for each of the two intersections shown below:

- Main St / Stapley
- Main St / Gilbert

Figures:

- No-Build Alternative
- Build Alternative (4-Lane)
    - No configuration change between North & South Park-and Ride Options
- Build Alternative (2-Lane) with North Park-and Ride Option
    - No configuration change between North & South Park-and Ride Options
- Build Alternative (2-Lane Roundabouts) with North Park-and Ride Option
    - No configuration change between North & South Park-and Ride Options

Stapley Drive
Main Street
N
0 30 60 90 120 150
Feet
N



T OF WAY
HT OF WAY
RB
HITE PAINT
LOW PAINT
ACK

PROPOSED TRAFFIC SIGNAL
PROPOSED PEDESTRIAN SIGNAL
EXISTING TRAFFIC SIGNAL
PROPOSED STATION
PROPOSED STATION ENTRY
PROPERTY IMPACT STRIKES BUILDING
X s.f. ROW — SQUARE FOOTAGE OF PROPERTY IMPACT

METRO

mesa·az

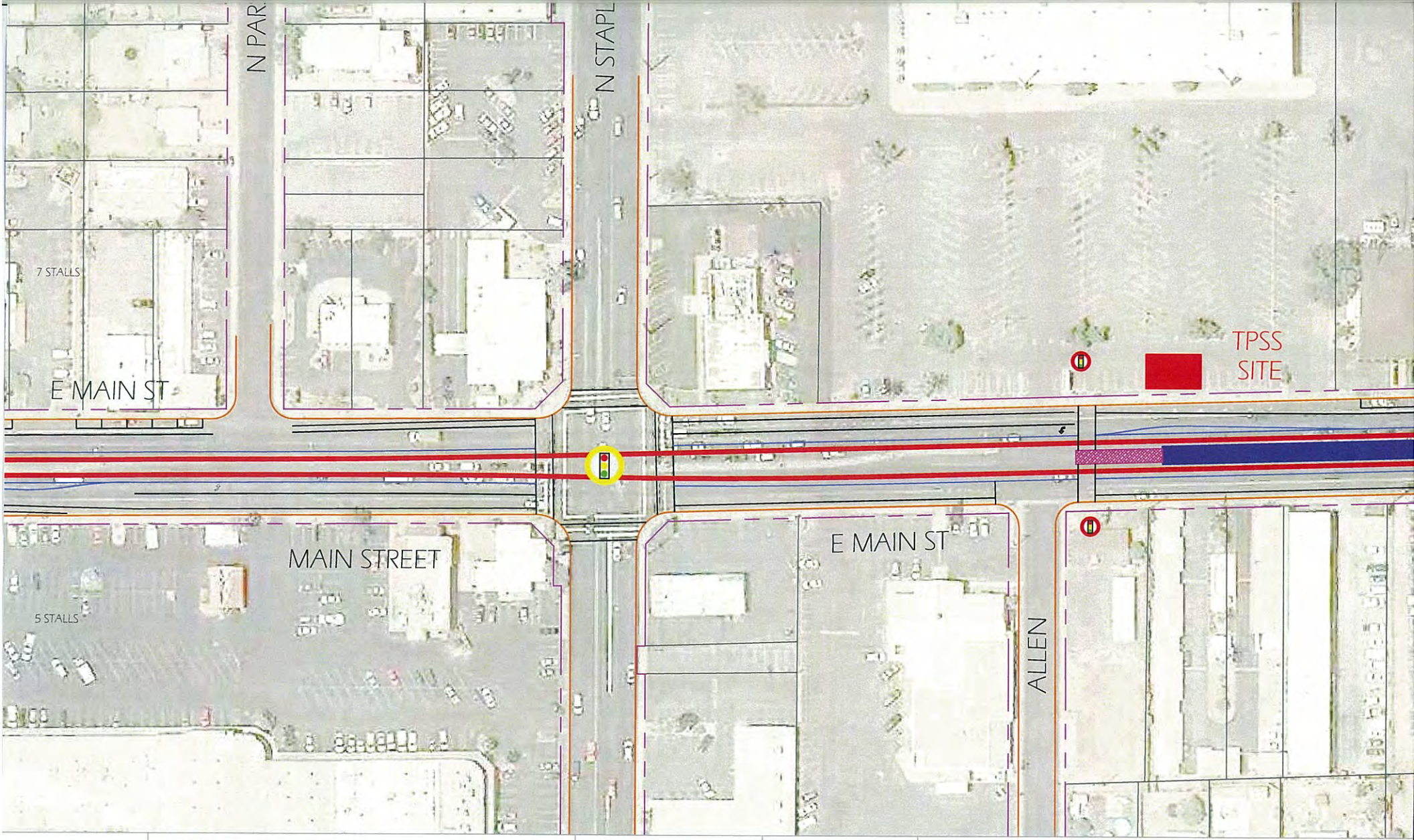
PRELIMINARY
NOT FOR
CONSTRUCTION

MAY 2012

HDR

Build Alternative (4-Lane)

Gilbert Road LRT Extension
Main Street, Mesa Drive to Gilbert Road
Build (4-Lane) Alternative



T OF WAY
HT OF WAY
RB
HITE PAINT
LOW PAINT
ACK

PROPOSED TRAFFIC SIGNAL
PROPOSED PEDESTRIAN SIGNAL
EXISTING TRAFFIC SIGNAL
PROPOSED STATION
PROPOSED STATION ENTRY
PROPERTY IMPACT STRIKES BUILDING
X s.f. ROW SQUARE FOOTAGE OF PROPERTY IMPACT

METRO

mesa·az

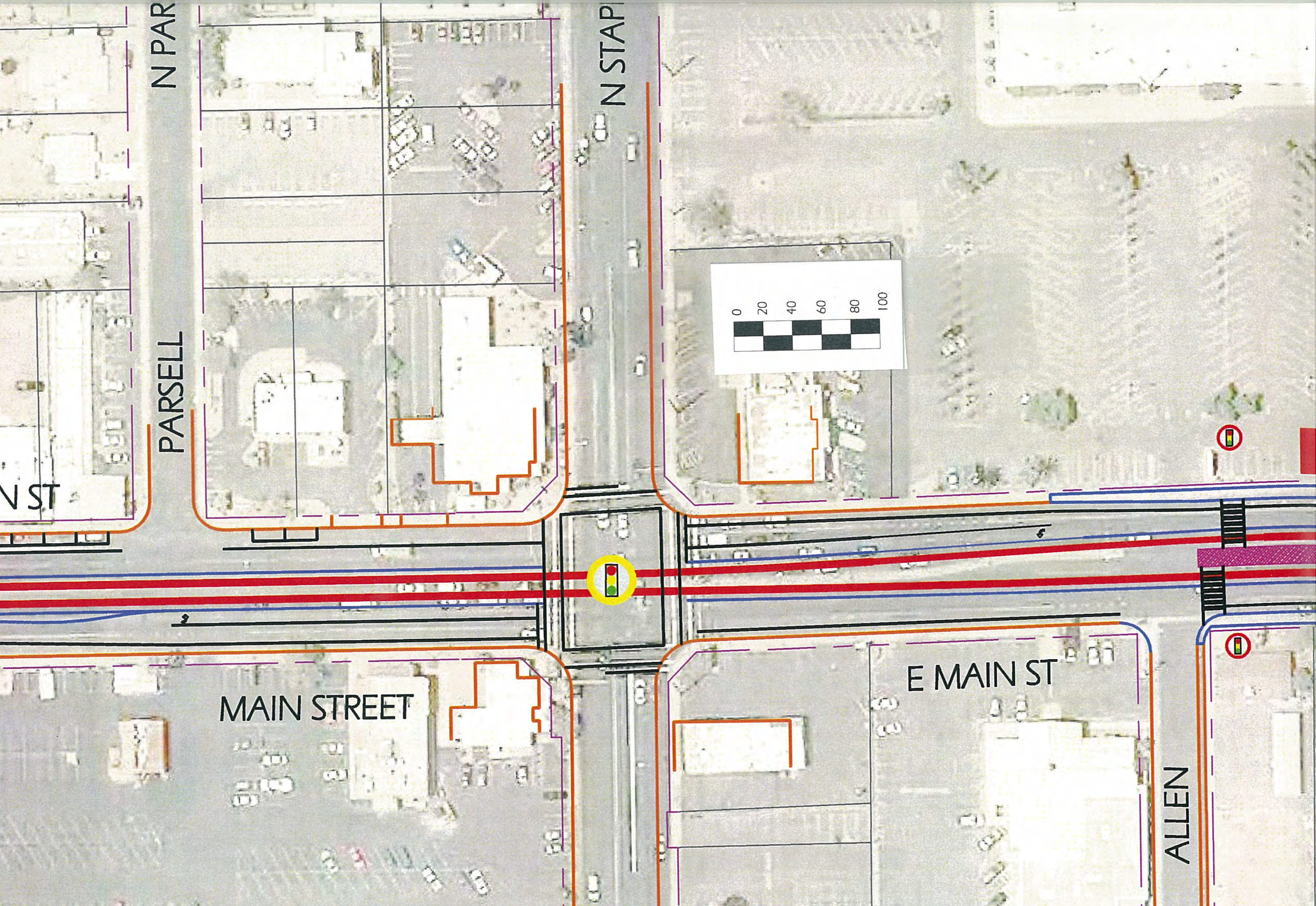
PRELIMINARY
NOT FOR
CONSTRUCTION

MAY 2012

HDR

Build Alternative (2-Lane)

Gilbert Road LRT Extension
Main Street, Mesa Drive to Gilbert Road
Build (2-Lane) Alternative


N PARSELL
N STAPLES
0
20
40
60
80
100
N ST
MAIN STREET
E MAIN ST
ALLEN

Gilbert Road
Main Street
N
0 40 80 120 160 200
Feet
N

PARK AND RIDE
(NORTH OPTION)
10.2 ACRES

TPSS SITE FOR
ORTH OPTION

0 20 40 60 80 100

17,835 s.f. ROW Required
for Roadway

4-LANE

E MAIN ST

S GILBERT RD

PARK AND RIDE
(NORTH OPTION)
10.2 ACRES

TPSS SITE FOR
ORTH OPTION

7184 s.f. ROW Required
for Roadway

0 20 40 60 80 100

S GILBERT RD

E MAIN ST

2 Lane

PARK AND RIDE
(NORTH OPTION)
10.2 ACRES

TPSS SITE FOR
NORTH OPTION

0 20 40 60 80 100

7184 s.f. ROW Required
for Roadway

RIDE
TION)

S GILBERT RD

2-LANE
R.A.

E MAIN ST

Appendix B. MOBILE 6.2 Output Files

```
'*************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                            *
* Input file: GILBI312.IN (file 1, run 1).                              *
*************************************************************************
  M601 Comment:
               User has enabled STAGE II REFUELING.


* Reading non-default I/M CUTPOINTS from the following external
* data file: CUTPNT18.D

* Reading Registration Distributions from the following external
* data file: 117REG32.D
  M 49 Warning:
                  1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                  1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                  1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                  1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                  1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                  1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                  1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                  1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                  1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                  1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                  1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                  1.00     MYR sum not = 1. (will normalize)
  M614 Comment:
               User supplied diesel sale fractions.
```

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* I/M Scenario
* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of  2.5
            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.
  M616 Comment:
                User has supplied post-1999 sulfur levels.
*** I/M credits for Tech1&2 vehicles were read from the following external
    data file: TECH12.D
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2032
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  36.6 (F)
              Maximum Temperature:  66.7 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.0 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  Yes
                 Evap I/M Program:  Yes
                      ATP Program:  Yes
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 1.000
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.035
                                          Alcohol Blend RVP Waiver: No
```

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2819	0.3961	0.1704		0.0402	0.0003	0.0025	0.1045	0.0042	1.0000
Composite Emission Factors (g/mi):										
Composite CO :	13.97	16.59	15.67	16.31	29.62	1.901	1.107	0.960	86.61	14.838

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* I/M Scenario
* File 1, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 35.0
            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.
  M616 Comment:
                User has supplied post-1999 sulfur levels.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2032
                           Month:  Jan.
                        Altitude:  Low
              Minimum Temperature:  36.6 (F)
              Maximum Temperature:  66.7 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.0 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  Yes
                 Evap I/M Program:  Yes
                      ATP Program:  Yes
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 1.000
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.035
                                          Alcohol Blend RVP Waiver: No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2819    0.3961    0.1704              0.0402    0.0003    0.0025    0.1045    0.0042    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :      6.21      7.13      6.51      6.95      4.68     0.520     0.279     0.167     10.10     5.934
  ---------------------------------------------------------------------------------------------------------------------
```

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* I/M Scenario
* File 1, Run 1, Scenario 3.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 40.0
            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.
  M616 Comment:
              User has supplied post-1999 sulfur levels.
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12

                  Calendar Year:  2032
                          Month:  Jan.
                       Altitude:  Low
             Minimum Temperature:  36.6 (F)
             Maximum Temperature:  66.7 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   9.0 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  Yes
                Evap I/M Program:  Yes
                     ATP Program:  Yes
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 1.000
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.035
                                          Alcohol Blend RVP Waiver: No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
             GVWR:                <6000     >6000     (All)
                     ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2819    0.3961    0.1704              0.0402    0.0003    0.0025    0.1045    0.0042    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite CO  :      6.42      7.41      6.77      7.22      4.33     0.493     0.262     0.151      9.26     6.128
  ---------------------------------------------------------------------------------------------------------------------
```

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* I/M Scenario
* File 1, Run 1, Scenario 4.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 45.0
            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.
  M616 Comment:
              User has supplied post-1999 sulfur levels.
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12

                  Calendar Year:  2032
                          Month:  Jan.
                       Altitude:  Low
             Minimum Temperature:  36.6 (F)
             Maximum Temperature:  66.7 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   9.0 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  Yes
                Evap I/M Program:  Yes
                     ATP Program:  Yes
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 1.000
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.035
                                          Alcohol Blend RVP Waiver: No
```

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2819	0.3961	0.1704		0.0402	0.0003	0.0025	0.1045	0.0042	1.0000
Composite Emission Factors (g/mi):										
Composite CO :	6.63	7.69	7.03	7.49	4.24	0.479	0.254	0.143	8.73	6.335

```
*******************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                                  *
* Input file: GILBN31.IN (file 1, run 1).                                     *
*******************************************************************************

* Reading Registration Distributions from the following external
* data file: 117REG32.D
  M 49 Warning:
                1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                1.00     MYR sum not = 1. (will normalize)
  M614 Comment:
              User supplied diesel sale fractions.
```

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* I/M Scenario
* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of  2.5
            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.
  M616 Comment:
                User has supplied post-1999 sulfur levels.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2032
                           Month:  Jan.
                        Altitude:  Low
              Minimum Temperature:  36.6 (F)
              Maximum Temperature:  66.7 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.0 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                       ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 1.000
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.035
                                          Alcohol Blend RVP Waiver: No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                 <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2819    0.3961    0.1704              0.0402    0.0003    0.0025    0.1045    0.0042    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     20.63     24.06     21.87     23.40     32.63     1.901     1.107     0.960     86.61    20.850
  ---------------------------------------------------------------------------------------------------------------------
```

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* I/M Scenario
* File 1, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 35.0
            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.
  M616 Comment:
              User has supplied post-1999 sulfur levels.
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12

                   Calendar Year:  2032
                           Month:  Jan.
                        Altitude:  Low
             Minimum Temperature:  36.6 (F)
             Maximum Temperature:  66.7 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   9.0 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 1.000
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.035
                                          Alcohol Blend RVP Waiver: No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2819    0.3961    0.1704              0.0402    0.0003    0.0025    0.1045    0.0042    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :      7.71      9.11      8.16      8.83      5.16     0.520     0.279     0.167     10.10     7.441
  ---------------------------------------------------------------------------------------------------------------------
```

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* I/M Scenario
* File 1, Run 1, Scenario 3.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 40.0
            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.
  M616 Comment:
              User has supplied post-1999 sulfur levels.
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12

                  Calendar Year:  2032
                          Month:  Jan.
                       Altitude:  Low
             Minimum Temperature:  36.6 (F)
             Maximum Temperature:  66.7 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   9.0 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 1.000
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.035
                                          Alcohol Blend RVP Waiver: No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
             GVWR:                <6000     >6000     (All)
                     ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2819    0.3961    0.1704              0.0402    0.0003    0.0025    0.1045    0.0042    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite CO  :      7.98      9.46      8.48      9.16      4.77     0.493     0.262     0.151      9.26     7.687
  ---------------------------------------------------------------------------------------------------------------------
```

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* I/M Scenario
* File 1, Run 1, Scenario 4.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 45.0
            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.
  M616 Comment:
              User has supplied post-1999 sulfur levels.
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12

                  Calendar Year:  2032
                          Month:  Jan.
                       Altitude:  Low
             Minimum Temperature:  36.6 (F)
             Maximum Temperature:  66.7 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   9.0 psi
                   Weathered RVP:   9.0 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 1.000
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.035
                                          Alcohol Blend RVP Waiver: No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:    0.2819    0.3961    0.1704              0.0402    0.0003    0.0025    0.1045    0.0042    1.0000
  ---------------------------------------------------------------------------------------------------------------------
  Composite Emission Factors (g/mi):
      Composite CO  :      8.24      9.80      8.80      9.50      4.67     0.479     0.254     0.143      8.73     7.946
  ---------------------------------------------------------------------------------------------------------------------
```

```
*************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                            *
* Input file: GILBI10.IN (file 1, run 1).                               *
*************************************************************************
  M601 Comment:
               User has enabled STAGE II REFUELING.


* Reading non-default I/M CUTPOINTS from the following external
* data file: CUTPNT11.D

* Reading Registration Distributions from the following external
* data file: 117REG11.D
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                 1.00     MYR sum not = 1. (will normalize)
  M614 Comment:
               User supplied diesel sale fractions.
```

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* I/M Scenario
* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of  2.5
            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.
  M616 Comment:
                User has supplied post-1999 sulfur levels.
*** I/M credits for Tech1&2 vehicles were read from the following external
    data file: TECH12.D
  M 48 Warning:
              there are no sales for vehicle class HDGV8b

                    Calendar Year:  2032
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  36.6 (F)
              Maximum Temperature:  66.7 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.0 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  Yes
                 Evap I/M Program:  Yes
                      ATP Program:  Yes
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 1.000
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.035
                                          Alcohol Blend RVP Waiver: No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                <6000     >6000     (All)
                      ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2814    0.3955    0.1701              0.0405    0.0003    0.0025    0.1055    0.0042    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     13.97     16.59     15.67     16.31     29.58     1.916     1.102     0.960     86.61    14.826
  ---------------------------------------------------------------------------------------------------------------------
```

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* I/M Scenario
* File 1, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 35.0
            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.
  M616 Comment:
                User has supplied post-1999 sulfur levels.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b

                    Calendar Year:  2032
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  36.6 (F)
              Maximum Temperature:  66.7 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.0 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  Yes
                 Evap I/M Program:  Yes
                      ATP Program:  Yes
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 1.000
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.035
                                          Alcohol Blend RVP Waiver: No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
                GVWR:                <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2814    0.3955    0.1701              0.0405    0.0003    0.0025    0.1055    0.0042    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :      6.21      7.13      6.51      6.95      4.68     0.529     0.276     0.167     10.10     5.927
  ---------------------------------------------------------------------------------------------------------------------
```

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* I/M Scenario
* File 1, Run 1, Scenario 3.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 40.0
            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.
  M616 Comment:
                User has supplied post-1999 sulfur levels.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b

                    Calendar Year:  2032
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  36.6 (F)
              Maximum Temperature:  66.7 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.0 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  Yes
                 Evap I/M Program:  Yes
                      ATP Program:  Yes
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 1.000
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.035
                                          Alcohol Blend RVP Waiver: No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                 <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2814    0.3955    0.1701              0.0405    0.0003    0.0025    0.1055    0.0042    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :      6.42      7.41      6.77      7.22      4.33     0.501     0.259     0.151      9.26     6.121
  ---------------------------------------------------------------------------------------------------------------------
```

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* I/M Scenario
* File 1, Run 1, Scenario 4.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 45.0
            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.
  M616 Comment:
                User has supplied post-1999 sulfur levels.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b

                    Calendar Year:  2032
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  36.6 (F)
              Maximum Temperature:  66.7 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.0 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  Yes
                 Evap I/M Program:  Yes
                      ATP Program:  Yes
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 1.000
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.035
                                          Alcohol Blend RVP Waiver: No
```

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2814	0.3955	0.1701		0.0405	0.0003	0.0025	0.1055	0.0042	1.0000
Composite Emission Factors (g/mi):										
Composite CO :	6.63	7.69	7.03	7.49	4.23	0.488	0.251	0.143	8.73	6.327

```
*************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                            *
* Input file: GILBN10.IN (file 1, run 1).                               *
*************************************************************************

* Reading Registration Distributions from the following external
* data file: 117REG11.D
  M 49 Warning:
                1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                1.00     MYR sum not = 1. (will normalize)
  M 49 Warning:
                1.00     MYR sum not = 1. (will normalize)
  M614 Comment:
              User supplied diesel sale fractions.
```

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* I/M Scenario
* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of  2.5
            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.
  M616 Comment:
                User has supplied post-1999 sulfur levels.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b

                    Calendar Year:  2032
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  36.6 (F)
              Maximum Temperature:  66.7 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.0 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 1.000
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.035
                                          Alcohol Blend RVP Waiver: No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                 <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2814    0.3955    0.1701              0.0405    0.0003    0.0025    0.1055    0.0042    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :     20.62     24.06     21.87     23.40     32.56     1.916     1.102     0.960     86.61    20.829
  ---------------------------------------------------------------------------------------------------------------------
```

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* I/M Scenario
* File 1, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 35.0
            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.
  M616 Comment:
                User has supplied post-1999 sulfur levels.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b

                    Calendar Year:  2032
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  36.6 (F)
              Maximum Temperature:  66.7 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.0 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 1.000
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.035
                                          Alcohol Blend RVP Waiver: No
```

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2814	0.3955	0.1701		0.0405	0.0003	0.0025	0.1055	0.0042	1.0000
Composite Emission Factors (g/mi):										
Composite CO :	7.71	9.11	8.17	8.83	5.15	0.529	0.276	0.167	10.10	7.431

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* I/M Scenario
* File 1, Run 1, Scenario 3.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 40.0
            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.
  M616 Comment:
                User has supplied post-1999 sulfur levels.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b

                    Calendar Year:  2032
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  36.6 (F)
              Maximum Temperature:  66.7 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.0 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 1.000
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.035
                                          Alcohol Blend RVP Waiver: No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2814    0.3955    0.1701              0.0405    0.0003    0.0025    0.1055    0.0042    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :      7.98      9.46      8.49      9.16      4.76     0.501     0.259     0.151      9.26     7.677
  ---------------------------------------------------------------------------------------------------------------------
```

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* I/M Scenario
* File 1, Run 1, Scenario 4.
* # # # # # # # # # # # # # # # # # # # # # # # # #
  M583 Warning:
            The user supplied arterial average speed of 45.0
            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.
  M616 Comment:
                User has supplied post-1999 sulfur levels.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b

                    Calendar Year:  2032
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  36.6 (F)
              Maximum Temperature:  66.7 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   9.0 psi
                    Weathered RVP:   9.0 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

   Ether Blend Market Share: 0.000       Alcohol Blend Market Share: 1.000
   Ether Blend Oxygen Content: 0.000     Alcohol Blend Oxygen Content: 0.035
                                          Alcohol Blend RVP Waiver: No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
              GVWR:                 <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2814    0.3955    0.1701              0.0405    0.0003    0.0025    0.1055    0.0042    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite CO  :      8.24      9.80      8.80      9.50      4.66     0.488     0.251     0.143      8.73     7.936
  ---------------------------------------------------------------------------------------------------------------------
```

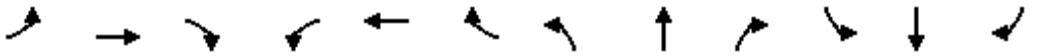
Appendix C. SYNCHRO Files

The following reports are included for each of the two intersections listed below:

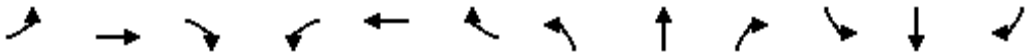
- Main St / Stapley
- Main St / Gilbert

Reports:

- No-Build Alternative
- Build Alternative (4-Lane) with North Park-and Ride Option
- Build Alternative (4-Lane) with South Park-and-Ride Option
- Build Alternative (2-Lane) with North Park-and Ride Option
- Build Alternative (2-Lane) with South Park-and Ride Option
- Build Alternative (2-Lane Roundabouts) with North Park-and Ride Option
- Build Alternative (2-Lane Roundabouts) with South Park-and Ride Option



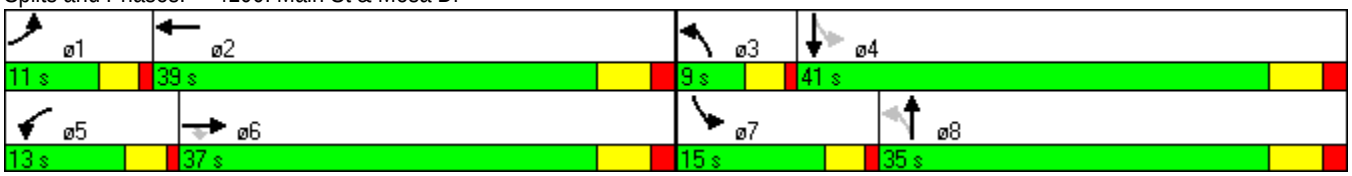
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	62	594	140	184	230	69	119	928	58	295	1118	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		120	110		145	145		0	205		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99		0.96	0.99	0.99		1.00	1.00			1.00	
Frt			0.850		0.965			0.991			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1552	1319	1770	3108	0	1770	3484	0	1770	3497	0
Flt Permitted	0.950			0.950			0.142			0.124		
Satd. Flow (perm)	1759	1552	1269	1755	3108	0	264	3484	0	231	3497	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			73		43			7			2	
Link Speed (mph)		30			35			40			40	
Link Distance (ft)		509			387			1326			975	
Travel Time (s)		11.6			7.5			22.6			16.6	
Confl. Peds. (#/hr)	5		11	11		5	13		8	8		13
Confl. Bikes (#/hr)			9			3			7			5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	12	12	0	12	12	0	2	0	0	4	0
Parking (#/hr)		5	5		5	5						
Adj. Flow (vph)	67	646	152	200	250	75	129	1009	63	321	1215	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	67	646	152	200	325	0	129	1072	0	321	1238	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.26	1.26	1.00	1.12	1.00	1.00	1.01	1.00	1.00	1.01	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

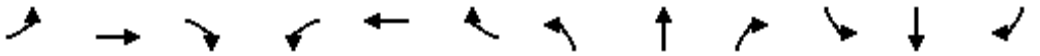


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot		Perm	Prot			pm+pt			pm+pt		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6				8	8		4	4	
Detector Phase	1	6	6	5	2		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.0	25.0	25.0	8.0	25.0		8.0	30.0		8.0	33.0	
Total Split (s)	11.0	37.0	37.0	13.0	39.0	0.0	9.0	35.0	0.0	15.0	41.0	0.0
Total Split (%)	11.0%	37.0%	37.0%	13.0%	39.0%	0.0%	9.0%	35.0%	0.0%	15.0%	41.0%	0.0%
Maximum Green (s)	7.0	31.0	31.0	9.0	33.0		5.0	29.0		11.0	35.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	-2.0	-2.0	0.0	-2.0	-2.0	0.0	-2.0	0.0	0.0	-2.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	2.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)		4.0	4.0		4.0			4.0			4.0	
Flash Dont Walk (s)		12.0	12.0		12.0			17.0			23.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	6.8	33.0	33.0	9.0	37.2		36.0	31.0		46.0	37.0	
Actuated g/C Ratio	0.07	0.33	0.33	0.09	0.37		0.36	0.31		0.46	0.37	
v/c Ratio	0.56	1.26	0.32	1.26	0.27		0.76	0.99		1.16	0.96	
Control Delay	63.4	163.9	15.4	195.0	25.6		47.8	59.6		130.5	47.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	63.4	163.9	15.4	195.0	25.6		47.8	59.6		130.5	47.9	
LOS	E	F	B	F	C		D	E		F	D	
Approach Delay		130.0			90.1			58.3			64.9	
Approach LOS		F			F			E			E	

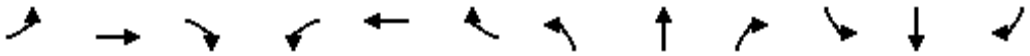
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 56 (56%), Referenced to phase 4:SBTL and 8:NBTL, Start of Yellow			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.26			
Intersection Signal Delay: 79.8		Intersection LOS: E	
Intersection Capacity Utilization 98.7%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 4100: Main St & Mesa Dr





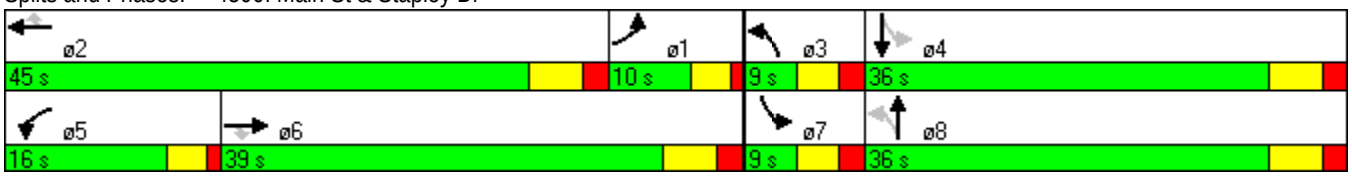
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	34	931	142	147	619	74	98	847	79	103	880	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	210		205	105		200	135		0	150		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00		0.98	1.00		0.98	1.00	1.00		1.00	1.00	
Frt			0.850			0.850		0.987			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3234	1314	1770	3234	1314	1770	3474	0	1770	3509	0
Flt Permitted	0.950			0.950			0.135			0.134		
Satd. Flow (perm)	1765	3234	1287	1767	3234	1287	251	3474	0	249	3509	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			147			80		10			3	
Link Speed (mph)		35			40			40			40	
Link Distance (ft)		1043			1306			1316			1315	
Travel Time (s)		20.3			22.3			22.4			22.4	
Confl. Peds. (#/hr)	5		5	5		5	5		5	5		5
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	6	6	0	6	6	0	2	0	0	2	0
Parking (#/hr)		10	10		10	10						
Adj. Flow (vph)	37	1012	154	160	673	80	107	921	86	112	957	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	1012	154	160	673	80	107	1007	0	112	985	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.12	1.27	1.00	1.12	1.27	1.00	1.01	1.00	1.00	1.01	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

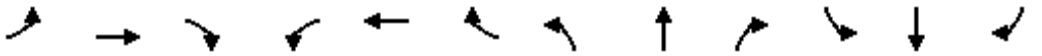


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot		Perm	Prot		Perm	pm+pt			pm+pt		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6			2	8			4		
Detector Phase	1	6	6	5	2	2	3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	8.0	27.0	27.0	8.0	27.0	27.0	9.0	33.0		9.0	33.0	
Total Split (s)	10.0	39.0	39.0	16.0	45.0	45.0	9.0	36.0	0.0	9.0	36.0	0.0
Total Split (%)	10.0%	39.0%	39.0%	16.0%	45.0%	45.0%	9.0%	36.0%	0.0%	9.0%	36.0%	0.0%
Maximum Green (s)	6.0	33.0	33.0	12.0	39.0	39.0	4.0	30.0		4.0	30.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	-2.0	-2.0	0.0	-2.0	-2.0	-1.0	-2.0	0.0	-1.0	-2.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Dont Walk (s)		14.0	14.0		14.0	14.0		20.0			20.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	10.6	34.7	34.7	11.5	39.5	39.5	37.8	32.3		37.9	32.3	
Actuated g/C Ratio	0.11	0.35	0.35	0.12	0.40	0.40	0.38	0.32		0.38	0.32	
v/c Ratio	0.20	0.90	0.28	0.79	0.53	0.14	0.60	0.89		0.63	0.87	
Control Delay	38.4	38.0	3.9	46.9	22.5	7.8	35.0	43.5		37.0	41.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	38.4	38.0	3.9	46.9	22.5	7.8	35.0	43.5		37.0	41.4	
LOS	D	D	A	D	C	A	D	D		D	D	
Approach Delay		33.6			25.5			42.7			41.0	
Approach LOS		C			C			D			D	

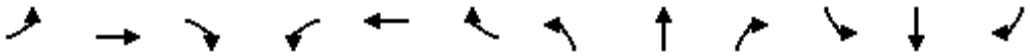
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 14 (14%), Referenced to phase 4:SBTL and 8:NBTL, Start of Yellow			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 36.1		Intersection LOS: D	
Intersection Capacity Utilization 78.9%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 4500: Main St & Stapley Dr





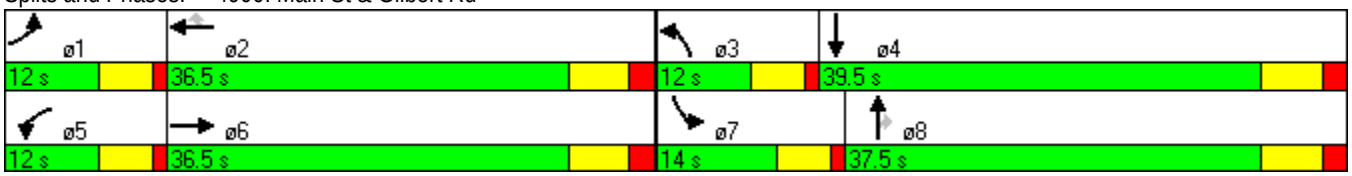
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	141	983	232	225	667	132	229	1172	217	279	1318	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	215		0	225		0	245		245	195		0
Storage Lanes	2		0	2		1	2		1	2		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	0.97	0.91	0.91	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	0.91
Ped Bike Factor	1.00	1.00		1.00		0.98	1.00		0.95	0.99	1.00	
Frt		0.971				0.850			0.850		0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	4638	0	3433	3278	1352	3433	5079	1577	3433	5009	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3420	4638	0	3431	3278	1320	3429	5079	1503	3413	5009	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		57				143			183		15	
Link Speed (mph)		40			45			45			45	
Link Distance (ft)		863			1238			1316			1502	
Travel Time (s)		14.7			18.8			19.9			22.8	
Confl. Peds. (#/hr)	10		4	4		10	9		32	32		9
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	6	0	0	6	6	0	1	1	0	1	0
Parking (#/hr)		10	10		5	5						
Adj. Flow (vph)	153	1068	252	245	725	143	249	1274	236	303	1433	122
Shared Lane Traffic (%)												
Lane Group Flow (vph)	153	1320	0	245	725	143	249	1274	236	303	1555	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.08	1.00	1.00	1.10	1.22	1.00	1.00	1.01	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

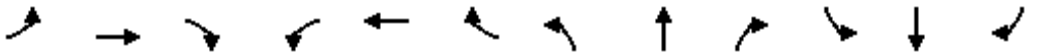


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases						2			8			
Detector Phase	1	6		5	2	2	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.0	36.5		9.0	34.5	34.5	9.0	34.5	34.5	9.0	36.5	
Total Split (s)	12.0	36.5	0.0	12.0	36.5	36.5	12.0	37.5	37.5	14.0	39.5	0.0
Total Split (%)	12.0%	36.5%	0.0%	12.0%	36.5%	36.5%	12.0%	37.5%	37.5%	14.0%	39.5%	0.0%
Maximum Green (s)	7.0	30.0		7.0	30.0	30.0	7.0	31.0	31.0	9.0	33.0	
Yellow Time (s)	4.0	4.5		4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	
All-Red Time (s)	1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.5	0.0	-0.5	-1.5	-1.5	-1.0	-2.5	-2.5	-0.5	-2.5	0.0
Total Lost Time (s)	4.0	5.0	4.0	4.5	5.0	5.0	4.0	4.0	4.0	4.5	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	2.0		2.0	2.0	2.0	3.0	3.0	3.0	2.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	
Walk Time (s)		4.0			4.0	4.0		4.0	4.0		4.0	
Flash Dont Walk (s)		26.0			24.0	24.0		24.0	24.0		23.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	8.0	31.1		7.5	31.1	31.1	8.4	33.5	33.5	9.9	35.5	
Actuated g/C Ratio	0.08	0.31		0.08	0.31	0.31	0.08	0.34	0.34	0.10	0.36	
v/c Ratio	0.56	0.89		0.95	0.71	0.28	0.86	0.75	0.38	0.89	0.87	
Control Delay	55.3	22.0		80.6	49.7	17.2	73.2	32.8	8.6	73.7	36.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	55.3	22.0		80.6	49.7	17.2	73.2	32.8	8.6	73.7	36.3	
LOS	E	C		F	D	B	E	C	A	E	D	
Approach Delay		25.4			52.3			35.3			42.4	
Approach LOS		C			D			D			D	

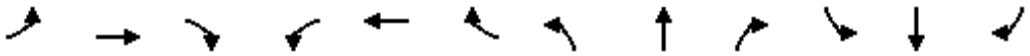
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 98 (98%), Referenced to phase 4:SBT and 8:NBT, Start of Yellow			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 38.1		Intersection LOS: D	
Intersection Capacity Utilization 79.9%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 4900: Main St & Gilbert Rd





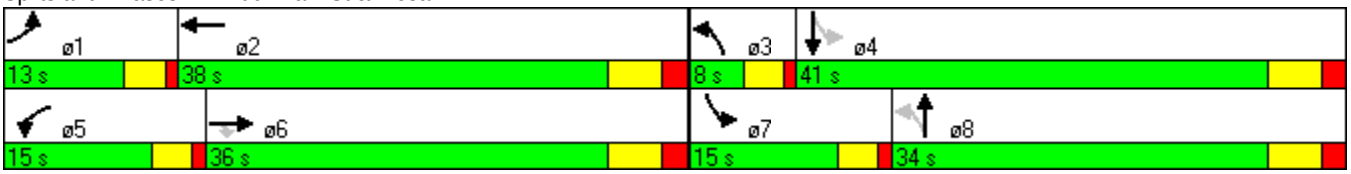
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	66	587	140	184	228	70	122	919	58	297	1113	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		120	110		145	145		0	205		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99		0.96	0.99	0.99		1.00	0.98			1.00	
Frt			0.850		0.965			0.991			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1803	1533	1770	3341	0	1770	3438	0	1770	3498	0
Flt Permitted	0.950			0.950			0.147			0.128		
Satd. Flow (perm)	1757	1803	1470	1753	3341	0	273	3438	0	238	3498	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			73		44			7			2	
Link Speed (mph)		30			35			40			40	
Link Distance (ft)		509			387			1326			975	
Travel Time (s)		11.6			7.5			22.6			16.6	
Confl. Peds. (#/hr)	6		12	12		6	15		103	103		15
Confl. Bikes (#/hr)			10			4			7			6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	8	8	0	8	0	0	2	0	0	4	0
Adj. Flow (vph)	72	638	152	200	248	76	133	999	63	323	1210	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	638	152	200	324	0	133	1062	0	323	1234	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.04	1.00	1.02	1.00	1.00	1.01	1.00	1.00	1.01	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

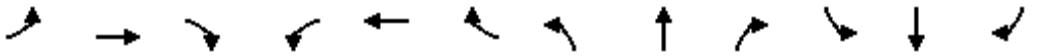


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot		Perm	Prot			pm+pt			pm+pt		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6				8	8		4	4	
Detector Phase	1	6	6	5	2		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.0	25.0	25.0	8.0	25.0		8.0	30.0		8.0	33.0	
Total Split (s)	13.0	36.0	36.0	15.0	38.0	0.0	8.0	34.0	0.0	15.0	41.0	0.0
Total Split (%)	13.0%	36.0%	36.0%	15.0%	38.0%	0.0%	8.0%	34.0%	0.0%	15.0%	41.0%	0.0%
Maximum Green (s)	9.0	30.0	30.0	11.0	32.0		4.0	28.0		11.0	35.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	-2.0	-2.0	0.0	-2.0	-2.0	0.0	-2.0	0.0	0.0	-2.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	2.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)		4.0	4.0		4.0			4.0			4.0	
Flash Dont Walk (s)		12.0	12.0		12.0			17.0			23.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	8.1	32.0	32.0	11.0	36.8		34.0	30.0		45.0	37.0	
Actuated g/C Ratio	0.08	0.32	0.32	0.11	0.37		0.34	0.30		0.45	0.37	
v/c Ratio	0.50	1.11	0.29	1.03	0.26		0.87	1.03		1.17	0.95	
Control Delay	55.9	103.4	15.2	124.3	11.9		69.7	69.8		133.1	47.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	55.9	103.4	15.2	124.3	11.9		69.7	69.8		133.1	47.3	
LOS	E	F	B	F	B		E	E		F	D	
Approach Delay		83.9			54.8			69.7			65.1	
Approach LOS		F			D			E			E	

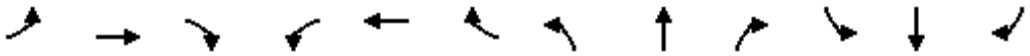
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 1 (1%), Referenced to phase 4:SBTL and 8:NBTL, Start of Yellow			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.17			
Intersection Signal Delay: 69.1		Intersection LOS: E	
Intersection Capacity Utilization 98.5%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 4100: Main St & Mesa Dr





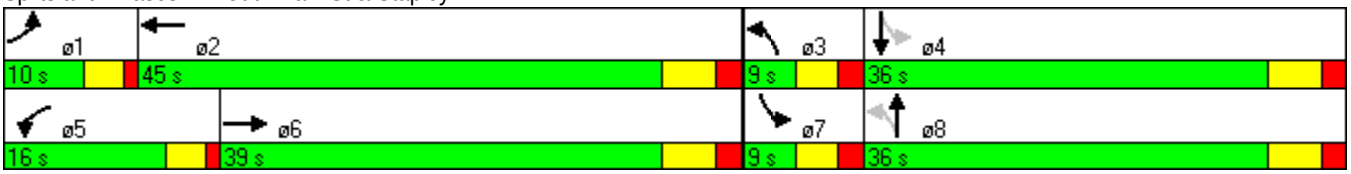
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	931	142	180	633	106	99	843	81	101	878	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	375		205	375		200	135		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	1.00		1.00	1.00		1.00	0.99		0.99	1.00	
Frt		0.980			0.979			0.987			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3413	0	1770	3413	0	1770	3458	0	1770	3509	0
Flt Permitted	0.950			0.950			0.136			0.136		
Satd. Flow (perm)	1769	3413	0	1765	3413	0	253	3458	0	251	3509	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			23			11			3	
Link Speed (mph)		35			40			40			40	
Link Distance (ft)		1043			593			1316			1315	
Travel Time (s)		20.3			10.1			22.4			22.4	
Confl. Peds. (#/hr)	1		10	10		1	8		51	51		8
Confl. Bikes (#/hr)			8			13			3			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	6	0	0	6	0	0	2	0	0	2	0
Adj. Flow (vph)	33	1012	154	196	688	115	108	916	88	110	954	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	1166	0	196	803	0	108	1004	0	110	982	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.02	1.00	1.00	1.02	1.00	1.00	1.01	1.00	1.00	1.01	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

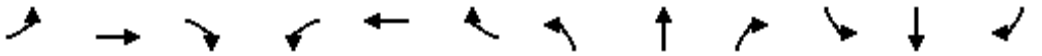


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot			Prot			pm+pt			pm+pt		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases							8			4		
Detector Phase	1	6		5	2		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.0	27.0		8.0	27.0		9.0	33.0		9.0	33.0	
Total Split (s)	10.0	39.0	0.0	16.0	45.0	0.0	9.0	36.0	0.0	9.0	36.0	0.0
Total Split (%)	10.0%	39.0%	0.0%	16.0%	45.0%	0.0%	9.0%	36.0%	0.0%	9.0%	36.0%	0.0%
Maximum Green (s)	6.0	33.0		12.0	39.0		4.0	30.0		4.0	30.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	-2.0	-2.0	0.0	-2.0	-2.0	-1.0	-2.0	0.0	-1.0	-2.0	0.0
Total Lost Time (s)	4.0	4.0	2.0	4.0	4.0	2.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		14.0			14.0			20.0			20.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	5.9	35.0		12.0	45.0		37.0	32.0		37.0	32.0	
Actuated g/C Ratio	0.06	0.35		0.12	0.45		0.37	0.32		0.37	0.32	
v/c Ratio	0.32	0.97		0.92	0.52		0.64	0.90		0.65	0.87	
Control Delay	42.7	46.3		97.7	14.7		38.3	44.5		39.3	42.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	42.7	46.3		97.7	14.7		38.3	44.5		39.3	42.0	
LOS	D	D		F	B		D	D		D	D	
Approach Delay		46.2			31.0			43.9			41.8	
Approach LOS		D			C			D			D	

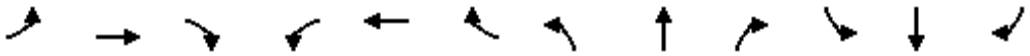
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 69 (69%), Referenced to phase 4:SBTL and 8:NBTL, Start of Yellow			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 41.1		Intersection LOS: D	
Intersection Capacity Utilization 85.5%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 4500: Main St & Stapley Dr





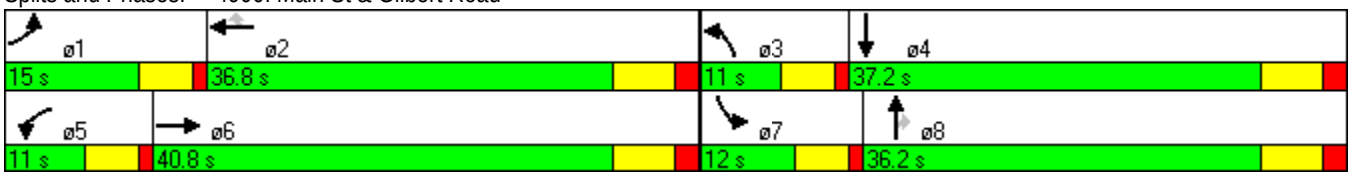
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	1009	267	224	687	149	241	1183	218	331	1363	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	550		0	225		595	245		245	195		0
Storage Lanes	1		0	2		1	2		1	2		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	0.95	0.95	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	0.91
Ped Bike Factor	1.00	1.00		1.00		0.98	1.00		0.74	0.93	1.00	
Frt		0.969				0.850			0.850		0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3335	0	3433	3454	1507	3433	5079	1577	3433	5013	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1762	3335	0	3431	3454	1470	3426	5079	1171	3194	5013	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		37				162			166		14	
Link Speed (mph)		40			45			45			45	
Link Distance (ft)		554			1238			1316			575	
Travel Time (s)		9.4			18.8			19.9			8.7	
Confl. Peds. (#/hr)	11		5	5		11	10		233	233		10
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	12	0	0	12	12	0	1	1	0	1	0
Adj. Flow (vph)	152	1097	290	243	747	162	262	1286	237	360	1482	122
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	1387	0	243	747	162	262	1286	237	360	1604	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.03	1.00	1.00	1.03	1.07	1.00	1.00	1.01	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

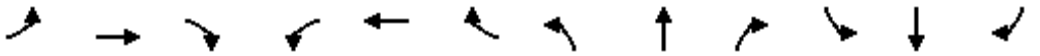


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases						2			8			
Detector Phase	1	6		5	2	2	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.0	36.5		9.0	34.5	34.5	9.0	34.5	34.5	9.0	36.5	
Total Split (s)	15.0	40.8	0.0	11.0	36.8	36.8	11.0	36.2	36.2	12.0	37.2	0.0
Total Split (%)	15.0%	40.8%	0.0%	11.0%	36.8%	36.8%	11.0%	36.2%	36.2%	12.0%	37.2%	0.0%
Maximum Green (s)	10.0	34.3		6.0	30.3	30.3	6.0	29.7	29.7	7.0	30.7	
Yellow Time (s)	4.0	4.5		4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	
All-Red Time (s)	1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.5	0.0	-0.5	-1.5	-1.5	-1.0	-2.5	-2.5	-0.5	-2.5	0.0
Total Lost Time (s)	4.0	5.0	4.0	4.5	5.0	5.0	4.0	4.0	4.0	4.5	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	2.0		2.0	2.0	2.0	3.0	3.0	3.0	2.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	
Walk Time (s)		4.0			4.0	4.0		4.0	4.0		4.0	
Flash Dont Walk (s)		26.0			24.0	24.0		24.0	24.0		23.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	10.9	35.8		6.5	31.9	31.9	7.0	32.2	32.2	7.5	33.2	
Actuated g/C Ratio	0.11	0.36		0.06	0.32	0.32	0.07	0.32	0.32	0.08	0.33	
v/c Ratio	0.79	1.14		1.09	0.68	0.28	1.09	0.79	0.48	1.40	0.96	
Control Delay	57.5	106.4		119.7	29.9	10.2	129.4	35.0	12.5	238.2	47.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	57.5	106.4		119.7	29.9	10.2	129.4	35.0	12.5	238.2	47.1	
LOS	E	F		F	C	B	F	C	B	F	D	
Approach Delay		101.5			46.1			45.8			82.2	
Approach LOS		F			D			D			F	

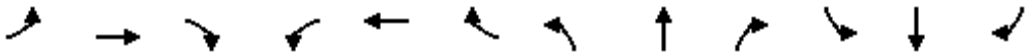
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 90 (90%), Referenced to phase 4:SBT and 8:NBT, Start of Yellow			
Natural Cycle: 125			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.40			
Intersection Signal Delay: 70.3		Intersection LOS: E	
Intersection Capacity Utilization 93.3%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 4900: Main St & Gilbert Road





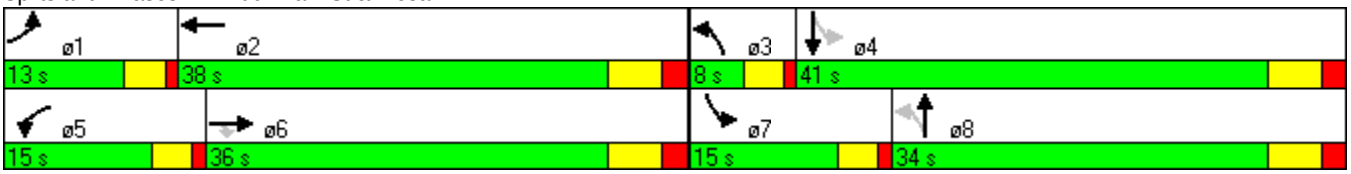
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	66	587	140	184	228	70	122	919	58	297	1113	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		120	110		145	145		0	205		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99		0.96	0.99	0.99		1.00	0.98			1.00	
Frt			0.850		0.965			0.991			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1803	1533	1770	3341	0	1770	3438	0	1770	3498	0
Flt Permitted	0.950			0.950			0.147			0.128		
Satd. Flow (perm)	1757	1803	1470	1753	3341	0	273	3438	0	238	3498	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			73		44			7			2	
Link Speed (mph)		30			35			40			40	
Link Distance (ft)		509			387			1326			975	
Travel Time (s)		11.6			7.5			22.6			16.6	
Confl. Peds. (#/hr)	6		12	12		6	15		103	103		15
Confl. Bikes (#/hr)			10			4			7			6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	8	8	0	8	0	0	2	0	0	4	0
Adj. Flow (vph)	72	638	152	200	248	76	133	999	63	323	1210	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	638	152	200	324	0	133	1062	0	323	1234	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.04	1.04	1.00	1.02	1.00	1.00	1.01	1.00	1.00	1.01	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

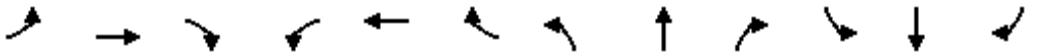


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot		Perm	Prot			pm+pt			pm+pt		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6				8	8		4	4	
Detector Phase	1	6	6	5	2		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.0	25.0	25.0	8.0	25.0		8.0	30.0		8.0	33.0	
Total Split (s)	13.0	36.0	36.0	15.0	38.0	0.0	8.0	34.0	0.0	15.0	41.0	0.0
Total Split (%)	13.0%	36.0%	36.0%	15.0%	38.0%	0.0%	8.0%	34.0%	0.0%	15.0%	41.0%	0.0%
Maximum Green (s)	9.0	30.0	30.0	11.0	32.0		4.0	28.0		11.0	35.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	-2.0	-2.0	0.0	-2.0	-2.0	0.0	-2.0	0.0	0.0	-2.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	2.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)		4.0	4.0		4.0			4.0			4.0	
Flash Dont Walk (s)		12.0	12.0		12.0			17.0			23.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	8.1	32.0	32.0	11.0	36.8		34.0	30.0		45.0	37.0	
Actuated g/C Ratio	0.08	0.32	0.32	0.11	0.37		0.34	0.30		0.45	0.37	
v/c Ratio	0.50	1.11	0.29	1.03	0.26		0.87	1.03		1.17	0.95	
Control Delay	55.9	103.4	15.2	115.0	21.5		69.7	69.8		133.1	47.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	55.9	103.4	15.2	115.0	21.5		69.7	69.8		133.1	47.3	
LOS	E	F	B	F	C		E	E		F	D	
Approach Delay		83.9			57.2			69.7			65.1	
Approach LOS		F			E			E			E	

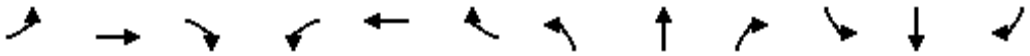
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 4:SBTL and 8:NBTL, Start of Yellow			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.17			
Intersection Signal Delay: 69.4		Intersection LOS: E	
Intersection Capacity Utilization 98.5%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 4100: Main St & Mesa Dr





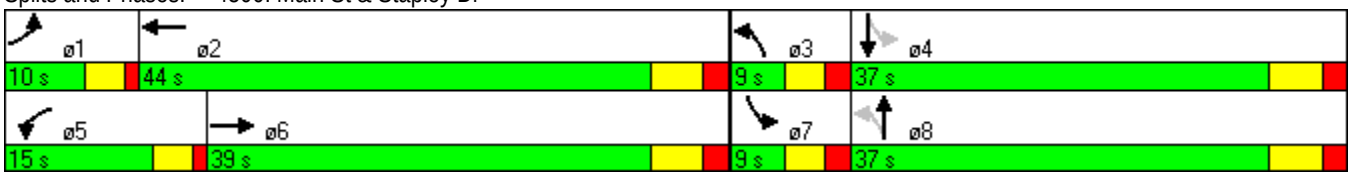
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	931	142	163	616	106	99	843	86	107	878	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	375		205	375		200	135		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	1.00		1.00	1.00		1.00	0.99		0.99	1.00	
Frt		0.980			0.978			0.986			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3413	0	1770	3409	0	1770	3453	0	1770	3509	0
Flt Permitted	0.950			0.950			0.132			0.132		
Satd. Flow (perm)	1769	3413	0	1765	3409	0	246	3453	0	244	3509	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			23			11			3	
Link Speed (mph)		35			40			40			40	
Link Distance (ft)		1043			593			1316			1315	
Travel Time (s)		20.3			10.1			22.4			22.4	
Confl. Peds. (#/hr)	1		10	10		1	8		51	51		8
Confl. Bikes (#/hr)			8			13			3			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	6	0	0	6	0	0	2	0	0	2	0
Adj. Flow (vph)	33	1012	154	177	670	115	108	916	93	116	954	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	1166	0	177	785	0	108	1009	0	116	982	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.02	1.00	1.00	1.02	1.00	1.00	1.01	1.00	1.00	1.01	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

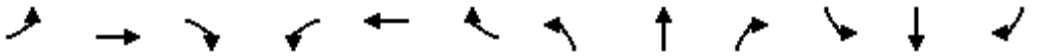


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot			Prot			pm+pt			pm+pt		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases							8			4		
Detector Phase	1	6		5	2		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.0	27.0		8.0	27.0		9.0	33.0		9.0	33.0	
Total Split (s)	10.0	39.0	0.0	15.0	44.0	0.0	9.0	37.0	0.0	9.0	37.0	0.0
Total Split (%)	10.0%	39.0%	0.0%	15.0%	44.0%	0.0%	9.0%	37.0%	0.0%	9.0%	37.0%	0.0%
Maximum Green (s)	6.0	33.0		11.0	38.0		4.0	31.0		4.0	31.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	-2.0	-2.0	0.0	-2.0	-2.0	-1.0	-2.0	0.0	-1.0	-2.0	0.0
Total Lost Time (s)	4.0	4.0	2.0	4.0	4.0	2.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		14.0			14.0			20.0			20.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	5.9	35.0		11.0	44.0		38.0	33.0		38.0	33.0	
Actuated g/C Ratio	0.06	0.35		0.11	0.44		0.38	0.33		0.38	0.33	
v/c Ratio	0.32	0.97		0.91	0.52		0.64	0.88		0.69	0.85	
Control Delay	64.6	53.5		89.1	17.6		37.3	41.6		41.8	39.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	64.6	53.5		89.1	17.6		37.3	41.6		41.8	39.3	
LOS	E	D		F	B		D	D		D	D	
Approach Delay		53.8			30.8			41.2			39.6	
Approach LOS		D			C			D			D	

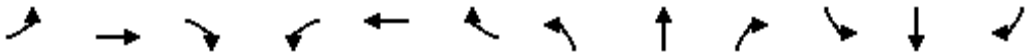
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 47 (47%), Referenced to phase 4:SBTL and 8:NBTL, Start of Yellow			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 42.0		Intersection LOS: D	
Intersection Capacity Utilization 85.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 4500: Main St & Stapley Dr





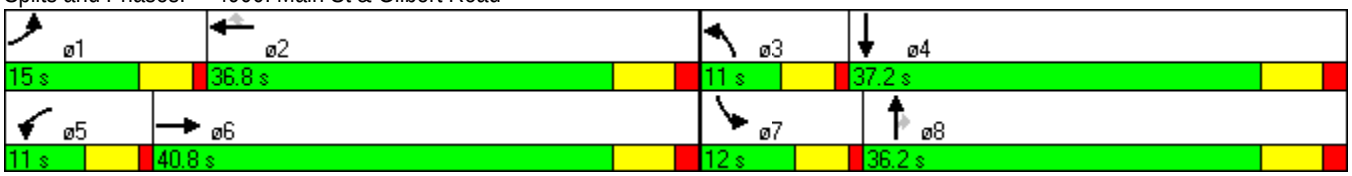
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	191	1026	233	242	682	132	229	1172	218	280	1330	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	550		0	225		595	245		245	195		0
Storage Lanes	1		0	2		1	2		1	2		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	0.95	0.95	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	0.91
Ped Bike Factor	1.00	1.00		1.00		0.98	1.00		0.74	0.93	1.00	
Frt		0.972				0.850			0.850		0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3346	0	3433	3454	1507	3433	5079	1577	3433	5008	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1762	3346	0	3430	3454	1470	3426	5079	1171	3190	5008	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30				143			166		15	
Link Speed (mph)		40			45			45			45	
Link Distance (ft)		554			1238			341			751	
Travel Time (s)		9.4			18.8			5.2			11.4	
Confl. Peds. (#/hr)	11		5	5		11	10		233	233		10
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	12	0	0	12	12	0	1	1	0	1	0
Adj. Flow (vph)	208	1115	253	263	741	143	249	1274	237	304	1446	127
Shared Lane Traffic (%)												
Lane Group Flow (vph)	208	1368	0	263	741	143	249	1274	237	304	1573	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.03	1.00	1.00	1.03	1.07	1.00	1.00	1.01	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

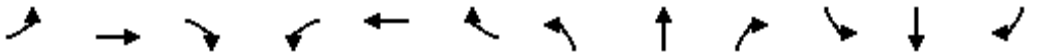


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases						2			8			
Detector Phase	1	6		5	2	2	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.0	36.5		9.0	34.5	34.5	9.0	34.5	34.5	9.0	36.5	
Total Split (s)	15.0	40.8	0.0	11.0	36.8	36.8	11.0	36.2	36.2	12.0	37.2	0.0
Total Split (%)	15.0%	40.8%	0.0%	11.0%	36.8%	36.8%	11.0%	36.2%	36.2%	12.0%	37.2%	0.0%
Maximum Green (s)	10.0	34.3		6.0	30.3	30.3	6.0	29.7	29.7	7.0	30.7	
Yellow Time (s)	4.0	4.5		4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	
All-Red Time (s)	1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.5	0.0	-0.5	-1.5	-1.5	-1.0	-2.5	-2.5	-0.5	-2.5	0.0
Total Lost Time (s)	4.0	5.0	4.0	4.5	5.0	5.0	4.0	4.0	4.0	4.5	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	2.0		2.0	2.0	2.0	3.0	3.0	3.0	2.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	
Walk Time (s)		4.0			4.0	4.0		4.0	4.0		4.0	
Flash Dont Walk (s)		26.0			24.0	24.0		24.0	24.0		23.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	11.0	35.8		6.5	31.8	31.8	7.0	32.2	32.2	7.5	33.2	
Actuated g/C Ratio	0.11	0.36		0.06	0.32	0.32	0.07	0.32	0.32	0.08	0.33	
v/c Ratio	1.07	1.12		1.18	0.67	0.25	1.04	0.78	0.48	1.18	0.94	
Control Delay	114.4	99.1		148.6	30.6	10.2	114.8	34.7	12.5	156.2	44.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	114.4	99.1		148.6	30.6	10.2	114.8	34.7	12.5	156.2	44.5	
LOS	F	F		F	C	B	F	C	B	F	D	
Approach Delay		101.1			55.1			43.1			62.6	
Approach LOS		F			E			D			E	

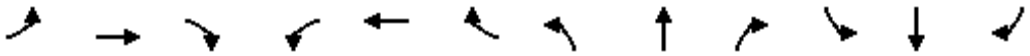
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 90 (90%), Referenced to phase 4:SBT and 8:NBT, Start of Yellow			
Natural Cycle: 105			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.18			
Intersection Signal Delay: 65.4		Intersection LOS: E	
Intersection Capacity Utilization 92.3%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 4900: Main St & Gilbert Road





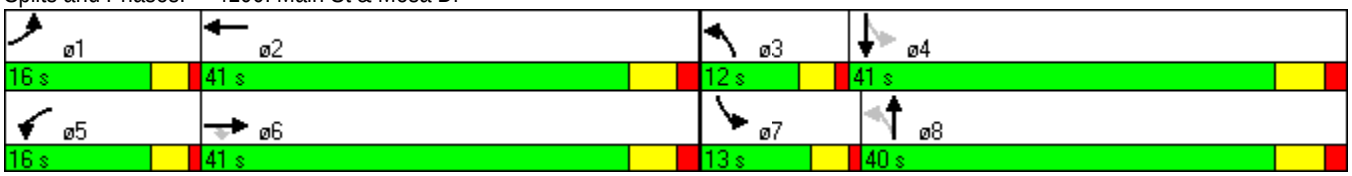
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	88	455	206	155	200	92	143	887	40	189	815	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		120	110		145	145		0	205		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99		0.96	0.99	0.99		1.00	0.99			1.00	
Frt			0.850		0.953			0.994			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1578	1341	1770	3085	0	1770	3460	0	1770	3481	0
Flt Permitted	0.950			0.950			0.118			0.113		
Satd. Flow (perm)	1756	1578	1284	1748	3085	0	219	3460	0	210	3481	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			129		74			4			5	
Link Speed (mph)		30			35			40			40	
Link Distance (ft)		509			387			1326			975	
Travel Time (s)		11.6			7.5			22.6			16.6	
Confl. Peds. (#/hr)	6		12	12		6	15		103	103		15
Confl. Bikes (#/hr)			10			4			7			6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	8	8	0	8	0	0	2	0	0	4	0
Parking (#/hr)		5	5		5	5						
Adj. Flow (vph)	96	495	224	168	217	100	155	964	43	205	886	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	96	495	224	168	317	0	155	1007	0	205	927	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.23	1.23	1.00	1.11	1.00	1.00	1.01	1.00	1.00	1.01	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

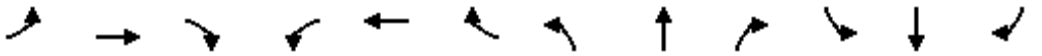


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot		Perm	Prot			pm+pt			pm+pt		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6				8	8		4	4	
Detector Phase	1	6	6	5	2		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.0	25.0	25.0	8.0	25.0		8.0	30.0		8.0	33.0	
Total Split (s)	16.0	41.0	41.0	16.0	41.0	0.0	12.0	40.0	0.0	13.0	41.0	0.0
Total Split (%)	14.5%	37.3%	37.3%	14.5%	37.3%	0.0%	10.9%	36.4%	0.0%	11.8%	37.3%	0.0%
Maximum Green (s)	12.0	35.0	35.0	12.0	35.0		8.0	34.0		9.0	35.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	-2.0	-2.0	0.0	-2.0	-2.0	0.0	-2.0	0.0	0.0	-2.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	2.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)		4.0	4.0		4.0			4.0			4.0	
Flash Dont Walk (s)		12.0	12.0		12.0			17.0			23.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	10.3	36.5	36.5	11.9	38.1		44.1	36.0		47.1	37.5	
Actuated g/C Ratio	0.09	0.33	0.33	0.11	0.35		0.40	0.33		0.43	0.34	
v/c Ratio	0.58	0.95	0.44	0.88	0.28		0.77	0.89		0.91	0.78	
Control Delay	61.3	64.7	14.9	85.5	32.7		46.1	45.8		66.2	38.0	
Queue Delay	0.0	32.6	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	61.3	97.3	14.9	85.5	32.7		46.1	45.8		66.2	38.0	
LOS	E	F	B	F	C		D	D		E	D	
Approach Delay		70.4			51.0			45.9			43.1	
Approach LOS		E			D			D			D	

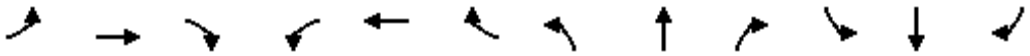
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 95 (86%), Referenced to phase 4:SBTL and 8:NBTL, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 51.2		Intersection LOS: D	
Intersection Capacity Utilization 82.4%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 4100: Main St & Mesa Dr





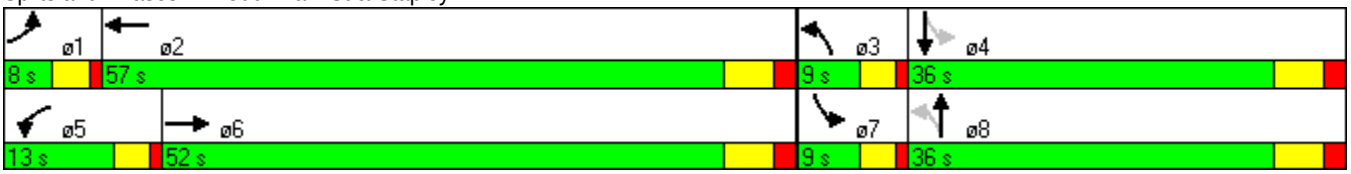
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	34	722	127	168	471	92	93	936	31	36	980	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	375		205	375		200	135		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt		0.978			0.975			0.995			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1548	0	1770	1546	0	1770	3493	0	1770	3507	0
Flt Permitted	0.950			0.950			0.124			0.132		
Satd. Flow (perm)	1768	1548	0	1762	1546	0	231	3493	0	246	3507	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			12			3			3	
Link Speed (mph)		35			40			40			40	
Link Distance (ft)		1043			593			1316			1315	
Travel Time (s)		20.3			10.1			22.4			22.4	
Confl. Peds. (#/hr)	1		10	10		1	8		51	51		8
Confl. Bikes (#/hr)			8			13			3			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	6	0	0	6	0	0	2	0	0	2	0
Parking (#/hr)		5	5		5	5						
Adj. Flow (vph)	37	785	138	183	512	100	101	1017	34	39	1065	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	923	0	183	612	0	101	1051	0	39	1097	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.22	1.00	1.00	1.22	1.00	1.00	1.01	1.00	1.00	1.01	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

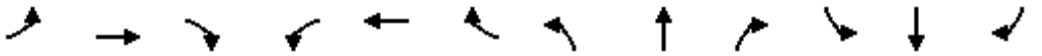


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot			Prot			pm+pt			pm+pt		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases							8			4		
Detector Phase	1	6		5	2		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.0	27.0		8.0	27.0		9.0	33.0		9.0	33.0	
Total Split (s)	8.0	52.0	0.0	13.0	57.0	0.0	9.0	36.0	0.0	9.0	36.0	0.0
Total Split (%)	7.3%	47.3%	0.0%	11.8%	51.8%	0.0%	8.2%	32.7%	0.0%	8.2%	32.7%	0.0%
Maximum Green (s)	4.0	46.0		9.0	51.0		5.0	30.0		5.0	30.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	-2.0	-2.0	0.0	-2.0	-2.0	-1.0	-2.0	0.0	-1.0	-2.0	0.0
Total Lost Time (s)	4.0	4.0	2.0	4.0	4.0	2.0	3.0	4.0	4.0	3.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		14.0			14.0			20.0			20.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	4.0	48.0		9.0	54.6		40.2	35.6		39.0	32.0	
Actuated g/C Ratio	0.04	0.44		0.08	0.50		0.37	0.32		0.35	0.29	
v/c Ratio	0.58	1.36		1.26	0.79		0.60	0.93		0.23	1.07	
Control Delay	69.9	197.1		199.9	26.8		38.8	51.5		24.9	87.8	
Queue Delay	0.0	0.0		0.0	1.1		0.0	0.0		0.0	0.0	
Total Delay	69.9	197.1		199.9	27.9		38.8	51.5		24.9	87.8	
LOS	E	F		F	C		D	D		C	F	
Approach Delay		192.2			67.5			50.4			85.7	
Approach LOS		F			E			D			F	

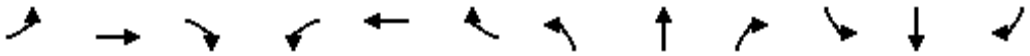
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 6 (5%), Referenced to phase 4:SBTL and 8:NBTL, Start of Yellow			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.36			
Intersection Signal Delay: 97.3		Intersection LOS: F	
Intersection Capacity Utilization 101.7%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 4500: Main St & Stapley Dr





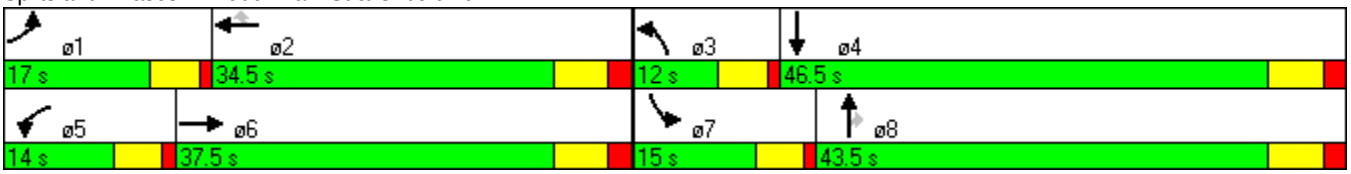
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	169	555	289	279	518	168	221	1282	204	294	1518	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	550		0	225		595	245		245	195		0
Storage Lanes	1		0	2		1	2		1	2		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	0.95	0.95	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	0.91
Ped Bike Factor	0.99	0.99		1.00		0.97	1.00		0.72	0.93	1.00	
Frt		0.949				0.850			0.850		0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3053	0	3433	3238	1319	3433	5079	1577	3433	5055	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1759	3053	0	3428	3238	1284	3426	5079	1133	3206	5055	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		86				168			222		4	
Link Speed (mph)		40			45			45			45	
Link Distance (ft)		554			1238			1316			599	
Travel Time (s)		9.4			18.8			19.9			9.1	
Confl. Peds. (#/hr)	11		5	5		11	10		233	233		10
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	12	0	0	12	12	0	1	1	0	1	0
Parking (#/hr)		5	5		5	5						
Adj. Flow (vph)	184	603	314	303	563	183	240	1393	222	320	1650	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	184	917	0	303	563	183	240	1393	222	320	1698	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.12	1.00	1.00	1.12	1.26	1.00	1.00	1.01	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												



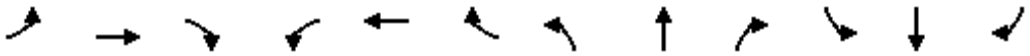
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases						2			8			
Detector Phase	1	6		5	2	2	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.0	36.5		9.0	34.5	34.5	9.0	34.5	34.5	9.0	36.5	
Total Split (s)	17.0	37.5	0.0	14.0	34.5	34.5	12.0	43.5	43.5	15.0	46.5	0.0
Total Split (%)	15.5%	34.1%	0.0%	12.7%	31.4%	31.4%	10.9%	39.5%	39.5%	13.6%	42.3%	0.0%
Maximum Green (s)	12.0	31.0		9.0	28.0	28.0	7.0	37.0	37.0	10.0	40.0	
Yellow Time (s)	4.0	4.5		4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	
All-Red Time (s)	1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.5	0.0	-0.5	-1.5	-1.5	-1.0	-2.5	-2.5	-0.5	-2.5	0.0
Total Lost Time (s)	4.0	5.0	4.0	4.5	5.0	5.0	4.0	4.0	4.0	4.5	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	2.0		2.0	2.0	2.0	3.0	3.0	3.0	2.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	
Walk Time (s)		4.0			4.0	4.0		4.0	4.0		4.0	
Flash Dont Walk (s)		26.0			24.0	24.0		24.0	24.0		23.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	13.0	32.4		9.5	29.4	29.4	8.1	39.5	39.5	10.6	42.5	
Actuated g/C Ratio	0.12	0.29		0.09	0.27	0.27	0.07	0.36	0.36	0.10	0.39	
v/c Ratio	0.88	0.95		1.02	0.65	0.39	0.95	0.76	0.40	0.97	0.87	
Control Delay	79.8	44.0		106.0	35.0	12.0	97.5	34.5	5.7	92.9	37.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	1.4	0.0	0.0	0.0	1.1	
Total Delay	79.8	44.0		106.0	35.0	12.0	98.9	34.5	5.7	92.9	38.1	
LOS	E	D		F	C	B	F	C	A	F	D	
Approach Delay		50.0			51.5			39.4			46.8	
Approach LOS		D			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 39 (35%), Referenced to phase 4:SBT and 8:NBT, Start of Yellow			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay: 45.9		Intersection LOS: D	
Intersection Capacity Utilization 84.0%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 4900: Main St & Gilbert Rd



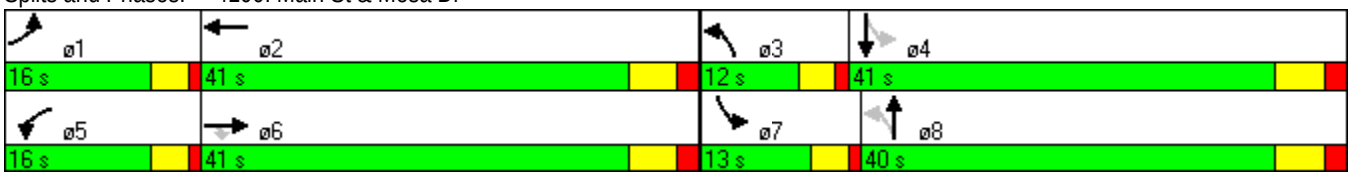
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	88	455	206	155	200	92	143	887	40	189	815	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		120	110		145	145		0	205		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99		0.96	0.99	0.99		1.00	0.99			1.00	
Frt			0.850		0.953			0.994			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1578	1341	1770	3085	0	1770	3460	0	1770	3481	0
Flt Permitted	0.950			0.950			0.118			0.113		
Satd. Flow (perm)	1756	1578	1284	1748	3085	0	219	3460	0	210	3481	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			129		74			4			5	
Link Speed (mph)		30			35			40			40	
Link Distance (ft)		509			387			1326			975	
Travel Time (s)		11.6			7.5			22.6			16.6	
Confl. Peds. (#/hr)	6		12	12		6	15		103	103		15
Confl. Bikes (#/hr)			10			4			7			6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	8	8	0	8	0	0	2	0	0	4	0
Parking (#/hr)		5	5		5	5						
Adj. Flow (vph)	96	495	224	168	217	100	155	964	43	205	886	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	96	495	224	168	317	0	155	1007	0	205	927	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.23	1.23	1.00	1.11	1.00	1.00	1.01	1.00	1.00	1.01	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

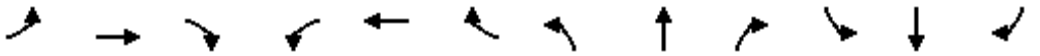


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot		Perm	Prot			pm+pt			pm+pt		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6				8	8		4	4	
Detector Phase	1	6	6	5	2		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.0	25.0	25.0	8.0	25.0		8.0	30.0		8.0	33.0	
Total Split (s)	16.0	41.0	41.0	16.0	41.0	0.0	12.0	40.0	0.0	13.0	41.0	0.0
Total Split (%)	14.5%	37.3%	37.3%	14.5%	37.3%	0.0%	10.9%	36.4%	0.0%	11.8%	37.3%	0.0%
Maximum Green (s)	12.0	35.0	35.0	12.0	35.0		8.0	34.0		9.0	35.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	-2.0	-2.0	0.0	-2.0	-2.0	0.0	-2.0	0.0	0.0	-2.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	2.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)		4.0	4.0		4.0			4.0			4.0	
Flash Dont Walk (s)		12.0	12.0		12.0			17.0			23.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	10.3	36.5	36.5	11.9	38.1		44.1	36.0		47.1	37.5	
Actuated g/C Ratio	0.09	0.33	0.33	0.11	0.35		0.40	0.33		0.43	0.34	
v/c Ratio	0.58	0.95	0.44	0.88	0.28		0.77	0.89		0.91	0.78	
Control Delay	61.3	64.7	14.9	85.4	32.4		46.1	45.8		66.2	38.0	
Queue Delay	0.0	29.3	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	61.3	94.0	14.9	85.4	32.4		46.1	45.8		66.2	38.0	
LOS	E	F	B	F	C		D	D		E	D	
Approach Delay		68.4			50.8			45.9			43.1	
Approach LOS		E			D			D			D	

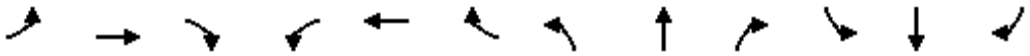
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 95 (86%), Referenced to phase 4:SBTL and 8:NBTL, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 50.8		Intersection LOS: D	
Intersection Capacity Utilization 82.4%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 4100: Main St & Mesa Dr





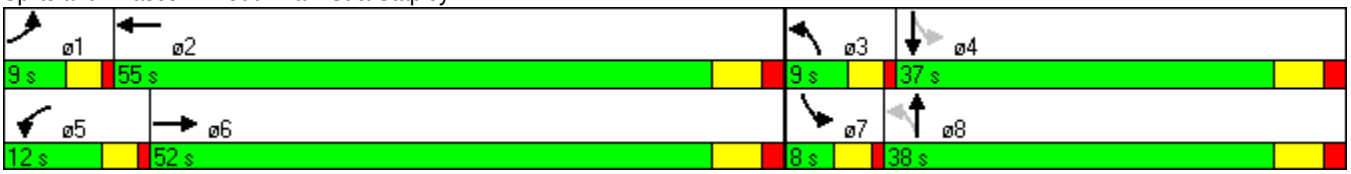
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	34	722	127	151	454	92	93	936	36	42	980	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	375		205	375		200	135		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt		0.978			0.975			0.994			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1548	0	1770	1546	0	1770	3488	0	1770	3507	0
Flt Permitted	0.950			0.950			0.124			0.132		
Satd. Flow (perm)	1768	1548	0	1762	1546	0	231	3488	0	246	3507	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			12			4			3	
Link Speed (mph)		35			40			40			40	
Link Distance (ft)		1043			593			1316			1315	
Travel Time (s)		20.3			10.1			22.4			22.4	
Confl. Peds. (#/hr)	1		10	10		1	8		51	51		8
Confl. Bikes (#/hr)			8			13			3			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	6	0	0	6	0	0	2	0	0	2	0
Parking (#/hr)		5	5		5	5						
Adj. Flow (vph)	37	785	138	164	493	100	101	1017	39	46	1065	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	923	0	164	593	0	101	1056	0	46	1097	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.22	1.00	1.00	1.22	1.00	1.00	1.01	1.00	1.00	1.01	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

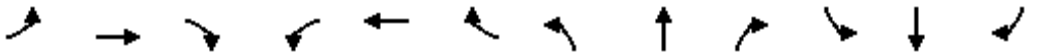


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot			Prot			pm+pt			pm+pt		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases							8			4		
Detector Phase	1	6		5	2		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	27.0		9.0	27.0		9.0	33.0		8.0	33.0	
Total Split (s)	9.0	52.0	0.0	12.0	55.0	0.0	9.0	38.0	0.0	8.0	37.0	0.0
Total Split (%)	8.2%	47.3%	0.0%	10.9%	50.0%	0.0%	8.2%	34.5%	0.0%	7.3%	33.6%	0.0%
Maximum Green (s)	5.0	46.0		8.0	49.0		5.0	32.0		4.0	31.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	-2.0	-2.0	0.0	-2.0	-2.0	-1.0	-2.0	0.0	-1.0	-2.0	0.0
Total Lost Time (s)	4.0	4.0	2.0	4.0	4.0	2.0	3.0	4.0	4.0	3.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		14.0			14.0			20.0			20.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	5.0	48.0		8.0	54.6		41.4	35.6		39.0	33.0	
Actuated g/C Ratio	0.05	0.44		0.07	0.50		0.38	0.32		0.35	0.30	
v/c Ratio	0.46	1.36		1.27	0.77		0.59	0.93		0.29	1.04	
Control Delay	55.5	197.1		207.5	25.9		37.2	51.9		26.1	77.0	
Queue Delay	0.0	0.0		0.0	0.6		0.0	0.0		0.0	0.0	
Total Delay	55.5	197.1		207.5	26.5		37.2	51.9		26.1	77.0	
LOS	E	F		F	C		D	D		C	E	
Approach Delay		191.6			65.7			50.6			74.9	
Approach LOS		F			E			D			E	

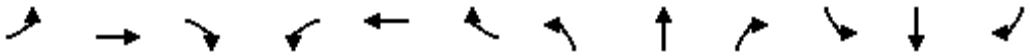
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 6 (5%), Referenced to phase 4:SBTL and 8:NBTL, Start of Yellow			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.36			
Intersection Signal Delay: 94.1		Intersection LOS: F	
Intersection Capacity Utilization 100.8%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 4500: Main St & Stapley Dr





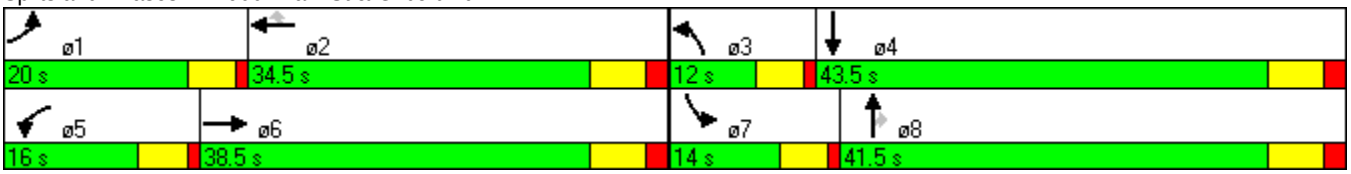
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	572	255	297	513	151	209	1271	204	243	1485	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		0	225		595	245		245	195		0
Storage Lanes	1		0	2		1	2		1	2		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	0.95	0.95	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	0.91
Ped Bike Factor	0.99	0.99		1.00		0.97	1.00		0.72	0.93	1.00	
Frt		0.954				0.850			0.850		0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3071	0	3433	3238	1319	3433	5079	1577	3433	5049	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1759	3071	0	3428	3238	1284	3426	5079	1133	3203	5049	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		67				164			222		5	
Link Speed (mph)		40			45			45			45	
Link Distance (ft)		516			1238			331			751	
Travel Time (s)		8.8			18.8			5.0			11.4	
Confl. Peds. (#/hr)	11		5	5		11	10		233	233		10
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	12	0	0	12	12	0	1	1	0	1	0
Parking (#/hr)		5	5		5	5						
Adj. Flow (vph)	239	622	277	323	558	164	227	1382	222	264	1614	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	239	899	0	323	558	164	227	1382	222	264	1667	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.12	1.00	1.00	1.12	1.26	1.00	1.00	1.01	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

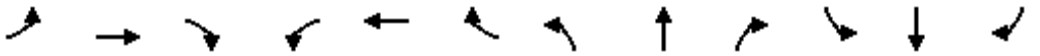


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases						2			8			
Detector Phase	1	6		5	2	2	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.0	36.5		9.0	34.5	34.5	9.0	34.5	34.5	9.0	36.5	
Total Split (s)	20.0	38.5	0.0	16.0	34.5	34.5	12.0	41.5	41.5	14.0	43.5	0.0
Total Split (%)	18.2%	35.0%	0.0%	14.5%	31.4%	31.4%	10.9%	37.7%	37.7%	12.7%	39.5%	0.0%
Maximum Green (s)	15.0	32.0		11.0	28.0	28.0	7.0	35.0	35.0	9.0	37.0	
Yellow Time (s)	4.0	4.5		4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	
All-Red Time (s)	1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.5	0.0	-0.5	-1.5	-1.5	-1.0	-2.5	-2.5	-0.5	-2.5	0.0
Total Lost Time (s)	4.0	5.0	4.0	4.5	5.0	5.0	4.0	4.0	4.0	4.5	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	2.0		2.0	2.0	2.0	3.0	3.0	3.0	2.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	
Walk Time (s)		4.0			4.0	4.0		4.0	4.0		4.0	
Flash Dont Walk (s)		26.0			24.0	24.0		24.0	24.0		23.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	16.0	32.9		11.5	28.9	28.9	8.6	37.8	37.8	9.7	39.5	
Actuated g/C Ratio	0.15	0.30		0.10	0.26	0.26	0.08	0.34	0.34	0.09	0.36	
v/c Ratio	0.93	0.93		0.90	0.65	0.36	0.85	0.79	0.41	0.87	0.92	
Control Delay	74.0	38.0		73.0	35.8	15.2	78.2	36.7	6.0	77.3	42.9	
Queue Delay	0.0	0.0		0.0	0.0	0.0	1.3	0.0	0.0	0.0	2.8	
Total Delay	74.0	38.0		73.0	35.8	15.2	79.5	36.7	6.0	77.3	45.7	
LOS	E	D		E	D	B	E	D	A	E	D	
Approach Delay		45.6			44.0			38.3			50.0	
Approach LOS		D			D			D			D	

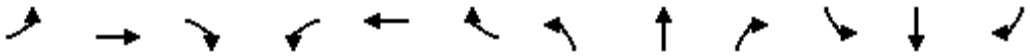
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 19 (17%), Referenced to phase 4:SBT and 8:NBT, Start of Yellow			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 44.5		Intersection LOS: D	
Intersection Capacity Utilization 83.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 4900: Main St & Gilbert Rd





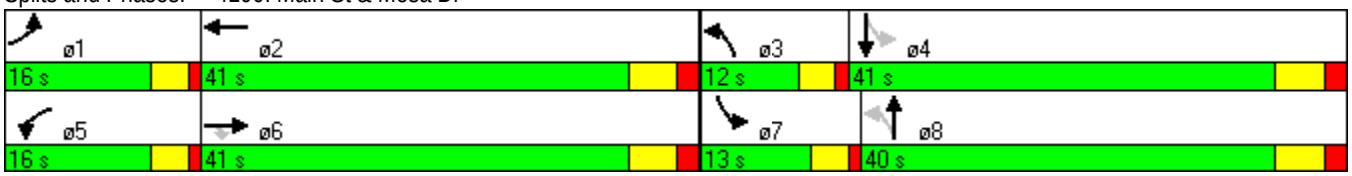
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	88	455	206	155	200	92	143	887	40	189	815	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		120	110		145	145		0	205		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99		0.96	0.99	0.99		1.00	0.99			1.00	
Frt			0.850		0.953			0.994			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1578	1341	1770	3085	0	1770	3453	0	1770	3481	0
Flt Permitted	0.950			0.950			0.118			0.113		
Satd. Flow (perm)	1756	1578	1284	1748	3085	0	219	3453	0	210	3481	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			129		74			4			5	
Link Speed (mph)		30			35			40			40	
Link Distance (ft)		509			387			1326			975	
Travel Time (s)		11.6			7.5			22.6			16.6	
Confl. Peds. (#/hr)	6		12	12		6	15		122	122		15
Confl. Bikes (#/hr)			10			4			7			6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	8	8	0	8	0	0	2	0	0	4	0
Parking (#/hr)		5	5		5	5						
Adj. Flow (vph)	96	495	224	168	217	100	155	964	43	205	886	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	96	495	224	168	317	0	155	1007	0	205	927	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.23	1.23	1.00	1.11	1.00	1.00	1.01	1.00	1.00	1.01	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

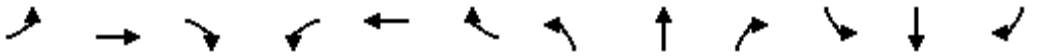


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot		Perm	Prot			pm+pt			pm+pt		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6				8	8		4	4	
Detector Phase	1	6	6	5	2		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.0	25.0	25.0	8.0	25.0		8.0	30.0		8.0	33.0	
Total Split (s)	16.0	41.0	41.0	16.0	41.0	0.0	12.0	40.0	0.0	13.0	41.0	0.0
Total Split (%)	14.5%	37.3%	37.3%	14.5%	37.3%	0.0%	10.9%	36.4%	0.0%	11.8%	37.3%	0.0%
Maximum Green (s)	12.0	35.0	35.0	12.0	35.0		8.0	34.0		9.0	35.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	-2.0	-2.0	0.0	-2.0	-2.0	0.0	-2.0	0.0	0.0	-2.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	2.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)		4.0	4.0		4.0			4.0			4.0	
Flash Dont Walk (s)		12.0	12.0		12.0			17.0			23.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	10.3	36.5	36.5	11.9	38.1		44.1	36.0		47.1	37.5	
Actuated g/C Ratio	0.09	0.33	0.33	0.11	0.35		0.40	0.33		0.43	0.34	
v/c Ratio	0.58	0.95	0.44	0.88	0.28		0.77	0.89		0.91	0.78	
Control Delay	61.3	64.7	14.9	93.1	8.4		46.1	46.0		66.2	38.0	
Queue Delay	0.0	2.2	0.0	0.0	0.0		0.0	0.0		6.8	0.0	
Total Delay	61.3	66.9	14.9	93.1	8.4		46.1	46.0		73.0	38.0	
LOS	E	E	B	F	A		D	D		E	D	
Approach Delay		51.9			37.7			46.0			44.3	
Approach LOS		D			D			D			D	

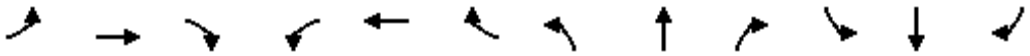
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 50 (45%), Referenced to phase 4:SBTL and 8:NBTL, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 45.7		Intersection LOS: D	
Intersection Capacity Utilization 82.4%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 4100: Main St & Mesa Dr





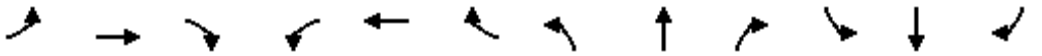
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	34	722	127	168	471	92	93	936	31	36	980	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	375		205	375		200	135		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt		0.978			0.975			0.995			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1536	0	1770	1533	0	1770	3493	0	1770	3507	0
Flt Permitted	0.950			0.950			0.123			0.129		
Satd. Flow (perm)	1768	1536	0	1762	1533	0	229	3493	0	240	3507	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			12			3			3	
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		871			593			1316			1315	
Travel Time (s)		17.0			11.6			22.4			22.4	
Confl. Peds. (#/hr)	1		10	10		1	8		51	51		8
Confl. Bikes (#/hr)			8			13			3			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	8	0	0	8	0	0	2	0	0	2	0
Parking (#/hr)		5	5		5	5						
Adj. Flow (vph)	37	785	138	183	512	100	101	1017	34	39	1065	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	923	0	183	612	0	101	1051	0	39	1097	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.23	1.00	1.00	1.23	1.00	1.00	1.01	1.00	1.00	1.01	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												



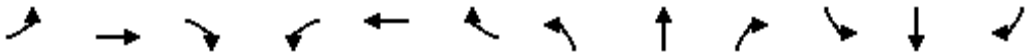
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot			Prot			pm+pt			pm+pt		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases							8			4		
Detector Phase	1	6		5	2		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	9.0	27.0		8.0	27.0		9.0	33.0		9.0	33.0	
Total Split (s)	9.0	52.0	0.0	12.0	55.0	0.0	9.0	37.0	0.0	9.0	37.0	0.0
Total Split (%)	8.2%	47.3%	0.0%	10.9%	50.0%	0.0%	8.2%	33.6%	0.0%	8.2%	33.6%	0.0%
Maximum Green (s)	4.0	46.0		8.0	49.0		4.0	31.0		4.0	31.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	2.0	2.0		1.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	-2.0	-2.0	0.0	-2.0	-2.0	-1.0	-2.0	0.0	-1.0	-2.0	0.0
Total Lost Time (s)	5.0	4.0	2.0	4.0	4.0	2.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		14.0			14.0			20.0			20.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	4.0	48.0		8.0	52.8		39.6	36.6		38.0	33.0	
Actuated g/C Ratio	0.04	0.44		0.07	0.48		0.36	0.33		0.35	0.30	
v/c Ratio	0.58	1.37		1.42	0.82		0.66	0.90		0.26	1.04	
Control Delay	82.4	200.1		258.9	30.2		46.1	47.7		25.9	77.0	
Queue Delay	0.0	0.0		0.0	0.4		0.0	0.0		0.0	0.0	
Total Delay	82.4	200.1		258.9	30.6		46.1	47.7		25.9	77.0	
LOS	F	F		F	C		D	D		C	E	
Approach Delay		195.6			83.1			47.6			75.2	
Approach LOS		F			F			D			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 5 (5%), Referenced to phase 4:SBTL and 8:NBTL, Start of Yellow			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.42			
Intersection Signal Delay: 97.5		Intersection LOS: F	
Intersection Capacity Utilization 101.7%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 4500: Main St & Stapley Dr



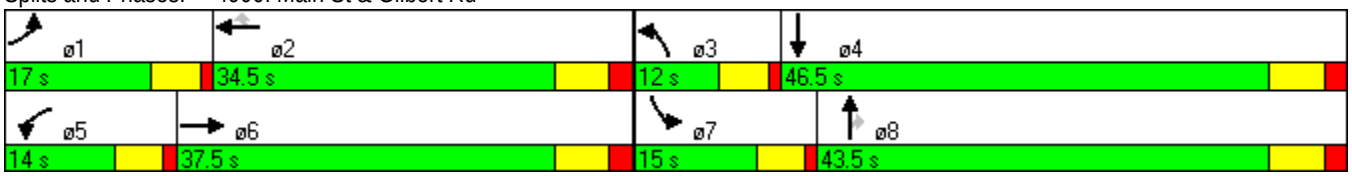
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	169	555	289	279	518	168	221	1282	204	294	1518	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	550		0	225		595	245		245	195		0
Storage Lanes	1		0	2		1	2		1	2		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	0.95	0.95	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	0.91
Ped Bike Factor	0.99	0.99		1.00		0.97	1.00		0.69	0.96	1.00	
Frt		0.949				0.850			0.850		0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3257	0	3433	3454	1507	3433	5079	1577	3433	5052	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1759	3257	0	3428	3454	1468	3426	5079	1087	3282	5052	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		86				168			222		4	
Link Speed (mph)		40			45			45			45	
Link Distance (ft)		554			1238			1316			599	
Travel Time (s)		9.4			18.8			19.9			9.1	
Confl. Peds. (#/hr)	11		5	5		11	10		273	273		10
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	12	0	0	12	12	0	1	1	0	1	0
Adj. Flow (vph)	184	603	314	303	563	183	240	1393	222	320	1650	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	184	917	0	303	563	183	240	1393	222	320	1698	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.03	1.00	1.00	1.03	1.07	1.00	1.00	1.01	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

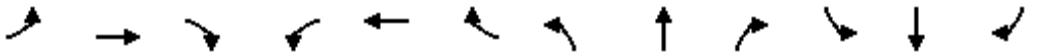


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases						2			8			
Detector Phase	1	6		5	2	2	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.0	36.5		9.0	34.5	34.5	9.0	34.5	34.5	9.0	36.5	
Total Split (s)	17.0	37.5	0.0	14.0	34.5	34.5	12.0	43.5	43.5	15.0	46.5	0.0
Total Split (%)	15.5%	34.1%	0.0%	12.7%	31.4%	31.4%	10.9%	39.5%	39.5%	13.6%	42.3%	0.0%
Maximum Green (s)	12.0	31.0		9.0	28.0	28.0	7.0	37.0	37.0	10.0	40.0	
Yellow Time (s)	4.0	4.5		4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	
All-Red Time (s)	1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.5	0.0	-0.5	-1.5	-1.5	-1.0	-2.5	-2.5	-0.5	-2.5	0.0
Total Lost Time (s)	4.0	5.0	4.0	4.5	5.0	5.0	4.0	4.0	4.0	4.5	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	2.0		2.0	2.0	2.0	3.0	3.0	3.0	2.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	
Walk Time (s)		4.0			4.0	4.0		4.0	4.0		4.0	
Flash Dont Walk (s)		26.0			24.0	24.0		24.0	24.0		23.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	13.0	31.8		9.5	28.8	28.8	8.7	39.5	39.5	11.2	42.5	
Actuated g/C Ratio	0.12	0.29		0.09	0.26	0.26	0.08	0.36	0.36	0.10	0.39	
v/c Ratio	0.88	0.92		1.02	0.62	0.36	0.88	0.76	0.42	0.91	0.87	
Control Delay	77.9	39.7		102.9	35.9	17.5	82.3	34.5	5.9	80.4	37.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	77.9	39.7		102.9	35.9	17.5	82.3	34.5	5.9	80.4	37.0	
LOS	E	D		F	D	B	F	C	A	F	D	
Approach Delay		46.1			52.1			37.3			43.9	
Approach LOS		D			D			D			D	

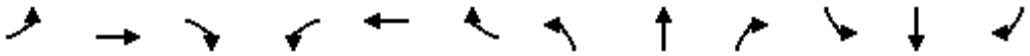
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 72 (65%), Referenced to phase 4:SBT and 8:NBT, Start of Yellow			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay: 43.7		Intersection LOS: D	
Intersection Capacity Utilization 84.0%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 4900: Main St & Gilbert Rd





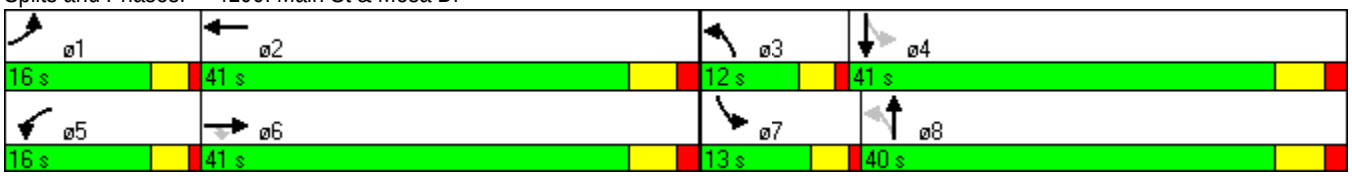
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	88	455	206	155	200	92	143	887	40	189	815	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120		120	110		145	145		0	205		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99		0.96	0.99	0.99		1.00	0.99			1.00	
Frt			0.850		0.953			0.994			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1578	1341	1770	3085	0	1770	3453	0	1770	3481	0
Flt Permitted	0.950			0.950			0.118			0.113		
Satd. Flow (perm)	1756	1578	1284	1748	3085	0	219	3453	0	210	3481	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			129		74			4			5	
Link Speed (mph)		30			35			40			40	
Link Distance (ft)		509			387			1326			975	
Travel Time (s)		11.6			7.5			22.6			16.6	
Confl. Peds. (#/hr)	6		12	12		6	15		122	122		15
Confl. Bikes (#/hr)			10			4			7			6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	8	8	0	8	0	0	2	0	0	4	0
Parking (#/hr)		5	5		5	5						
Adj. Flow (vph)	96	495	224	168	217	100	155	964	43	205	886	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	96	495	224	168	317	0	155	1007	0	205	927	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.23	1.23	1.00	1.11	1.00	1.00	1.01	1.00	1.00	1.01	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

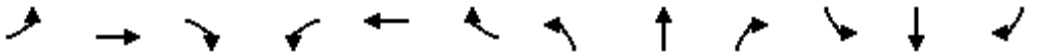


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot		Perm	Prot			pm+pt			pm+pt		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6				8	8		4	4	
Detector Phase	1	6	6	5	2		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.0	25.0	25.0	8.0	25.0		8.0	30.0		8.0	33.0	
Total Split (s)	16.0	41.0	41.0	16.0	41.0	0.0	12.0	40.0	0.0	13.0	41.0	0.0
Total Split (%)	14.5%	37.3%	37.3%	14.5%	37.3%	0.0%	10.9%	36.4%	0.0%	11.8%	37.3%	0.0%
Maximum Green (s)	12.0	35.0	35.0	12.0	35.0		8.0	34.0		9.0	35.0	
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0		1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	-2.0	-2.0	0.0	-2.0	-2.0	0.0	-2.0	0.0	0.0	-2.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	2.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)		4.0	4.0		4.0			4.0			4.0	
Flash Dont Walk (s)		12.0	12.0		12.0			17.0			23.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	10.3	36.5	36.5	11.9	38.1		44.1	36.0		47.1	37.5	
Actuated g/C Ratio	0.09	0.33	0.33	0.11	0.35		0.40	0.33		0.43	0.34	
v/c Ratio	0.58	0.95	0.44	0.88	0.28		0.77	0.89		0.91	0.78	
Control Delay	61.3	64.7	14.9	87.9	13.5		46.1	46.0		66.2	38.0	
Queue Delay	0.0	19.9	0.0	0.0	0.0		0.0	0.0		6.8	0.0	
Total Delay	61.3	84.5	14.9	87.9	13.5		46.1	46.0		73.0	38.0	
LOS	E	F	B	F	B		D	D		E	D	
Approach Delay		62.6			39.3			46.0			44.3	
Approach LOS		E			D			D			D	

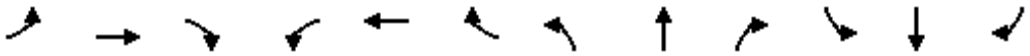
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 66 (60%), Referenced to phase 4:SBTL and 8:NBTL, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 48.3		Intersection LOS: D	
Intersection Capacity Utilization 82.4%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 4100: Main St & Mesa Dr





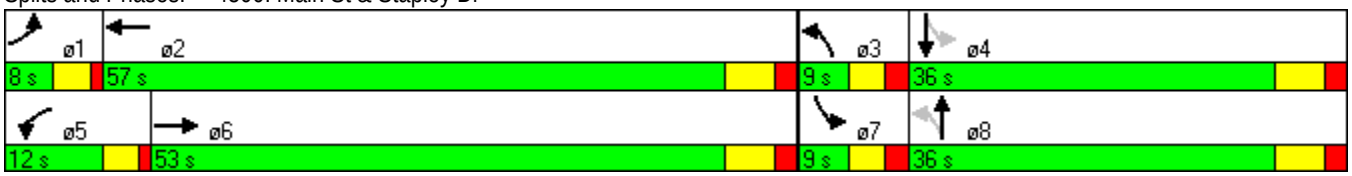
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	34	722	127	151	454	92	93	936	36	42	980	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	375		205	375		200	135		0	150		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt		0.978			0.975			0.994			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1536	0	1770	1533	0	1770	3488	0	1770	3507	0
Flt Permitted	0.950			0.950			0.129			0.132		
Satd. Flow (perm)	1768	1536	0	1762	1533	0	240	3488	0	246	3507	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			13			3			3	
Link Speed (mph)		35			35			40			40	
Link Distance (ft)		871			593			1316			1315	
Travel Time (s)		17.0			11.6			22.4			22.4	
Confl. Peds. (#/hr)	1		10	10		1	8		51	51		8
Confl. Bikes (#/hr)			8			13			3			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	8	0	0	8	0	0	2	0	0	2	0
Parking (#/hr)		5	5		5	5						
Adj. Flow (vph)	37	785	138	164	493	100	101	1017	39	46	1065	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	923	0	164	593	0	101	1056	0	46	1097	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.23	1.00	1.00	1.23	1.00	1.00	1.01	1.00	1.00	1.01	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												

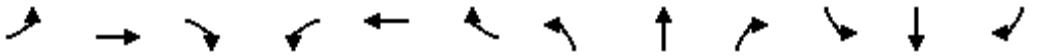


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot			Prot			pm+pt			pm+pt		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases							8			4		
Detector Phase	1	6		5	2		3	8		7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	8.0	27.0		8.0	27.0		9.0	33.0		9.0	33.0	
Total Split (s)	8.0	53.0	0.0	12.0	57.0	0.0	9.0	36.0	0.0	9.0	36.0	0.0
Total Split (%)	7.3%	48.2%	0.0%	10.9%	51.8%	0.0%	8.2%	32.7%	0.0%	8.2%	32.7%	0.0%
Maximum Green (s)	4.0	47.0		8.0	51.0		4.0	30.0		4.0	30.0	
Yellow Time (s)	3.0	4.0		3.0	4.0		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	2.0		1.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	-2.0	-2.0	0.0	-2.0	-2.0	-1.0	-2.0	0.0	-1.0	-2.0	0.0
Total Lost Time (s)	4.0	4.0	2.0	4.0	4.0	2.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		14.0			14.0			20.0			20.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	4.0	49.0		8.0	54.6		37.8	33.8		37.0	32.0	
Actuated g/C Ratio	0.04	0.45		0.07	0.50		0.34	0.31		0.34	0.29	
v/c Ratio	0.58	1.34		1.27	0.77		0.66	0.98		0.30	1.07	
Control Delay	78.2	186.8		204.5	26.6		46.9	62.6		27.7	87.8	
Queue Delay	0.0	0.0		0.0	0.3		0.0	0.0		0.0	0.0	
Total Delay	78.2	186.8		204.5	26.9		46.9	62.6		27.7	87.8	
LOS	E	F		F	C		D	E		C	F	
Approach Delay		182.6			65.4			61.2			85.4	
Approach LOS		F			E			E			F	

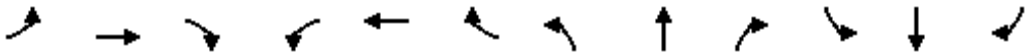
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 108 (98%), Referenced to phase 4:SBTL and 8:NBTL, Start of Yellow			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.34			
Intersection Signal Delay: 97.9		Intersection LOS: F	
Intersection Capacity Utilization 100.8%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 4500: Main St & Stapley Dr





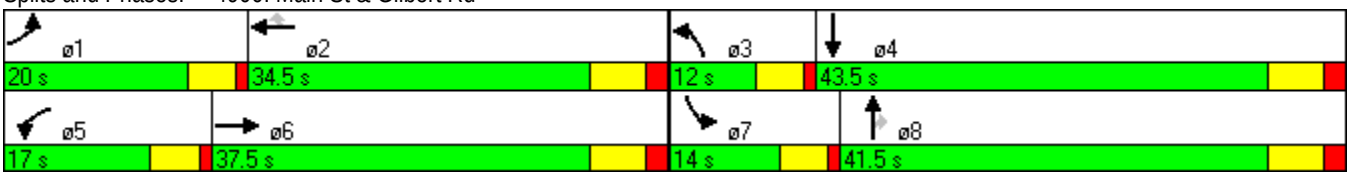
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	572	255	297	513	151	209	1271	204	243	1485	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	550		0	225		595	245		245	195		0
Storage Lanes	1		0	2		1	2		1	2		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	0.95	0.95	0.97	0.95	1.00	0.97	0.91	1.00	0.97	0.91	0.91
Ped Bike Factor	0.99	0.99		1.00		0.97	1.00		0.69	0.96	1.00	
Frt		0.954				0.850			0.850		0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3276	0	3433	3454	1507	3433	5079	1577	3433	5046	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1759	3276	0	3428	3454	1468	3426	5079	1087	3280	5046	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		66				164			222		5	
Link Speed (mph)		40			45			45			45	
Link Distance (ft)		554			1238			344			751	
Travel Time (s)		9.4			18.8			5.2			11.4	
Confl. Peds. (#/hr)	11		5	5		11	10		273	273		10
Confl. Bikes (#/hr)			2			2			2			2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Bus Blockages (#/hr)	0	12	0	0	12	12	0	1	1	0	1	0
Adj. Flow (vph)	239	622	277	323	558	164	227	1382	222	264	1614	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	239	899	0	323	558	164	227	1382	222	264	1667	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.03	1.00	1.00	1.03	1.07	1.00	1.00	1.01	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Prot			Prot		Perm	Prot		Perm	Prot		
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases						2			8			
Detector Phase	1	6		5	2	2	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	9.0	36.5		9.0	34.5	34.5	9.0	34.5	34.5	9.0	36.5	
Total Split (s)	20.0	37.5	0.0	17.0	34.5	34.5	12.0	41.5	41.5	14.0	43.5	0.0
Total Split (%)	18.2%	34.1%	0.0%	15.5%	31.4%	31.4%	10.9%	37.7%	37.7%	12.7%	39.5%	0.0%
Maximum Green (s)	15.0	31.0		12.0	28.0	28.0	7.0	35.0	35.0	9.0	37.0	
Yellow Time (s)	4.0	4.5		4.0	4.5	4.5	4.0	4.5	4.5	4.0	4.5	
All-Red Time (s)	1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)	-1.0	-1.5	0.0	-0.5	-1.5	-1.5	-1.0	-2.5	-2.5	-0.5	-2.5	0.0
Total Lost Time (s)	4.0	5.0	4.0	4.5	5.0	5.0	4.0	4.0	4.0	4.5	4.0	4.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	2.0		2.0	2.0	2.0	3.0	3.0	3.0	2.0	3.0	
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	
Walk Time (s)		4.0			4.0	4.0		4.0	4.0		4.0	
Flash Dont Walk (s)		26.0			24.0	24.0		24.0	24.0		23.0	
Pedestrian Calls (#/hr)		0			0	0		0	0		0	
Act Effct Green (s)	16.0	31.7		12.3	28.5	28.5	8.7	38.3	38.3	9.7	39.8	
Actuated g/C Ratio	0.15	0.29		0.11	0.26	0.26	0.08	0.35	0.35	0.09	0.36	
v/c Ratio	0.93	0.91		0.84	0.62	0.33	0.83	0.78	0.42	0.87	0.91	
Control Delay	78.0	39.4		44.5	31.4	13.5	76.1	36.2	6.2	77.3	42.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	78.0	39.4		44.5	31.4	13.5	76.1	36.2	6.2	77.3	42.2	
LOS	E	D		D	C	B	E	D	A	E	D	
Approach Delay		47.5			32.6			37.5			47.0	
Approach LOS		D			C			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 57 (52%), Referenced to phase 4:SBT and 8:NBT, Start of Yellow			
Natural Cycle: 95			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 41.6		Intersection LOS: D	
Intersection Capacity Utilization 83.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 4900: Main St & Gilbert Rd



Appendix D. CAL3QHC Output Files

JOB: MAIN & GILBERT NO BUILD RUN: GILBERT EXTENSION MG NO BUILD

DATE : 11/27/12
TIME : 16:30:34

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

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. M EB LT Q	*	-24.0	0.0	-60.6	0.0	*	37.	270.	AG	181.	100.0	0.0	20.0	0.28	1.9
2. M EB TH APP	*	0.0	-24.0	-985.0	-24.0	*	985.	270.	AG	1320.	6.3	0.0	53.0		
3. M EB TH DEP	*	0.0	-24.0	985.0	-24.0	*	985.	90.	AG	1607.	6.5	0.0	53.0		
4. M EB TH Q	*	-24.0	-24.0	-175.6	-24.0	*	152.	270.	AG	195.	100.0	0.0	33.0	0.29	7.7
5. M WB LT Q	*	80.0	0.0	138.7	0.0	*	59.	90.	AG	181.	100.0	0.0	20.0	0.45	3.0
6. M WB TH APP	*	0.0	24.0	985.0	24.0	*	985.	90.	AG	725.	6.5	0.0	42.0		
7. M WB TH DEP	*	0.0	24.0	-985.0	24.0	*	985.	270.	AG	1096.	6.3	0.0	42.0		
8. M WB TH Q	*	72.0	24.0	196.7	24.0	*	125.	90.	AG	130.	100.0	0.0	22.0	0.33	6.3
9. M WB R APP	*	0.0	46.0	985.0	46.0	*	985.	90.	AG	143.	6.5	0.0	30.0		
10. M WB R Q	*	64.0	46.0	113.3	46.0	*	49.	90.	AG	65.	100.0	0.0	10.0	0.32	2.5
11. G NB LT Q	*	-8.0	-88.0	-8.0	-147.7	*	60.	180.	AG	181.	100.0	0.0	20.0	0.45	3.0
12. G NB TH APP	*	24.0	0.0	24.0	-985.0	*	985.	180.	AG	1274.	6.5	0.0	53.0		
13. G NB TH DEP	*	24.0	0.0	24.0	985.0	*	985.	360.	AG	1570.	6.5	0.0	53.0		
14. G NB TH Q	*	24.0	-76.0	24.0	-219.7	*	144.	180.	AG	192.	100.0	0.0	33.0	0.25	7.3
15. G NB R APP	*	44.0	0.0	44.0	985.0	*	985.	360.	AG	236.	6.5	0.0	30.0		
16. G WB R Q	*	44.0	-76.0	44.0	-156.0	*	80.	180.	AG	64.	100.0	0.0	10.0	0.44	4.1
17. G SB LT Q	*	-10.0	88.0	-10.0	159.0	*	71.	360.	AG	177.	100.0	0.0	20.0	0.44	3.6
18. G SB TH APP	*	-36.0	0.0	-36.0	985.0	*	985.	360.	AG	1555.	6.5	0.0	53.0		
19. G SB TH DEP	*	-36.0	0.0	-36.0	-985.0	*	985.	180.	AG	1930.	6.5	0.0	53.0		
20. G SB TH Q	*	-36.0	76.0	-36.0	330.9	*	255.	360.	AG	124.	100.0	0.0	33.0	0.43	12.9

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
1. M EB LT Q	*	100	88	2.0	153	3433	38.40	2	3
4. M EB TH Q	*	100	63	2.0	1320	4638	38.40	2	3
5. M WB LT Q	*	100	88	2.0	245	3433	38.40	2	3
8. M WB TH Q	*	100	63	2.0	725	3278	38.40	2	3
10. M WB R Q	*	100	63	2.0	143	1352	38.40	2	3
11. G NB LT Q	*	100	88	2.0	249	3433	38.40	2	3

14. G NB TH Q	*	100	62	2.0	1274	5079	38.40	2	3
16. G WB R Q	*	100	62	2.0	236	1577	38.40	2	3
17. G SB LT Q	*	100	86	2.0	303	3433	38.40	2	3
20. G SB TH Q	*	100	60	2.0	1555	5009	38.40	2	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*
1. REC 1 (NE CORNER)	*	54.0	64.0	5.9	*
2. REC 2 (N 25)	*	54.0	89.0	5.9	*
3. REC 3 (N 50)	*	54.0	114.0	5.9	*
4. REC 4 (E 25)	*	79.0	64.0	5.9	*
5. REC 5 (E 50)	*	104.0	64.0	5.9	*
6. REC 6 (N 25 E 25)	*	79.0	89.0	5.9	*
7. REC 7 (N 25 E 50)	*	104.0	89.0	5.9	*
8. REC 8 (N 50 E 25)	*	79.0	114.0	5.9	*
9. REC 9 (N 50 E 50)	*	104.0	114.0	5.9	*
10. REC 10(SE CORNER)	*	68.0	-68.0	5.9	*
11. REC 11(S 25)	*	68.0	-93.0	5.9	*
12. REC 12(S 50)	*	68.0	-118.0	5.9	*
13. REC 13(E 25)	*	93.0	-68.0	5.9	*
14. REC 14(E 50)	*	118.0	-68.0	5.9	*
15. REC 15(S 25 E 25)	*	93.0	-93.0	5.9	*
16. REC 16(S 25 E 50)	*	118.0	-93.0	5.9	*
17. REC 17(S 50 E 25)	*	93.0	-118.0	5.9	*
18. REC 18(S 50 E 50)	*	118.0	-118.0	5.9	*
19. REC 19(SW CORNER)	*	-72.0	-64.0	5.9	*
20. REC 20(S 25)	*	-72.0	-89.0	5.9	*
21. REC 21(S 50)	*	-72.0	-114.0	5.9	*
22. REC 22(W 25)	*	-97.0	-64.0	5.9	*
23. REC 23(W 50)	*	-122.0	-64.0	5.9	*
24. REC 24(S 25 W 25)	*	-97.0	-89.0	5.9	*
25. REC 25(S 25 W 50)	*	-122.0	-89.0	5.9	*
26. REC 26(S 50 W 25)	*	-97.0	-114.0	5.9	*
27. REC 27(S 50 W 50)	*	-122.0	-114.0	5.9	*
28. REC 28(NW CORNER)	*	-72.0	64.0	5.9	*
29. REC 29(N 25)	*	-72.0	89.0	5.9	*
30. REC 30(N 50)	*	-72.0	114.0	5.9	*
31. REC 31(W 25)	*	-97.0	64.0	5.9	*
32. REC 32(W 50)	*	-122.0	64.0	5.9	*
33. REC 33(N 25 W 25)	*	-97.0	89.0	5.9	*
34. REC 34(N 25 W 50)	*	-122.0	89.0	5.9	*
35. REC 35(N 50 W 25)	*	-97.0	114.0	5.9	*
36. REC 36(N 50 W 50)	*	-122.0	114.0	5.9	*

JOB: MAIN & GILBERT NO BUILD RUN: GILBERT EXTENSION MG NO BUILD

MODEL RESULTS

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	0.6	0.6	0.6	0.3	0.1	0.3	0.1	0.3	0.1	0.9	0.8	0.7	0.9	0.8	0.7	0.7	0.7	0.6	1.4	1.2
10.	0.3	0.3	0.3	0.1	0.0	0.1	0.0	0.1	0.0	0.7	0.6	0.6	0.8	0.7	0.7	0.5	0.6	0.5	1.8	1.6
20.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.5	0.4	0.7	0.6	0.5	0.5	0.4	0.3	1.8	1.6
30.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.5	0.5	0.7	0.6	0.5	0.4	0.4	0.4	1.7	1.3
40.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.5	0.4	0.6	0.5	0.4	0.3	0.3	0.3	1.3	0.9
50.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.4	0.3	0.5	0.4	0.3	0.3	0.3	0.3	1.2	1.1
60.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	1.3	1.1
70.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.3	0.5	0.5	0.4	0.4	0.3	0.3	1.1	1.0
80.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.2	0.5	0.5	0.3	0.3	0.2	0.2	1.0	0.9
90.	0.3	0.2	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.8	1.0
100.	0.7	0.2	0.2	0.6	0.6	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.7	0.9
110.	0.8	0.4	0.2	0.8	0.7	0.4	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.8
120.	0.9	0.5	0.3	0.8	0.6	0.4	0.4	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
130.	0.9	0.7	0.3	0.8	0.6	0.5	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
140.	0.8	0.7	0.4	0.9	0.7	0.6	0.5	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.8
150.	0.8	0.6	0.4	0.9	0.8	0.6	0.5	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.8
160.	0.5	0.5	0.4	0.8	0.9	0.7	0.5	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.7
170.	0.9	0.8	0.8	0.9	0.9	0.7	0.6	0.6	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6
180.	0.9	0.9	0.9	1.1	1.1	0.8	0.9	0.8	0.6	0.4	0.4	0.3	0.2	0.1	0.2	0.1	0.2	0.1	0.5	0.5
190.	1.4	1.1	1.1	1.2	1.2	1.0	1.0	0.9	0.9	0.8	0.7	0.6	0.4	0.2	0.3	0.2	0.3	0.2	0.2	0.2
200.	1.1	1.2	1.1	1.2	1.2	0.9	1.0	0.7	0.9	1.0	0.9	0.7	0.6	0.5	0.5	0.4	0.5	0.4	0.1	0.1
210.	1.2	1.1	1.1	1.0	1.4	0.7	0.9	1.0	0.7	1.0	1.0	1.0	0.8	0.5	0.6	0.5	0.6	0.5	0.0	0.0
220.	1.1	1.1	1.2	0.9	1.0	0.8	0.8	0.7	0.7	1.0	0.9	0.9	0.8	0.5	0.8	0.5	0.6	0.4	0.0	0.0
230.	1.2	1.1	0.9	0.9	0.9	1.0	0.6	0.7	0.7	1.1	1.0	0.9	0.9	0.7	0.8	0.4	0.7	0.4	0.0	0.0
240.	1.3	0.9	1.1	1.0	0.9	0.9	0.8	0.6	0.6	1.1	1.1	1.0	0.9	0.6	0.9	0.7	0.8	0.4	0.0	0.0
250.	1.2	1.0	1.1	1.0	1.2	0.6	0.6	0.8	0.7	0.9	1.1	1.0	0.8	0.6	0.9	0.6	0.9	0.5	0.0	0.0
260.	1.0	1.0	1.0	0.8	0.7	0.8	0.6	0.7	0.7	0.9	1.1	1.1	0.9	0.6	0.9	0.6	0.9	0.7	0.1	0.0
270.	0.9	0.9	1.0	0.6	0.5	0.7	0.7	0.7	0.6	0.9	1.2	1.2	0.9	0.8	1.1	0.8	1.0	0.7	0.4	0.1
280.	0.8	0.8	0.9	0.6	0.6	0.6	0.5	0.6	0.5	1.0	1.3	1.4	0.9	0.8	1.2	0.7	1.2	0.9	0.6	0.3
290.	0.8	1.0	1.0	0.5	0.5	0.6	0.5	0.5	0.5	1.1	1.2	1.5	1.0	0.7	0.9	0.8	1.3	0.8	0.7	0.4
300.	1.0	1.0	1.0	0.6	0.5	0.6	0.5	0.5	0.5	1.1	1.1	1.4	0.9	0.9	0.9	0.7	1.0	0.7	0.8	0.5
310.	1.0	1.0	0.9	0.5	0.5	0.5	0.5	0.4	0.4	1.0	1.1	1.1	0.7	0.8	0.7	0.7	0.9	0.7	0.9	0.6
320.	1.1	1.0	0.9	0.7	0.4	0.6	0.4	0.6	0.4	0.9	0.9	1.2	0.7	0.9	0.6	0.6	0.8	0.5	0.8	0.6
330.	1.0	1.0	0.9	0.6	0.4	0.6	0.4	0.6	0.4	1.0	0.8	0.9	0.9	1.1	0.8	0.9	0.5	0.5	0.8	0.6
340.	1.0	0.9	0.9	0.7	0.3	0.7	0.3	0.7	0.3	1.1	0.9	0.9	1.1	1.1	0.9	0.9	0.7	0.8	0.7	0.6
350.	0.9	0.9	0.8	0.5	0.3	0.5	0.3	0.4	0.3	1.0	1.0	0.8	0.9	1.0	0.9	0.9	0.8	0.8	0.9	0.8
MAX	1.4	1.2	1.2	1.2	1.4	1.0	1.0	1.0	0.9	1.1	1.3	1.5	1.1	1.1	1.2	0.9	1.3	0.9	1.8	1.6
DEGR.	190	200	220	190	210	190	190	210	190	340	280	290	340	330	280	330	290	280	10	10

JOB: MAIN & GILBERT NO BUILD RUN: GILBERT EXTENSION MG NO BUILD

MODEL RESULTS

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36
0.	1.1	1.1	0.8	1.0	0.7	0.9	0.6	0.6	0.6	0.5	0.4	0.1	0.4	0.1	0.3	0.1
10.	1.4	1.2	1.1	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.5	0.4	0.4	0.4	0.4	0.3
20.	1.3	1.4	1.1	1.4	1.0	1.2	0.9	1.1	1.0	0.9	0.7	0.4	0.7	0.4	0.7	0.4
30.	0.9	1.6	1.3	1.2	1.2	0.9	0.9	1.1	1.1	1.0	0.7	0.5	0.7	0.5	0.7	0.5
40.	0.9	1.2	1.4	1.1	1.0	0.7	0.7	1.0	1.0	1.0	0.7	0.5	0.7	0.5	0.6	0.5
50.	0.8	1.2	1.2	0.7	1.1	0.9	0.6	1.0	1.0	0.9	0.6	0.6	0.6	0.6	0.5	0.5
60.	1.2	1.3	1.2	0.9	1.0	0.8	0.8	0.9	1.0	1.0	0.7	0.6	0.7	0.6	0.6	0.6
70.	0.9	1.2	1.3	0.9	0.9	0.9	0.8	0.8	1.0	1.0	0.5	0.5	0.7	0.6	0.6	0.6
80.	1.0	1.0	0.9	0.9	0.7	0.9	0.8	0.7	1.0	1.0	0.5	0.5	0.7	0.6	0.7	0.6
90.	1.0	0.7	0.8	0.8	0.7	0.9	0.7	0.8	1.1	1.1	0.7	0.7	0.8	0.7	0.8	0.7
100.	0.8	0.7	0.6	0.8	0.7	0.8	0.6	0.9	1.1	1.2	0.8	0.8	0.8	0.7	0.8	0.7
110.	0.8	0.7	0.6	0.8	0.6	0.7	0.6	1.0	1.1	1.2	0.9	0.7	0.8	0.8	0.9	0.8
120.	0.8	0.7	0.6	0.7	0.6	0.7	0.4	0.8	1.0	1.2	0.9	0.9	0.7	0.5	0.7	0.6
130.	0.8	0.7	0.5	0.7	0.4	0.5	0.4	0.9	0.8	0.8	1.1	1.0	0.6	0.9	0.6	0.5
140.	0.6	0.6	0.4	0.5	0.4	0.5	0.3	1.2	0.9	0.9	1.1	1.0	1.0	0.8	0.8	0.9
150.	0.8	0.5	0.4	0.4	0.4	0.4	0.3	1.3	1.1	1.0	1.2	1.0	0.9	0.9	0.9	0.9
160.	0.7	0.4	0.4	0.4	0.4	0.4	0.4	1.6	1.2	1.1	1.3	1.1	1.2	0.8	0.9	0.8
170.	0.6	0.4	0.3	0.4	0.3	0.4	0.3	1.4	1.2	1.1	1.0	0.9	0.8	0.7	0.9	0.7
180.	0.5	0.2	0.1	0.2	0.1	0.2	0.1	1.2	1.0	1.0	0.9	0.7	0.7	0.5	0.7	0.5
190.	0.2	0.1	0.0	0.1	0.0	0.1	0.0	0.8	0.5	0.5	0.7	0.6	0.5	0.4	0.5	0.4
200.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.4	0.4	0.6	0.5	0.4	0.3	0.4	0.3
210.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.4	0.3	0.5	0.5	0.4	0.3	0.3	0.3
220.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.3	0.5	0.4	0.3	0.2	0.3	0.2
230.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.3	0.2	0.5	0.4	0.2	0.2	0.2	0.2
240.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.2	0.4	0.4	0.3	0.3	0.2	0.2
250.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.2	0.4	0.4	0.3	0.3	0.2	0.2
260.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2
270.	0.1	0.3	0.3	0.1	0.1	0.1	0.1	0.3	0.2	0.1	0.3	0.3	0.2	0.2	0.1	0.1
280.	0.2	0.5	0.4	0.3	0.3	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
290.	0.3	0.6	0.5	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300.	0.4	0.7	0.6	0.4	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	0.4	0.8	0.7	0.5	0.4	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	0.4	0.8	0.7	0.6	0.5	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	0.4	0.8	0.7	0.6	0.6	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	0.5	0.7	0.7	0.6	0.6	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	0.7	0.8	0.7	0.7	0.6	0.6	0.4	0.2	0.2	0.2	0.1	0.0	0.1	0.0	0.1	0.0
MAX	1.4	1.6	1.4	1.4	1.2	1.2	0.9	1.6	1.2	1.2	1.3	1.1	1.2	0.9	0.9	0.9
DEGR.	10	30	40	20	30	20	30	160	160	100	160	160	160	130	150	140

THE HIGHEST CONCENTRATION OF 1.80 PPM OCCURRED AT RECEPTOR REC19.

JOB: MAIN & GILBERT 4-LANE NORTH PARK-AND-RID RUN: GILBERT EXTENSION MG 4L NPNR

DATE : 11/28/12
TIME : 9:45:12

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

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. M EB LT Q	*	-68.0	-30.0	-143.3	-30.0	*	75.	270.	AG	88.	100.0	0.0	10.0	0.78	3.8
2. M EB TH APP	*	0.0	-44.0	-985.0	-44.0	*	985.	270.	AG	1387.	6.3	0.0	40.0		
3. M EB TH DEP	*	0.0	-44.0	985.0	-44.0	*	985.	90.	AG	1694.	6.5	0.0	40.0		
4. M EB TH Q	*	-68.0	-44.0	-291.6	-44.1	*	224.	270.	AG	122.	100.0	0.0	20.0	0.56	11.4
5. M WB LT Q	*	74.0	-4.0	132.9	-4.0	*	59.	90.	AG	183.	100.0	0.0	16.0	0.50	3.0
6. M WB TH APP	*	0.0	24.0	985.0	24.0	*	985.	90.	AG	747.	6.5	0.0	38.0		
7. M WB TH DEP	*	0.0	24.0	-985.0	24.0	*	985.	270.	AG	1131.	6.3	0.0	38.0		
8. M WB TH Q	*	74.0	24.0	202.5	24.0	*	128.	90.	AG	130.	100.0	0.0	18.0	0.33	6.5
9. M WB R APP	*	0.0	42.0	985.0	42.0	*	985.	90.	AG	162.	6.5	0.0	30.0		
10. M WB R Q	*	74.0	42.0	129.8	42.0	*	56.	90.	AG	65.	100.0	0.0	10.0	0.33	2.8
11. G NB LT Q	*	-8.0	-74.0	-8.0	-137.8	*	64.	180.	AG	183.	100.0	0.0	20.0	0.55	3.2
12. G NB TH APP	*	24.0	0.0	24.0	-985.0	*	985.	180.	AG	1286.	6.5	0.0	53.0		
13. G NB TH DEP	*	24.0	0.0	24.0	985.0	*	985.	360.	AG	1600.	6.5	0.0	53.0		
14. G NB TH Q	*	24.0	-74.0	24.0	-221.4	*	147.	180.	AG	195.	100.0	0.0	33.0	0.26	7.5
15. G NB R APP	*	44.0	0.0	44.0	-985.0	*	985.	180.	AG	237.	6.5	0.0	30.0		
16. G WB R Q	*	44.0	-74.0	44.0	-155.6	*	82.	180.	AG	65.	100.0	0.0	10.0	0.46	4.1
17. G SB LT Q	*	-10.0	74.0	-10.0	160.6	*	87.	360.	AG	181.	100.0	0.0	20.0	0.66	4.4
18. G SB TH APP	*	-36.0	0.0	-36.0	985.0	*	985.	360.	AG	1604.	6.5	0.0	53.0		
19. G SB TH DEP	*	-36.0	0.0	-36.0	-985.0	*	985.	180.	AG	2015.	6.5	0.0	53.0		
20. G SB TH Q	*	-36.0	74.0	-36.0	255.0	*	181.	360.	AG	192.	100.0	0.0	33.0	0.31	9.2

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
1. M EB LT Q	*	100	85	2.0	152	1770	38.40	2	3
4. M EB TH Q	*	100	59	2.0	1387	3335	38.40	2	3
5. M WB LT Q	*	100	89	2.0	243	3433	38.40	2	3
8. M WB TH Q	*	100	63	2.0	747	3454	38.40	2	3
10. M WB R Q	*	100	63	2.0	162	1507	38.40	2	3
11. G NB LT Q	*	100	89	2.0	262	3433	38.40	2	3

14. G NB TH Q	*	100	63	2.0	1286	5079	38.40	2	3
16. G WB R Q	*	100	63	2.0	237	1577	38.40	2	3
17. G SB LT Q	*	100	88	2.0	360	3433	38.40	2	3
20. G SB TH Q	*	100	62	2.0	1604	5013	38.40	2	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. REC 1 (NE CORNER)	68.0	66.0	5.9
2. REC 2 (N 25)	68.0	91.0	5.9
3. REC 3 (N 50)	68.0	116.0	5.9
4. REC 4 (E 25)	93.0	66.0	5.9
5. REC 5 (E 50)	118.0	65.0	5.9
6. REC 6 (N 25 E 25)	93.0	91.0	5.9
7. REC 7 (N 25 E 50)	118.0	91.0	5.9
8. REC 8 (N 50 E 25)	93.0	116.0	5.9
9. REC 9 (N 50 E 50)	118.0	116.0	5.9
10. REC 10(SE CORNER)	70.0	-66.0	5.9
11. REC 11(S 25)	70.0	-91.0	5.9
12. REC 12(S 50)	70.0	-116.0	5.9
13. REC 13(E 25)	95.0	-66.0	5.9
14. REC 14(E 50)	120.0	-66.0	5.9
15. REC 15(S 25 E 25)	95.0	-91.0	5.9
16. REC 16(S 25 E 50)	120.0	-91.0	5.9
17. REC 17(S 50 E 25)	95.0	-116.0	5.9
18. REC 18(S 50 E 50)	120.0	-116.0	5.9
19. REC 19(SW CORNER)	-68.0	-68.0	5.9
20. REC 20(S 25)	-68.0	-93.0	5.9
21. REC 21(S 50)	-68.0	-118.0	5.9
22. REC 22(W 25)	-93.0	-68.0	5.9
23. REC 23(W 50)	-118.0	-68.0	5.9
24. REC 24(S 25 W 25)	-93.0	-93.0	5.9
25. REC 25(S 25 W 50)	-118.0	-93.0	5.9
26. REC 26(S 50 W 25)	-93.0	-118.0	5.9
27. REC 27(S 50 W 50)	-118.0	-118.0	5.9
28. REC 28(NW CORNER)	-70.0	66.0	5.9
29. REC 29(N 25)	-70.0	91.0	5.9
30. REC 30(N 50)	-70.0	116.0	5.9
31. REC 31(W 25)	-95.0	66.0	5.9
32. REC 32(W 50)	-120.0	66.0	5.9
33. REC 33(N 25 W 25)	-95.0	91.0	5.9
34. REC 34(N 25 W 50)	-120.0	91.0	5.9
35. REC 35(N 50 W 25)	-95.0	116.0	5.9
36. REC 36(N 50 W 50)	-120.0	116.0	5.9

JOB: MAIN & GILBERT 4-LANE NORTH PARK-AND-RID RUN: GILBERT EXTENSION MG 4L NPNR

MODEL RESULTS

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	0.3	0.3	0.3	0.2	0.1	0.2	0.1	0.2	0.1	1.0	0.8	0.7	1.0	0.9	0.8	0.6	0.7	0.6	1.4	1.1
10.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.6	0.6	0.7	0.6	0.6	0.5	0.5	0.5	1.5	1.5
20.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.5	0.4	0.7	0.6	0.5	0.4	0.4	0.3	1.3	1.3
30.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.6	0.5	0.7	0.6	0.6	0.5	0.4	0.4	1.3	0.9
40.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.6	0.4	0.7	0.6	0.5	0.5	0.4	0.3	0.9	0.9
50.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.5	0.3	0.6	0.6	0.4	0.4	0.3	0.3	1.1	1.0
60.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.4	0.3	0.6	0.6	0.4	0.4	0.3	0.3	1.3	1.2
70.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.4	0.3	0.7	0.7	0.4	0.4	0.3	0.3	1.3	1.3
80.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.4	0.2	0.7	0.7	0.4	0.4	0.2	0.2	1.2	1.2
90.	0.2	0.1	0.0	0.2	0.2	0.1	0.1	0.0	0.0	0.5	0.2	0.1	0.5	0.5	0.2	0.2	0.1	0.1	1.1	1.1
100.	0.3	0.2	0.2	0.3	0.4	0.2	0.2	0.2	0.2	0.3	0.1	0.0	0.3	0.3	0.1	0.1	0.0	0.0	1.2	1.1
110.	0.7	0.3	0.2	0.6	0.5	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	1.0	1.0
120.	0.6	0.3	0.3	0.6	0.5	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
130.	0.8	0.5	0.3	0.6	0.5	0.3	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.8
140.	0.7	0.6	0.3	0.7	0.5	0.4	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.9
150.	0.7	0.6	0.4	0.6	0.5	0.6	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.8
160.	0.7	0.5	0.5	0.7	0.6	0.6	0.4	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.8
170.	0.6	0.5	0.5	0.7	0.6	0.6	0.5	0.5	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
180.	0.8	0.8	0.9	1.0	0.9	0.8	0.8	0.8	0.6	0.4	0.4	0.3	0.2	0.1	0.2	0.1	0.2	0.1	0.6	0.6
190.	0.9	0.8	0.8	1.1	1.0	1.0	0.9	0.9	0.8	0.9	0.8	0.7	0.4	0.2	0.3	0.2	0.3	0.2	0.2	0.2
200.	0.9	1.0	0.9	1.2	1.2	1.0	1.0	0.7	0.8	1.0	1.0	0.8	0.6	0.5	0.5	0.4	0.5	0.4	0.1	0.1
210.	1.0	1.0	0.7	1.0	1.1	0.8	1.0	0.7	0.8	1.1	1.1	1.1	0.8	0.5	0.6	0.5	0.6	0.5	0.0	0.0
220.	0.7	0.7	0.8	1.0	1.1	0.6	0.8	0.4	0.5	1.1	1.0	1.0	0.8	0.5	0.8	0.5	0.6	0.4	0.0	0.0
230.	0.8	0.8	0.9	0.5	0.8	0.8	0.5	0.7	0.6	1.0	1.0	0.9	0.9	0.7	0.8	0.5	0.7	0.5	0.0	0.0
240.	0.9	0.7	0.9	0.8	0.8	0.7	0.7	0.7	0.6	1.1	1.0	0.9	0.9	0.6	0.9	0.6	0.8	0.4	0.0	0.0
250.	0.7	1.0	0.9	0.7	0.8	0.6	0.6	0.8	0.8	1.1	1.1	1.0	0.9	0.7	0.9	0.6	0.9	0.4	0.1	0.0
260.	0.8	0.8	1.1	0.7	0.8	0.7	0.7	0.8	0.7	1.0	1.2	1.0	1.0	0.9	1.0	0.7	0.9	0.7	0.3	0.1
270.	0.8	1.0	1.0	0.7	0.7	0.6	0.6	0.8	0.7	1.3	1.4	1.2	1.3	1.1	1.1	0.9	1.0	0.7	0.7	0.3
280.	0.9	0.9	0.9	0.6	0.6	0.7	0.6	0.7	0.6	1.2	1.3	1.5	1.1	1.0	1.3	0.9	1.3	1.0	0.9	0.4
290.	0.8	0.8	0.8	0.7	0.6	0.7	0.6	0.6	0.6	1.2	1.3	1.5	0.9	0.9	0.9	0.8	1.2	0.9	1.0	0.6
300.	0.9	0.9	0.8	0.7	0.6	0.6	0.6	0.6	0.5	1.0	1.0	1.2	0.9	0.9	0.8	0.7	1.1	0.6	1.0	0.5
310.	0.9	0.8	0.8	0.6	0.6	0.6	0.4	0.5	0.4	1.0	0.9	1.1	0.9	0.9	0.6	0.8	0.8	0.6	0.9	0.6
320.	0.8	0.8	0.7	0.6	0.4	0.4	0.4	0.4	0.4	1.0	0.9	1.2	1.0	1.0	0.7	0.8	0.8	0.6	0.8	0.6
330.	0.8	0.6	0.6	0.5	0.4	0.5	0.3	0.4	0.3	1.3	0.9	1.0	1.2	1.3	0.9	1.0	0.7	0.7	0.8	0.6
340.	0.7	0.7	0.6	0.5	0.3	0.5	0.3	0.5	0.3	1.2	0.9	1.0	1.1	1.1	1.0	0.9	0.9	0.7	0.8	0.6
350.	0.6	0.5	0.5	0.3	0.3	0.3	0.3	0.3	0.3	1.1	1.1	0.9	1.0	1.0	0.9	0.9	0.7	0.8	1.0	0.8
MAX	1.0	1.0	1.1	1.2	1.2	1.0	1.0	0.9	0.8	1.3	1.4	1.5	1.3	1.3	1.3	1.0	1.3	1.0	1.5	1.5
DEGR.	210	250	260	200	200	190	210	190	190	270	270	280	270	330	280	330	280	280	10	10

JOB: MAIN & GILBERT 4-LANE NORTH PARK-AND-RID RUN: GILBERT EXTENSION MG 4L NPNR

MODEL RESULTS

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36
0.	0.9	1.2	1.1	1.0	0.9	0.8	0.8	0.7	0.7	0.7	0.4	0.1	0.3	0.1	0.3	0.1
10.	1.1	1.5	1.2	1.2	1.0	1.0	0.8	1.1	1.1	1.0	0.6	0.4	0.5	0.3	0.5	0.3
20.	1.1	1.7	1.4	1.2	1.1	1.1	1.0	1.3	1.2	1.2	0.8	0.4	0.7	0.4	0.7	0.4
30.	0.9	1.5	1.3	1.1	1.2	0.6	0.8	1.3	1.3	1.2	1.0	0.5	0.8	0.5	0.8	0.5
40.	0.9	1.0	1.3	0.6	0.7	0.5	0.6	1.3	1.4	1.3	1.0	0.7	1.0	0.6	0.9	0.5
50.	1.0	0.9	1.1	0.9	0.7	0.8	0.6	1.3	1.2	1.1	0.8	0.7	0.8	0.7	0.7	0.6
60.	1.3	1.2	1.1	0.8	0.9	1.1	0.8	1.1	1.3	1.2	0.8	0.7	0.8	0.7	0.7	0.7
70.	1.2	1.2	1.1	1.1	0.8	1.0	0.8	1.0	1.3	1.2	0.8	0.6	0.8	0.7	0.8	0.7
80.	1.2	1.1	1.0	1.0	0.9	1.0	0.7	0.8	1.3	1.3	0.6	0.6	0.8	0.8	0.8	0.7
90.	1.1	1.1	0.9	1.0	0.7	0.9	0.7	1.0	1.4	1.3	0.8	0.8	1.0	0.8	0.8	0.8
100.	1.0	1.0	0.7	0.9	0.7	0.7	0.6	0.8	1.4	1.5	0.7	0.7	0.9	0.8	1.0	0.8
110.	0.9	0.8	0.6	0.8	0.6	0.7	0.5	1.0	1.2	1.5	0.9	0.7	0.8	0.7	1.0	0.9
120.	0.8	0.8	0.6	0.7	0.6	0.6	0.4	0.9	1.1	1.6	0.7	0.6	0.7	0.5	0.9	0.7
130.	0.7	0.7	0.6	0.6	0.4	0.5	0.4	0.7	0.9	1.1	0.8	0.8	0.6	0.6	0.6	0.7
140.	0.7	0.6	0.5	0.5	0.5	0.5	0.4	0.9	1.0	1.0	0.9	0.8	0.7	0.7	0.9	0.6
150.	0.8	0.6	0.4	0.6	0.4	0.5	0.4	1.2	0.8	1.1	0.9	0.8	0.8	0.7	0.7	0.7
160.	0.8	0.5	0.4	0.5	0.4	0.5	0.4	1.2	1.2	1.1	0.9	1.0	0.9	0.8	0.8	0.6
170.	0.7	0.4	0.3	0.4	0.3	0.4	0.3	1.2	1.1	1.0	0.8	0.8	0.8	0.6	0.7	0.6
180.	0.6	0.3	0.1	0.3	0.1	0.2	0.1	1.0	0.8	0.8	0.8	0.6	0.6	0.4	0.6	0.4
190.	0.2	0.1	0.0	0.1	0.0	0.1	0.0	0.7	0.5	0.5	0.6	0.4	0.4	0.3	0.4	0.3
200.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.3	0.5	0.4	0.3	0.3	0.3	0.3
210.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3
220.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3
230.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.2
240.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.2	0.4	0.4	0.3	0.3	0.2	0.2
250.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.4	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.2
260.	0.0	0.3	0.3	0.1	0.1	0.0	0.0	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2
270.	0.1	0.7	0.7	0.3	0.2	0.1	0.1	0.3	0.1	0.1	0.3	0.2	0.1	0.1	0.1	0.1
280.	0.4	0.9	0.9	0.4	0.4	0.4	0.3	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
290.	0.4	0.9	0.9	0.6	0.6	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300.	0.5	1.0	0.9	0.5	0.5	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	0.5	0.9	0.8	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	0.5	0.8	0.8	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	0.5	0.8	0.8	0.6	0.5	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	0.4	0.8	0.8	0.6	0.6	0.5	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
350.	0.7	0.9	0.8	0.7	0.6	0.6	0.5	0.3	0.3	0.3	0.1	0.0	0.1	0.0	0.1	0.0
MAX	1.3	1.7	1.4	1.2	1.2	1.1	1.0	1.3	1.4	1.6	1.0	1.0	1.0	0.8	1.0	0.9
DEGR.	60	20	20	10	30	60	20	30	40	120	30	160	40	80	100	110

THE HIGHEST CONCENTRATION OF 1.70 PPM OCCURRED AT RECEPTOR REC22.

JOB: MAIN & GILBERT 4-LANE SOUTH PARK-AND-RID RUN: GILBERT EXTENSION MG 4L SPNR

DATE : 12/ 3/12
TIME : 19:45:21

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

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. M EB LT Q	*	-68.0	-30.0	-357.2	-30.1	*	289.	270.	AG	88.	100.0	0.0	10.0	1.07	14.7
2. M EB TH APP	*	0.0	-44.0	-985.0	-44.0	*	985.	270.	AG	1368.	6.3	0.0	40.0		
3. M EB TH DEP	*	0.0	-44.0	985.0	-44.0	*	985.	90.	AG	1656.	6.5	0.0	40.0		
4. M EB TH Q	*	-68.0	-44.0	-288.7	-44.1	*	221.	270.	AG	122.	100.0	0.0	20.0	0.55	11.2
5. M WB LT Q	*	74.0	-4.0	137.8	-4.0	*	64.	90.	AG	183.	100.0	0.0	16.0	0.55	3.2
6. M WB TH APP	*	0.0	24.0	985.0	24.0	*	985.	90.	AG	741.	6.5	0.0	38.0		
7. M WB TH DEP	*	0.0	24.0	-985.0	24.0	*	985.	270.	AG	1117.	6.3	0.0	38.0		
8. M WB TH Q	*	74.0	24.0	201.5	24.0	*	127.	90.	AG	130.	100.0	0.0	18.0	0.32	6.5
9. M WB R APP	*	0.0	42.0	985.0	42.0	*	985.	90.	AG	143.	6.5	0.0	30.0		
10. M WB R Q	*	74.0	42.0	123.3	42.0	*	49.	90.	AG	65.	100.0	0.0	10.0	0.29	2.5
11. G NB LT Q	*	-8.0	-74.0	-8.0	-134.3	*	60.	180.	AG	183.	100.0	0.0	20.0	0.52	3.1
12. G NB TH APP	*	24.0	0.0	24.0	-985.0	*	985.	180.	AG	1274.	6.5	0.0	53.0		
13. G NB TH DEP	*	24.0	0.0	24.0	985.0	*	985.	360.	AG	1625.	6.5	0.0	53.0		
14. G NB TH Q	*	24.0	-74.0	24.0	-220.1	*	146.	180.	AG	195.	100.0	0.0	33.0	0.25	7.4
15. G NB R APP	*	44.0	0.0	44.0	-985.0	*	985.	180.	AG	237.	6.5	0.0	30.0		
16. G WB R Q	*	44.0	-74.0	44.0	-155.6	*	82.	180.	AG	65.	100.0	0.0	10.0	0.46	4.1
17. G SB LT Q	*	-10.0	74.0	-10.0	147.1	*	73.	360.	AG	181.	100.0	0.0	20.0	0.55	3.7
18. G SB TH APP	*	-36.0	0.0	-36.0	985.0	*	985.	360.	AG	1573.	6.5	0.0	53.0		
19. G SB TH DEP	*	-36.0	0.0	-36.0	-985.0	*	985.	180.	AG	1962.	6.5	0.0	53.0		
20. G SB TH Q	*	-36.0	74.0	-36.0	251.6	*	178.	360.	AG	192.	100.0	0.0	33.0	0.31	9.0

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
1. M EB LT Q	*	100	85	2.0	208	1770	38.40	2	3
4. M EB TH Q	*	100	59	2.0	1368	3346	38.40	2	3
5. M WB LT Q	*	100	89	2.0	263	3433	38.40	2	3
8. M WB TH Q	*	100	63	2.0	741	3454	38.40	2	3
10. M WB R Q	*	100	63	2.0	143	1507	38.40	2	3
11. G NB LT Q	*	100	89	2.0	249	3433	38.40	2	3

14. G NB TH Q	*	100	63	2.0	1274	5079	38.40	2	3
16. G WB R Q	*	100	63	2.0	237	1577	38.40	2	3
17. G SB LT Q	*	100	88	2.0	304	3433	38.40	2	3
20. G SB TH Q	*	100	62	2.0	1573	5008	38.40	2	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. REC 1 (NE CORNER)	68.0	66.0	5.9
2. REC 2 (N 25)	68.0	91.0	5.9
3. REC 3 (N 50)	68.0	116.0	5.9
4. REC 4 (E 25)	93.0	66.0	5.9
5. REC 5 (E 50)	118.0	66.0	5.9
6. REC 6 (N 25 E 25)	93.0	91.0	5.9
7. REC 7 (N 25 E 50)	118.0	91.0	5.9
8. REC 8 (N 50 E 25)	93.0	116.0	5.9
9. REC 9 (N 50 E 50)	118.0	116.0	5.9
10. REC 10(SE CORNER)	70.0	-66.0	5.9
11. REC 11(S 25)	70.0	-91.0	5.9
12. REC 12(S 50)	70.0	-116.0	5.9
13. REC 13(E 25)	95.0	-66.0	5.9
14. REC 14(E 50)	120.0	-66.0	5.9
15. REC 15(S 25 E 25)	95.0	-91.0	5.9
16. REC 16(S 25 E 50)	120.0	-91.0	5.9
17. REC 17(S 50 E 25)	95.0	-116.0	5.9
18. REC 18(S 50 E 50)	120.0	-116.0	5.9
19. REC 19(SW CORNER)	-68.0	-68.0	5.9
20. REC 20(S 25)	-68.0	-93.0	5.9
21. REC 21(S 50)	-68.0	-118.0	5.9
22. REC 22(W 25)	-93.0	-68.0	5.9
23. REC 23(W 50)	-118.0	-68.0	5.9
24. REC 24(S 25 W 25)	-93.0	-93.0	5.9
25. REC 25(S 25 W 50)	-118.0	-93.0	5.9
26. REC 26(S 50 W 25)	-93.0	-118.0	5.9
27. REC 27(S 50 W 50)	-118.0	-118.0	5.9
28. REC 28(NW CORNER)	-70.0	66.0	5.9
29. REC 29(N 25)	-70.0	91.0	5.9
30. REC 30(N 50)	-70.0	116.0	5.9
31. REC 31(W 25)	-95.0	66.0	5.9
32. REC 32(W 50)	-120.0	66.0	5.9
33. REC 33(N 25 W 25)	-95.0	91.0	5.9
34. REC 34(N 25 W 50)	-120.0	91.0	5.9
35. REC 35(N 50 W 25)	-95.0	116.0	5.9
36. REC 36(N 50 W 50)	-120.0	116.0	5.9

JOB: MAIN & GILBERT 4-LANE SOUTH PARK-AND-RID RUN: GILBERT EXTENSION MG 4L SPNR

MODEL RESULTS

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	0.3	0.3	0.3	0.2	0.1	0.2	0.1	0.1	0.1	1.0	0.8	0.7	1.0	0.9	0.8	0.6	0.7	0.6	1.4	1.0
10.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.6	0.6	0.7	0.7	0.7	0.5	0.6	0.5	1.5	1.5
20.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.6	0.4	0.7	0.6	0.5	0.5	0.4	0.3	1.3	1.3
30.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.5	0.5	0.8	0.6	0.5	0.4	0.4	0.4	1.2	0.9
40.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.6	0.4	0.7	0.6	0.5	0.4	0.3	0.3	0.9	0.9
50.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.5	0.3	0.6	0.5	0.4	0.4	0.3	0.3	1.1	1.0
60.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.4	0.3	0.6	0.6	0.4	0.4	0.3	0.3	1.3	1.2
70.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.4	0.3	0.7	0.7	0.4	0.4	0.3	0.3	1.2	1.2
80.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.4	0.2	0.7	0.7	0.4	0.4	0.2	0.2	1.2	1.2
90.	0.2	0.1	0.0	0.2	0.2	0.1	0.1	0.0	0.0	0.5	0.2	0.1	0.5	0.5	0.2	0.2	0.1	0.1	1.1	1.1
100.	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.1	0.0	0.3	0.3	0.1	0.1	0.0	0.0	1.2	1.0
110.	0.7	0.3	0.2	0.6	0.5	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	1.0	1.0
120.	0.6	0.3	0.3	0.6	0.5	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
130.	0.8	0.4	0.3	0.6	0.5	0.3	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.8
140.	0.7	0.6	0.3	0.6	0.4	0.4	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
150.	0.7	0.6	0.4	0.6	0.4	0.5	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.8
160.	0.7	0.5	0.4	0.7	0.5	0.6	0.5	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.8
170.	0.6	0.5	0.5	0.7	0.6	0.6	0.5	0.4	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
180.	0.8	0.8	0.9	1.0	0.9	0.8	0.8	0.7	0.6	0.4	0.4	0.3	0.2	0.1	0.2	0.1	0.2	0.1	0.6	0.6
190.	0.9	0.8	0.8	1.1	1.0	1.0	0.9	0.9	0.7	0.9	0.8	0.7	0.4	0.2	0.3	0.2	0.3	0.2	0.2	0.2
200.	0.9	1.0	0.9	1.1	1.2	0.9	1.0	0.7	0.8	1.0	1.0	0.8	0.6	0.5	0.5	0.4	0.5	0.4	0.1	0.1
210.	1.0	0.9	0.7	1.0	1.1	0.8	0.9	0.7	0.8	1.1	1.1	1.0	0.8	0.5	0.6	0.5	0.6	0.5	0.0	0.0
220.	0.7	0.6	0.8	1.0	1.1	0.5	0.8	0.4	0.5	1.1	1.0	1.0	0.8	0.5	0.8	0.5	0.6	0.4	0.0	0.0
230.	0.9	0.8	0.9	0.5	0.8	0.8	0.5	0.7	0.6	1.0	1.0	0.9	0.9	0.6	0.8	0.4	0.7	0.4	0.0	0.0
240.	1.0	0.8	1.0	0.8	0.8	0.8	0.7	0.8	0.6	1.1	1.0	0.9	0.9	0.6	0.9	0.6	0.8	0.4	0.0	0.0
250.	0.9	1.0	0.9	0.8	0.9	0.7	0.7	0.7	0.8	1.1	1.1	1.0	0.9	0.7	0.9	0.6	0.8	0.4	0.1	0.0
260.	0.7	0.8	1.0	0.7	0.7	0.7	0.7	0.7	0.7	1.0	1.2	1.0	1.0	0.9	1.0	0.7	0.9	0.7	0.3	0.1
270.	0.8	0.9	0.9	0.7	0.7	0.6	0.6	0.8	0.7	1.4	1.4	1.2	1.4	1.2	1.1	0.8	1.0	0.7	0.8	0.3
280.	0.8	0.8	0.8	0.6	0.6	0.7	0.6	0.6	0.6	1.3	1.4	1.6	1.2	1.1	1.4	1.0	1.4	1.1	1.0	0.5
290.	0.8	0.8	0.7	0.6	0.6	0.6	0.6	0.6	0.6	1.2	1.4	1.6	0.9	0.9	1.0	0.8	1.3	1.0	1.1	0.6
300.	0.8	0.8	0.7	0.6	0.6	0.6	0.6	0.5	0.5	1.0	0.9	1.3	0.9	0.8	0.7	0.7	1.1	0.6	1.1	0.6
310.	0.9	0.8	0.7	0.6	0.6	0.5	0.4	0.5	0.4	1.0	0.9	1.1	0.9	0.9	0.6	0.8	0.8	0.6	1.0	0.6
320.	0.8	0.7	0.7	0.5	0.4	0.4	0.4	0.4	0.4	1.0	0.9	1.2	1.0	1.0	0.6	0.5	0.8	0.6	0.8	0.6
330.	0.7	0.6	0.6	0.5	0.4	0.5	0.3	0.4	0.3	1.1	0.9	1.0	1.1	1.3	0.8	0.9	0.7	0.7	0.8	0.6
340.	0.7	0.7	0.6	0.4	0.3	0.4	0.3	0.4	0.3	1.2	0.9	1.0	1.1	1.1	1.0	0.9	0.9	0.7	0.8	0.6
350.	0.5	0.5	0.5	0.3	0.3	0.3	0.3	0.3	0.3	1.0	1.0	0.8	1.0	1.0	0.9	0.9	0.7	0.8	1.0	0.8
MAX	1.0	1.0	1.0	1.1	1.2	1.0	1.0	0.9	0.8	1.4	1.4	1.6	1.4	1.3	1.4	1.0	1.4	1.1	1.5	1.5
DEGR.	210	250	240	190	200	190	200	190	250	270	270	280	270	330	280	280	280	280	10	10

JOB: MAIN & GILBERT 4-LANE SOUTH PARK-AND-RID RUN: GILBERT EXTENSION MG 4L SPNR

MODEL RESULTS

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36
0.	0.9	1.2	1.1	1.0	0.9	0.8	0.8	0.6	0.6	0.6	0.4	0.1	0.3	0.1	0.3	0.1
10.	1.1	1.4	1.2	1.1	1.0	0.9	0.8	1.1	1.1	1.0	0.6	0.4	0.5	0.3	0.5	0.3
20.	1.0	1.6	1.4	1.2	1.1	1.0	0.9	1.2	1.2	1.2	0.8	0.4	0.7	0.4	0.7	0.4
30.	0.8	1.5	1.3	1.1	1.2	0.6	0.8	1.3	1.2	1.1	0.9	0.5	0.8	0.5	0.8	0.5
40.	0.9	1.0	1.3	0.6	0.7	0.5	0.6	1.3	1.3	1.2	1.0	0.6	0.9	0.6	0.9	0.5
50.	1.1	0.9	1.1	0.9	0.7	0.8	0.6	1.2	1.2	1.1	0.7	0.7	0.8	0.6	0.7	0.6
60.	1.3	1.2	1.1	0.9	0.9	1.2	0.8	1.1	1.2	1.1	0.8	0.7	0.7	0.7	0.7	0.6
70.	1.2	1.2	1.1	1.2	0.8	0.9	0.8	1.0	1.3	1.2	0.8	0.6	0.8	0.7	0.7	0.7
80.	1.1	1.2	1.0	1.0	0.9	1.0	0.7	0.8	1.3	1.2	0.6	0.6	0.8	0.7	0.8	0.7
90.	1.1	1.1	0.9	1.0	0.7	0.9	0.7	1.0	1.4	1.3	0.8	0.7	1.0	0.8	0.8	0.7
100.	1.0	1.0	0.7	0.9	0.7	0.7	0.6	0.8	1.4	1.5	0.7	0.7	0.9	0.8	1.0	0.8
110.	0.9	0.8	0.6	0.7	0.6	0.7	0.5	1.0	1.3	1.5	0.9	0.7	0.8	0.7	1.0	0.9
120.	0.8	0.8	0.6	0.7	0.5	0.6	0.4	0.9	1.1	1.6	0.7	0.6	0.8	0.5	0.9	0.7
130.	0.7	0.7	0.6	0.6	0.4	0.5	0.4	0.7	0.9	1.2	0.8	0.8	0.6	0.6	0.6	0.7
140.	0.7	0.6	0.4	0.5	0.4	0.5	0.3	0.9	1.0	1.0	0.9	0.8	0.7	0.7	0.9	0.6
150.	0.8	0.5	0.4	0.4	0.4	0.4	0.4	1.2	0.8	1.1	0.9	0.8	0.8	0.7	0.7	0.7
160.	0.8	0.5	0.4	0.5	0.4	0.5	0.4	1.2	1.1	1.0	0.9	1.0	0.9	0.7	0.7	0.6
170.	0.7	0.4	0.3	0.4	0.3	0.4	0.3	1.2	1.0	0.9	0.8	0.8	0.8	0.7	0.7	0.6
180.	0.6	0.3	0.1	0.2	0.1	0.2	0.1	0.9	0.8	0.8	0.8	0.6	0.7	0.5	0.6	0.5
190.	0.2	0.1	0.0	0.1	0.0	0.1	0.0	0.7	0.6	0.5	0.6	0.5	0.5	0.4	0.5	0.4
200.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.4
210.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.4
220.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.4
230.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.3
240.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.2	0.5	0.5	0.4	0.3	0.2	0.2
250.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.4	0.3	0.2	0.4	0.3	0.3	0.3	0.2	0.2
260.	0.0	0.3	0.3	0.1	0.1	0.0	0.0	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2
270.	0.1	0.8	0.8	0.3	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1
280.	0.4	1.0	1.0	0.5	0.5	0.3	0.3	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
290.	0.5	1.1	1.1	0.6	0.6	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300.	0.6	1.1	1.1	0.6	0.6	0.6	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	0.6	1.0	1.0	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	0.6	0.8	0.8	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	0.5	0.8	0.8	0.6	0.6	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	0.4	0.8	0.8	0.6	0.6	0.5	0.5	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
350.	0.7	0.9	0.8	0.7	0.6	0.6	0.5	0.3	0.3	0.3	0.1	0.0	0.1	0.0	0.1	0.0
MAX	1.3	1.6	1.4	1.2	1.2	1.2	0.9	1.3	1.4	1.6	1.0	1.0	1.0	0.8	1.0	0.9
DEGR.	60	20	20	20	30	60	20	30	90	120	40	160	90	90	100	110

THE HIGHEST CONCENTRATION OF 1.60 PPM OCCURRED AT RECEPTOR REC22.

JOB: MAIN & GILBERT 2-LANE NORTH PARK-AND-RID RUN: GILBERT EXTENSION MG 2L NPNR

DATE : 11/28/12
TIME : 10: 6:17

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

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. M EB LT Q	*	-68.0	-30.0	-178.0	-30.0	*	110.	270.	AG	87.	100.0	0.0	10.0	0.88	5.6
2. M EB TH APP	*	0.0	-44.0	-985.0	-44.0	*	985.	270.	AG	917.	6.3	0.0	40.0		
3. M EB TH DEP	*	0.0	-44.0	985.0	-44.0	*	985.	90.	AG	1145.	6.5	0.0	40.0		
4. M EB TH Q	*	-68.0	-44.0	-248.3	-44.0	*	180.	270.	AG	135.	100.0	0.0	20.0	0.49	9.2
5. M WB LT Q	*	74.0	-4.0	153.3	-4.0	*	79.	90.	AG	180.	100.0	0.0	16.0	0.48	4.0
6. M WB TH APP	*	0.0	24.0	985.0	24.0	*	985.	90.	AG	563.	6.5	0.0	38.0		
7. M WB TH DEP	*	0.0	24.0	-985.0	24.0	*	985.	270.	AG	851.	6.3	0.0	38.0		
8. M WB TH Q	*	74.0	24.0	189.2	24.0	*	115.	90.	AG	140.	100.0	0.0	18.0	0.31	5.9
9. M WB R APP	*	0.0	42.0	985.0	42.0	*	985.	90.	AG	183.	6.5	0.0	30.0		
10. M WB R Q	*	74.0	42.0	149.0	42.0	*	75.	90.	AG	70.	100.0	0.0	10.0	0.49	3.8
11. G NB LT Q	*	-8.0	-74.0	-8.0	-138.3	*	64.	180.	AG	184.	100.0	0.0	20.0	0.48	3.3
12. G NB TH APP	*	24.0	0.0	24.0	-985.0	*	985.	180.	AG	1393.	6.5	0.0	53.0		
13. G NB TH DEP	*	24.0	0.0	24.0	985.0	*	985.	360.	AG	1760.	6.5	0.0	53.0		
14. G NB TH Q	*	24.0	-74.0	24.0	-241.5	*	167.	180.	AG	185.	100.0	0.0	33.0	0.25	8.5
15. G NB R APP	*	44.0	0.0	44.0	-985.0	*	985.	180.	AG	222.	6.5	0.0	30.0		
16. G WB R Q	*	44.0	-74.0	44.0	-154.1	*	80.	180.	AG	62.	100.0	0.0	10.0	0.39	4.1
17. G SB LT Q	*	-10.0	74.0	-10.0	157.1	*	83.	360.	AG	178.	100.0	0.0	20.0	0.47	4.2
18. G SB TH APP	*	-36.0	0.0	-36.0	985.0	*	985.	360.	AG	1698.	6.5	0.0	53.0		
19. G SB TH DEP	*	-36.0	0.0	-36.0	-985.0	*	985.	180.	AG	2267.	6.5	0.0	53.0		
20. G SB TH Q	*	-36.0	74.0	-36.0	269.0	*	195.	360.	AG	177.	100.0	0.0	33.0	0.29	9.9

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
1. M EB LT Q	*	110	93	2.0	184	1770	38.40	2	3
4. M EB TH Q	*	110	72	2.0	917	3053	38.40	2	3
5. M WB LT Q	*	110	96	2.0	303	3433	38.40	2	3
8. M WB TH Q	*	110	75	2.0	563	3238	38.40	2	3
10. M WB R Q	*	110	75	2.0	183	1319	38.40	2	3
11. G NB LT Q	*	110	98	2.0	240	3433	38.40	2	3

14. G NB TH Q	*	110	66	2.0	1393	5079	38.40	2	3
16. G WB R Q	*	110	66	2.0	222	1577	38.40	2	3
17. G SB LT Q	*	110	95	2.0	320	3433	38.40	2	3
20. G SB TH Q	*	110	63	2.0	1698	5055	38.40	2	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*
1. REC 1 (NE CORNER)	*	68.0	66.0	5.9	*
2. REC 2 (N 25)	*	68.0	91.0	5.9	*
3. REC 3 (N 50)	*	68.0	116.0	5.9	*
4. REC 4 (E 25)	*	93.0	66.0	5.9	*
5. REC 5 (E 50)	*	118.0	66.0	5.9	*
6. REC 6 (N 25 E 25)	*	93.0	91.0	5.9	*
7. REC 7 (N 25 E 50)	*	118.0	91.0	5.9	*
8. REC 8 (N 50 E 25)	*	93.0	116.0	5.9	*
9. REC 9 (N 50 E 50)	*	118.0	116.0	5.9	*
10. REC 10(SE CORNER)	*	70.0	-66.0	5.9	*
11. REC 11(S 25)	*	70.0	-91.0	5.9	*
12. REC 12(S 50)	*	70.0	-116.0	5.9	*
13. REC 13(E 25)	*	95.0	-66.0	5.9	*
14. REC 14(E 50)	*	120.0	-66.0	5.9	*
15. REC 15(S 25 E 25)	*	95.0	-91.0	5.9	*
16. REC 16(S 25 E 50)	*	120.0	-91.0	5.9	*
17. REC 17(S 50 E 25)	*	95.0	-116.0	5.9	*
18. REC 18(S 50 E 50)	*	120.0	-116.0	5.9	*
19. REC 19(SW CORNER)	*	-68.0	-68.0	5.9	*
20. REC 20(S 25)	*	-68.0	-93.0	5.9	*
21. REC 21(S 50)	*	-68.0	-118.0	5.9	*
22. REC 22(W 25)	*	-93.0	-68.0	5.9	*
23. REC 23(W 50)	*	-118.0	-68.0	5.9	*
24. REC 24(S 25 W 25)	*	-93.0	-93.0	5.9	*
25. REC 25(S 25 W 50)	*	-118.0	-93.0	5.9	*
26. REC 26(S 50 W 25)	*	-93.0	-118.0	5.9	*
27. REC 27(S 50 W 50)	*	-118.0	-118.0	5.9	*
28. REC 28(NW CORNER)	*	-70.0	66.0	5.9	*
29. REC 29(N 25)	*	-70.0	91.0	5.9	*
30. REC 30(N 50)	*	-70.0	116.0	5.9	*
31. REC 31(W 25)	*	-95.0	66.0	5.9	*
32. REC 32(W 50)	*	-120.0	66.0	5.9	*
33. REC 33(N 25 W 25)	*	-95.0	91.0	5.9	*
34. REC 34(N 25 W 50)	*	-120.0	91.0	5.9	*
35. REC 35(N 50 W 25)	*	-95.0	116.0	5.9	*
36. REC 36(N 50 W 50)	*	-120.0	116.0	5.9	*

JOB: MAIN & GILBERT 2-LANE NORTH PARK-AND-RID RUN: GILBERT EXTENSION MG 2L NPNR

MODEL RESULTS

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	0.4	0.4	0.4	0.3	0.1	0.3	0.1	0.3	0.1	0.8	0.7	0.6	0.9	0.8	0.8	0.6	0.6	0.4	1.4	1.0
10.	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.7	0.5	0.4	0.7	0.7	0.6	0.4	0.4	0.3	1.5	1.4
20.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.5	0.3	0.6	0.6	0.5	0.4	0.3	0.3	1.3	1.1
30.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.5	0.3	0.6	0.5	0.4	0.4	0.3	0.1	1.3	0.9
40.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.4	0.3	0.7	0.6	0.4	0.2	0.1	0.1	0.9	0.8
50.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.5	0.1	0.6	0.4	0.3	0.3	0.1	0.1	0.8	1.0
60.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.3	0.2	0.4	0.4	0.3	0.3	0.2	0.2	1.2	1.1
70.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.2	0.5	0.5	0.3	0.3	0.2	0.2	1.2	1.2
80.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.2	0.1	0.5	0.5	0.2	0.2	0.1	0.1	1.0	1.0
90.	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.4	0.1	0.1	0.4	0.4	0.1	0.1	0.1	0.1	1.0	1.0
100.	0.5	0.2	0.2	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.2	0.2	0.1	0.1	0.0	0.0	1.0	1.1
110.	0.6	0.3	0.2	0.5	0.4	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.9	0.9
120.	0.6	0.4	0.3	0.5	0.5	0.3	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	1.0
130.	0.7	0.6	0.3	0.7	0.5	0.3	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.9
140.	0.8	0.6	0.5	0.7	0.5	0.6	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.0
150.	0.7	0.6	0.5	0.8	0.6	0.6	0.5	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.9
160.	0.7	0.5	0.5	0.7	0.7	0.6	0.6	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
170.	0.7	0.6	0.5	0.7	0.7	0.7	0.6	0.5	0.5	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
180.	0.8	0.8	0.9	1.0	0.9	0.9	0.9	0.8	0.7	0.4	0.4	0.4	0.2	0.2	0.2	0.2	0.2	0.1	0.6	0.6
190.	1.0	0.9	0.8	1.1	1.1	1.0	1.1	0.9	0.9	0.9	0.8	0.8	0.5	0.2	0.5	0.2	0.4	0.2	0.3	0.3
200.	1.0	1.1	0.7	1.3	1.2	1.0	1.1	0.8	1.0	1.2	1.1	1.0	0.6	0.5	0.5	0.5	0.5	0.4	0.1	0.1
210.	1.0	0.9	0.6	1.1	1.2	0.8	1.0	0.5	0.7	1.2	1.2	1.2	0.7	0.6	0.6	0.5	0.6	0.5	0.0	0.0
220.	0.7	0.8	0.6	0.9	1.1	0.6	0.8	0.4	0.3	1.1	1.0	1.0	0.8	0.6	0.7	0.6	0.7	0.6	0.0	0.0
230.	0.9	0.8	0.9	0.7	0.7	0.6	0.5	0.7	0.5	1.0	1.0	0.9	0.9	0.5	0.8	0.5	0.7	0.5	0.0	0.0
240.	0.9	0.8	0.9	0.8	0.8	0.7	0.7	0.7	0.7	1.0	1.0	0.9	0.9	0.7	0.9	0.5	0.8	0.5	0.0	0.0
250.	0.7	1.0	1.0	0.8	0.9	0.6	0.6	0.7	0.7	1.0	1.1	1.0	0.8	0.7	0.9	0.7	0.9	0.5	0.0	0.0
260.	0.7	0.9	1.0	0.5	0.5	0.7	0.7	0.7	0.7	1.0	1.1	1.0	1.0	0.8	0.9	0.7	0.9	0.7	0.2	0.0
270.	0.8	1.0	0.9	0.6	0.6	0.6	0.6	0.7	0.5	1.0	1.2	1.2	1.1	1.0	1.0	0.8	1.0	0.8	0.4	0.2
280.	0.7	0.9	0.9	0.5	0.5	0.7	0.5	0.6	0.6	1.0	1.3	1.4	1.0	0.8	1.1	0.9	1.2	1.0	0.8	0.4
290.	0.9	0.9	0.9	0.6	0.5	0.7	0.6	0.6	0.6	1.0	1.1	1.4	0.9	0.7	0.9	0.7	1.1	0.7	0.9	0.5
300.	0.9	0.9	0.8	0.6	0.6	0.6	0.6	0.6	0.5	0.9	1.0	1.2	0.7	0.8	0.7	0.6	1.2	0.6	0.9	0.6
310.	0.9	0.8	0.8	0.6	0.6	0.6	0.4	0.5	0.4	0.9	0.8	1.3	0.8	0.8	0.7	0.6	0.7	0.4	0.8	0.6
320.	0.8	0.8	0.7	0.7	0.4	0.5	0.4	0.5	0.4	0.9	0.8	0.8	0.9	0.9	0.6	0.7	0.6	0.5	0.8	0.5
330.	0.9	0.7	0.7	0.6	0.4	0.6	0.3	0.6	0.3	0.9	0.9	0.9	0.9	1.1	0.9	0.8	0.6	0.7	0.7	0.5
340.	0.7	0.7	0.6	0.5	0.3	0.5	0.3	0.5	0.3	1.0	0.9	0.9	1.2	1.0	0.9	0.8	0.8	0.7	0.7	0.5
350.	0.6	0.6	0.6	0.4	0.3	0.4	0.3	0.3	0.3	1.0	1.0	0.9	1.0	0.9	0.8	0.8	0.7	0.6	1.0	0.8
MAX	1.0	1.1	1.0	1.3	1.2	1.0	1.1	0.9	1.0	1.2	1.3	1.4	1.2	1.1	1.1	0.9	1.2	1.0	1.5	1.4
DEGR.	190	200	250	200	200	190	190	190	200	200	280	280	340	330	280	280	280	280	10	10

JOB: MAIN & GILBERT 2-LANE NORTH PARK-AND-RID RUN: GILBERT EXTENSION MG 2L NPNR

MODEL RESULTS

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36
0.	0.9	1.1	1.0	0.9	0.8	0.9	0.8	0.7	0.7	0.7	0.4	0.1	0.3	0.1	0.3	0.1
10.	1.2	1.4	1.1	1.1	0.9	1.0	0.9	1.1	1.1	1.0	0.6	0.4	0.5	0.3	0.5	0.3
20.	1.2	1.6	1.4	1.2	1.1	1.0	1.1	1.3	1.2	1.2	0.8	0.5	0.7	0.5	0.7	0.4
30.	0.9	1.4	1.4	1.0	1.2	0.8	0.7	1.2	1.2	1.1	0.8	0.6	0.8	0.6	0.8	0.6
40.	1.0	1.1	1.4	0.7	0.6	0.6	0.6	1.3	1.2	1.1	1.0	0.6	0.8	0.6	0.8	0.5
50.	1.0	0.9	0.9	0.6	0.6	0.8	0.5	1.1	1.2	1.1	0.9	0.7	0.8	0.7	0.7	0.6
60.	1.1	1.1	1.0	0.9	0.8	0.9	0.9	1.1	1.2	1.2	0.9	0.6	0.9	0.7	0.8	0.6
70.	1.1	1.1	1.1	1.0	0.8	0.8	0.7	1.0	1.3	1.2	0.7	0.6	0.8	0.6	0.7	0.6
80.	1.1	1.0	1.0	0.8	0.7	0.9	0.6	0.8	1.2	1.2	0.7	0.6	0.9	0.7	0.9	0.7
90.	1.0	0.9	0.8	0.9	0.6	0.9	0.7	1.0	1.1	1.2	0.8	0.8	0.9	0.6	0.9	0.7
100.	0.9	0.8	0.8	0.9	0.8	0.7	0.7	0.9	1.4	1.4	0.7	0.8	0.9	0.8	1.1	0.8
110.	0.8	0.8	0.7	0.8	0.7	0.7	0.6	0.9	1.3	1.4	0.8	0.7	0.9	0.8	1.0	0.9
120.	0.8	0.8	0.7	0.7	0.7	0.6	0.6	0.9	1.2	1.5	0.6	0.5	0.6	0.5	1.0	0.6
130.	0.8	0.7	0.7	0.7	0.5	0.6	0.5	0.7	0.7	1.1	0.7	0.6	0.7	0.5	0.5	0.7
140.	0.9	0.8	0.5	0.6	0.5	0.6	0.5	0.8	1.1	1.1	0.6	0.8	0.7	0.6	0.9	0.5
150.	0.9	0.6	0.5	0.6	0.4	0.5	0.4	1.0	0.8	1.2	0.9	0.9	0.7	0.7	0.7	0.6
160.	0.9	0.5	0.4	0.5	0.4	0.5	0.4	1.2	1.1	1.1	0.9	0.9	0.9	0.8	0.8	0.7
170.	0.8	0.5	0.4	0.5	0.4	0.5	0.4	1.3	1.2	1.1	0.9	0.8	0.8	0.8	0.9	0.7
180.	0.6	0.4	0.2	0.3	0.2	0.3	0.2	0.9	0.9	0.8	0.8	0.6	0.7	0.6	0.6	0.6
190.	0.3	0.1	0.0	0.1	0.0	0.1	0.0	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.4
200.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.3	0.4	0.4	0.4	0.3	0.3	0.3
210.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.3
220.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
230.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
240.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.2	0.4	0.3	0.2	0.2	0.2	0.2
250.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2
260.	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.3	0.2	0.1	0.3	0.3	0.2	0.2	0.1	0.1
270.	0.1	0.4	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0
280.	0.1	0.7	0.7	0.4	0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290.	0.3	0.9	0.8	0.5	0.5	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300.	0.4	0.9	0.9	0.5	0.5	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	0.4	0.8	0.8	0.6	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	0.5	0.8	0.8	0.5	0.5	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	0.5	0.8	0.8	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	0.5	0.8	0.8	0.5	0.5	0.5	0.5	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
350.	0.7	0.8	0.7	0.6	0.5	0.6	0.5	0.3	0.3	0.3	0.1	0.0	0.1	0.0	0.1	0.0
MAX	1.2	1.6	1.4	1.2	1.2	1.0	1.1	1.3	1.4	1.5	1.0	0.9	0.9	0.8	1.1	0.9
DEGR.	10	20	30	20	30	10	20	20	100	120	40	150	60	100	100	110

THE HIGHEST CONCENTRATION OF 1.60 PPM OCCURRED AT RECEPTOR REC22.

JOB: MAIN & GILBERT 2-LANE SOUTH PARK-AND-RID RUN: GILBERT EXTENSION MG 2L SPNR

DATE : 11/28/12
TIME : 10:26:15

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

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. M EB LT Q	*	-68.0	-30.0	-214.5	-30.0	*	146.	270.	AG	84.	100.0	0.0	10.0	0.93	7.4
2. M EB TH APP	*	0.0	-44.0	-985.0	-44.0	*	985.	270.	AG	899.	6.3	0.0	40.0		
3. M EB TH DEP	*	0.0	-44.0	985.0	-44.0	*	985.	90.	AG	1108.	6.5	0.0	40.0		
4. M EB TH Q	*	-68.0	-44.0	-242.3	-44.0	*	174.	270.	AG	133.	100.0	0.0	20.0	0.46	8.9
5. M WB LT Q	*	74.0	-4.0	156.8	-4.0	*	83.	90.	AG	176.	100.0	0.0	16.0	0.43	4.2
6. M WB TH APP	*	0.0	24.0	985.0	24.0	*	985.	90.	AG	558.	6.5	0.0	38.0		
7. M WB TH DEP	*	0.0	24.0	-985.0	24.0	*	985.	270.	AG	838.	6.3	0.0	38.0		
8. M WB TH Q	*	74.0	24.0	188.4	24.0	*	114.	90.	AG	140.	100.0	0.0	18.0	0.31	5.8
9. M WB R APP	*	0.0	42.0	985.0	42.0	*	985.	90.	AG	164.	6.5	0.0	30.0		
10. M WB R Q	*	74.0	42.0	141.3	42.0	*	67.	90.	AG	70.	100.0	0.0	10.0	0.44	3.4
11. G NB LT Q	*	-8.0	-74.0	-8.0	-134.6	*	61.	180.	AG	184.	100.0	0.0	20.0	0.45	3.1
12. G NB TH APP	*	24.0	0.0	24.0	-985.0	*	985.	180.	AG	1382.	6.5	0.0	53.0		
13. G NB TH DEP	*	24.0	0.0	24.0	985.0	*	985.	360.	AG	1785.	6.5	0.0	53.0		
14. G NB TH Q	*	24.0	-74.0	24.0	-245.0	*	171.	180.	AG	191.	100.0	0.0	33.0	0.26	8.7
15. G NB R APP	*	44.0	0.0	44.0	-985.0	*	985.	180.	AG	222.	6.5	0.0	30.0		
16. G WB R Q	*	44.0	-74.0	44.0	-156.5	*	83.	180.	AG	64.	100.0	0.0	10.0	0.41	4.2
17. G SB LT Q	*	-10.0	74.0	-10.0	143.3	*	69.	360.	AG	180.	100.0	0.0	20.0	0.42	3.5
18. G SB TH APP	*	-36.0	0.0	-36.0	985.0	*	985.	360.	AG	1667.	6.5	0.0	53.0		
19. G SB TH DEP	*	-36.0	0.0	-36.0	-985.0	*	985.	180.	AG	2214.	6.5	0.0	53.0		
20. G SB TH Q	*	-36.0	74.0	-36.0	274.3	*	200.	360.	AG	185.	100.0	0.0	33.0	0.30	10.2

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
1. M EB LT Q	*	110	90	2.0	239	1770	38.40	2	3
4. M EB TH Q	*	110	71	2.0	899	3071	38.40	2	3
5. M WB LT Q	*	110	94	2.0	323	3433	38.40	2	3
8. M WB TH Q	*	110	75	2.0	558	3238	38.40	2	3
10. M WB R Q	*	110	75	2.0	164	1319	38.40	2	3
11. G NB LT Q	*	110	98	2.0	227	3433	38.40	2	3

14. G NB TH Q	*	110	68	2.0	1382	5079	38.40	2	3
16. G WB R Q	*	110	68	2.0	222	1577	38.40	2	3
17. G SB LT Q	*	110	96	2.0	264	3433	38.40	2	3
20. G SB TH Q	*	110	66	2.0	1667	5049	38.40	2	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*
1. REC 1 (NE CORNER)	*	68.0	66.0	5.9	*
2. REC 2 (N 25)	*	68.0	91.0	5.9	*
3. REC 3 (N 50)	*	68.0	116.0	5.9	*
4. REC 4 (E 25)	*	93.0	66.0	5.9	*
5. REC 5 (E 50)	*	118.0	66.0	5.9	*
6. REC 6 (N 25 E 25)	*	93.0	91.0	5.9	*
7. REC 7 (N 25 E 50)	*	118.0	91.0	5.9	*
8. REC 8 (N 50 E 25)	*	93.0	116.0	5.9	*
9. REC 9 (N 50 E 50)	*	118.0	116.0	5.9	*
10. REC 10(SE CORNER)	*	70.0	-66.0	5.9	*
11. REC 11(S 25)	*	70.0	-91.0	5.9	*
12. REC 12(S 50)	*	70.0	-116.0	5.9	*
13. REC 13(E 25)	*	95.0	-66.0	5.9	*
14. REC 14(E 50)	*	120.0	-66.0	5.9	*
15. REC 15(S 25 E 25)	*	95.0	-91.0	5.9	*
16. REC 16(S 25 E 50)	*	120.0	-91.0	5.9	*
17. REC 17(S 50 E 25)	*	95.0	-116.0	5.9	*
18. REC 18(S 50 E 50)	*	120.0	-116.0	5.9	*
19. REC 19(SW CORNER)	*	-68.0	-68.0	5.9	*
20. REC 20(S 25)	*	-68.0	-93.0	5.9	*
21. REC 21(S 50)	*	-68.0	-118.0	5.9	*
22. REC 22(W 25)	*	-93.0	-68.0	5.9	*
23. REC 23(W 50)	*	-118.0	-68.0	5.9	*
24. REC 24(S 25 W 25)	*	-93.0	-93.0	5.9	*
25. REC 25(S 25 W 50)	*	-118.0	-93.0	5.9	*
26. REC 26(S 50 W 25)	*	-93.0	-118.0	5.9	*
27. REC 27(S 50 W 50)	*	-118.0	-118.0	5.9	*
28. REC 28(NW CORNER)	*	-70.0	66.0	5.9	*
29. REC 29(N 25)	*	-70.0	91.0	5.9	*
30. REC 30(N 50)	*	-70.0	116.0	5.9	*
31. REC 31(W 25)	*	-95.0	66.0	5.9	*
32. REC 32(W 50)	*	-120.0	66.0	5.9	*
33. REC 33(N 25 W 25)	*	-95.0	91.0	5.9	*
34. REC 34(N 25 W 50)	*	-120.0	91.0	5.9	*
35. REC 35(N 50 W 25)	*	-95.0	116.0	5.9	*
36. REC 36(N 50 W 50)	*	-120.0	116.0	5.9	*

JOB: MAIN & GILBERT 2-LANE SOUTH PARK-AND-RID RUN: GILBERT EXTENSION MG 2L SPNR

MODEL RESULTS

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	0.4	0.4	0.4	0.3	0.1	0.3	0.1	0.3	0.1	0.9	0.7	0.6	0.9	0.8	0.8	0.6	0.6	0.4	1.4	1.0
10.	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.7	0.5	0.4	0.7	0.7	0.6	0.5	0.4	0.3	1.5	1.4
20.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.5	0.3	0.6	0.6	0.5	0.4	0.3	0.3	1.3	1.1
30.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.5	0.3	0.6	0.5	0.4	0.4	0.3	0.1	1.3	0.9
40.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.4	0.3	0.7	0.6	0.4	0.2	0.1	0.1	0.9	0.8
50.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.5	0.1	0.6	0.4	0.3	0.3	0.1	0.1	0.8	1.0
60.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.3	0.2	0.4	0.4	0.3	0.3	0.1	0.1	1.2	1.1
70.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.2	0.5	0.5	0.3	0.3	0.2	0.2	1.2	1.2
80.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.2	0.1	0.5	0.5	0.2	0.2	0.1	0.1	1.0	1.0
90.	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.3	0.1	0.1	0.3	0.3	0.1	0.1	0.1	0.1	1.0	1.0
100.	0.4	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.2	0.2	0.1	0.1	0.0	0.0	1.0	1.0
110.	0.5	0.3	0.2	0.4	0.3	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.9	0.9
120.	0.6	0.3	0.3	0.5	0.4	0.3	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
130.	0.7	0.6	0.3	0.7	0.5	0.3	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.0
140.	0.8	0.6	0.4	0.7	0.6	0.6	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
150.	0.7	0.6	0.5	0.8	0.6	0.6	0.5	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.0
160.	0.7	0.5	0.4	0.7	0.7	0.6	0.6	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
170.	0.7	0.6	0.5	0.7	0.7	0.7	0.6	0.5	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
180.	0.8	0.8	0.9	1.0	0.9	0.9	0.9	0.8	0.7	0.4	0.4	0.4	0.2	0.2	0.2	0.1	0.2	0.1	0.6	0.6
190.	1.0	0.9	0.7	1.1	1.1	1.0	1.1	0.9	0.9	0.9	0.8	0.8	0.5	0.2	0.5	0.2	0.4	0.2	0.3	0.3
200.	1.1	1.1	0.7	1.2	1.3	0.9	1.1	0.7	1.0	1.2	1.0	0.9	0.6	0.5	0.6	0.5	0.5	0.4	0.1	0.1
210.	1.0	0.8	0.6	1.1	1.2	0.8	0.9	0.5	0.7	1.1	1.1	1.1	0.8	0.6	0.6	0.5	0.6	0.5	0.0	0.0
220.	0.7	0.8	0.6	0.9	1.1	0.6	0.8	0.4	0.3	1.1	1.0	1.0	0.8	0.6	0.8	0.6	0.7	0.6	0.0	0.0
230.	0.8	0.8	0.9	0.7	0.6	0.6	0.5	0.7	0.6	1.0	1.0	0.9	0.9	0.7	0.8	0.6	0.7	0.5	0.0	0.0
240.	0.9	0.7	0.9	0.8	0.8	0.7	0.7	0.7	0.7	1.1	1.0	0.9	0.9	0.7	0.9	0.7	0.8	0.5	0.0	0.0
250.	0.7	0.9	1.0	0.8	0.9	0.6	0.6	0.7	0.7	1.0	1.1	1.0	0.8	0.6	0.9	0.6	0.8	0.4	0.0	0.0
260.	0.6	0.9	1.0	0.5	0.5	0.7	0.7	0.6	0.6	1.0	1.1	1.0	1.0	0.8	0.9	0.7	0.9	0.7	0.2	0.0
270.	0.8	1.0	0.9	0.6	0.6	0.6	0.6	0.6	0.6	1.0	1.3	1.2	1.0	0.9	1.0	0.9	1.0	0.8	0.4	0.1
280.	0.7	0.9	0.9	0.5	0.5	0.6	0.6	0.6	0.6	1.1	1.2	1.4	0.9	0.8	1.1	0.8	1.2	1.0	0.8	0.4
290.	0.9	0.9	0.8	0.6	0.6	0.6	0.6	0.6	0.5	0.9	1.2	1.4	0.9	0.7	0.9	0.7	1.1	0.8	0.9	0.6
300.	0.9	0.8	0.8	0.6	0.6	0.6	0.6	0.5	0.5	0.9	1.0	1.2	0.7	0.8	0.7	0.5	1.1	0.6	0.8	0.6
310.	0.9	0.8	0.7	0.6	0.5	0.5	0.4	0.5	0.4	0.9	0.8	1.3	0.7	0.8	0.7	0.6	0.7	0.4	0.8	0.6
320.	0.8	0.7	0.7	0.7	0.4	0.6	0.4	0.6	0.4	0.9	0.8	0.9	0.9	0.9	0.6	0.6	0.6	0.5	0.8	0.5
330.	0.8	0.7	0.7	0.6	0.4	0.6	0.3	0.6	0.3	1.0	0.9	0.9	0.9	1.0	0.9	0.8	0.5	0.6	0.7	0.5
340.	0.7	0.7	0.7	0.5	0.3	0.5	0.3	0.5	0.3	1.0	0.9	0.9	1.2	1.0	0.9	0.8	0.7	0.7	0.7	0.5
350.	0.6	0.6	0.6	0.4	0.3	0.4	0.3	0.4	0.3	0.9	0.9	0.8	1.1	0.9	0.8	0.8	0.7	0.6	1.0	0.8
MAX	1.1	1.1	1.0	1.2	1.3	1.0	1.1	0.9	1.0	1.2	1.3	1.4	1.2	1.0	1.1	0.9	1.2	1.0	1.5	1.4
DEGR.	200	200	250	200	200	190	190	190	200	200	270	280	340	330	280	270	280	280	10	10

JOB: MAIN & GILBERT 2-LANE SOUTH PARK-AND-RID RUN: GILBERT EXTENSION MG 2L SPNR

MODEL RESULTS

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36
0.	0.9	1.1	1.0	0.9	0.8	0.9	0.8	0.7	0.7	0.7	0.4	0.1	0.4	0.1	0.3	0.1
10.	1.2	1.4	1.1	1.2	0.9	1.0	0.9	1.1	1.1	1.1	0.6	0.4	0.5	0.4	0.5	0.3
20.	1.2	1.6	1.3	1.2	1.1	1.0	1.0	1.2	1.2	1.2	0.8	0.6	0.8	0.5	0.7	0.5
30.	0.9	1.4	1.3	0.9	1.2	0.8	0.6	1.3	1.2	1.1	0.9	0.6	0.8	0.6	0.8	0.6
40.	1.0	1.0	1.2	0.7	0.6	0.6	0.6	1.3	1.2	1.1	1.0	0.7	0.9	0.7	0.9	0.6
50.	1.0	0.9	0.9	0.6	0.6	0.8	0.5	1.1	1.2	1.0	0.8	0.7	0.8	0.6	0.7	0.6
60.	1.1	1.1	0.9	0.8	0.8	0.9	0.8	1.1	1.2	1.1	0.9	0.7	0.8	0.7	0.7	0.6
70.	1.0	1.1	1.1	1.1	0.8	0.7	0.6	1.0	1.2	1.2	0.8	0.6	0.8	0.7	0.7	0.7
80.	1.0	1.0	1.0	0.8	0.7	0.9	0.6	0.8	1.3	1.2	0.7	0.6	0.9	0.6	0.8	0.7
90.	1.0	0.9	0.8	0.9	0.6	0.9	0.7	1.0	1.1	1.3	0.9	0.7	0.9	0.6	0.9	0.7
100.	1.0	0.8	0.7	0.9	0.7	0.7	0.6	0.9	1.4	1.5	0.7	0.8	0.9	0.8	1.1	0.8
110.	0.9	0.8	0.6	0.7	0.6	0.7	0.5	0.9	1.3	1.4	0.8	0.7	0.9	0.8	1.0	0.9
120.	0.9	0.8	0.6	0.7	0.6	0.6	0.5	0.9	1.2	1.5	0.6	0.6	0.6	0.5	1.0	0.7
130.	0.8	0.7	0.7	0.6	0.5	0.6	0.5	0.7	0.7	1.2	0.7	0.6	0.6	0.6	0.5	0.7
140.	0.9	0.8	0.5	0.6	0.5	0.6	0.5	0.8	1.0	1.1	0.6	0.8	0.7	0.6	0.9	0.5
150.	0.9	0.6	0.5	0.6	0.4	0.5	0.4	1.0	0.7	1.1	0.9	0.9	0.7	0.7	0.7	0.6
160.	0.9	0.5	0.4	0.5	0.4	0.5	0.4	1.3	1.1	1.0	0.8	0.9	0.9	0.8	0.7	0.7
170.	0.8	0.5	0.4	0.5	0.4	0.5	0.4	1.3	1.2	1.0	0.9	0.8	0.8	0.8	0.9	0.7
180.	0.6	0.3	0.2	0.3	0.2	0.3	0.1	0.9	0.8	0.8	0.7	0.6	0.7	0.6	0.6	0.6
190.	0.3	0.1	0.0	0.1	0.0	0.1	0.0	0.6	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5
200.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3
210.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3
220.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.2
230.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
240.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.2	0.4	0.3	0.2	0.2	0.2	0.2
250.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2
260.	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.3	0.2	0.1	0.3	0.3	0.2	0.2	0.1	0.1
270.	0.1	0.4	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0
280.	0.1	0.8	0.7	0.4	0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290.	0.3	0.9	0.9	0.5	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300.	0.4	0.8	0.8	0.6	0.5	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	0.5	0.8	0.8	0.5	0.5	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	0.5	0.8	0.8	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	0.5	0.8	0.8	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	0.4	0.7	0.7	0.5	0.5	0.5	0.5	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
350.	0.7	0.8	0.7	0.6	0.5	0.6	0.5	0.3	0.3	0.3	0.1	0.0	0.1	0.0	0.1	0.0
MAX	1.2	1.6	1.3	1.2	1.2	1.0	1.0	1.3	1.4	1.5	1.0	0.9	0.9	0.8	1.1	0.9
DEGR.	10	20	20	10	30	10	20	30	100	100	40	150	80	100	100	110

THE HIGHEST CONCENTRATION OF 1.60 PPM OCCURRED AT RECEPTOR REC22.

JOB: MAIN & GILBERT 2-LANE RBT NORTH PARK-AND RUN: GILBERT EXTENSION MG 2L RBT NPNR

DATE : 11/28/12
TIME : 10:32:41

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

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. M EB LT Q	*	-68.0	-30.0	-178.0	-30.0	*	110.	270.	AG	87.	100.0	0.0	10.0	0.88	5.6
2. M EB TH APP	*	0.0	-44.0	-985.0	-44.0	*	985.	270.	AG	917.	6.3	0.0	40.0		
3. M EB TH DEP	*	0.0	-44.0	985.0	-44.0	*	985.	90.	AG	1145.	6.5	0.0	40.0		
4. M EB TH Q	*	-68.0	-44.0	-248.3	-44.0	*	180.	270.	AG	135.	100.0	0.0	20.0	0.46	9.2
5. M WB LT Q	*	74.0	-4.0	153.3	-4.0	*	79.	90.	AG	180.	100.0	0.0	16.0	0.48	4.0
6. M WB TH APP	*	0.0	24.0	985.0	24.0	*	985.	90.	AG	563.	6.5	0.0	38.0		
7. M WB TH DEP	*	0.0	24.0	-985.0	24.0	*	985.	270.	AG	851.	6.3	0.0	38.0		
8. M WB TH Q	*	74.0	24.0	189.2	24.0	*	115.	90.	AG	140.	100.0	0.0	18.0	0.29	5.9
9. M WB R APP	*	0.0	42.0	985.0	42.0	*	985.	90.	AG	183.	6.5	0.0	30.0		
10. M WB R Q	*	74.0	42.0	149.0	42.0	*	75.	90.	AG	70.	100.0	0.0	10.0	0.43	3.8
11. G NB LT Q	*	-8.0	-74.0	-8.0	-138.3	*	64.	180.	AG	184.	100.0	0.0	20.0	0.48	3.3
12. G NB TH APP	*	24.0	0.0	24.0	-985.0	*	985.	180.	AG	1393.	6.5	0.0	53.0		
13. G NB TH DEP	*	24.0	0.0	24.0	985.0	*	985.	360.	AG	1760.	6.5	0.0	53.0		
14. G NB TH Q	*	24.0	-74.0	24.0	-241.5	*	167.	180.	AG	185.	100.0	0.0	33.0	0.25	8.5
15. G NB R APP	*	44.0	0.0	44.0	-985.0	*	985.	180.	AG	222.	6.5	0.0	30.0		
16. G WB R Q	*	44.0	-74.0	44.0	-154.1	*	80.	180.	AG	62.	100.0	0.0	10.0	0.39	4.1
17. G SB LT Q	*	-10.0	74.0	-10.0	139.6	*	66.	360.	AG	140.	100.0	0.0	20.0	0.17	3.3
18. G SB TH APP	*	-36.0	0.0	-36.0	985.0	*	985.	360.	AG	1698.	6.5	0.0	53.0		
19. G SB TH DEP	*	-36.0	0.0	-36.0	-985.0	*	985.	180.	AG	2267.	6.5	0.0	53.0		
20. G SB TH Q	*	-36.0	74.0	-36.0	269.0	*	195.	360.	AG	177.	100.0	0.0	33.0	0.29	9.9

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
1. M EB LT Q	*	110	93	2.0	184	1770	38.40	2	3
4. M EB TH Q	*	110	72	2.0	917	3257	38.40	2	3
5. M WB LT Q	*	110	96	2.0	303	3433	38.40	2	3
8. M WB TH Q	*	110	75	2.0	563	3454	38.40	2	3
10. M WB R Q	*	110	75	2.0	183	1507	38.40	2	3
11. G NB LT Q	*	110	98	2.0	240	3433	38.40	2	3

14. G NB TH Q	*	110	66	2.0	1393	5079	38.40	2	3
16. G WB R Q	*	110	66	2.0	222	1577	38.40	2	3
17. G SB LT Q	*	110	75	2.0	320	3433	38.40	2	3
20. G SB TH Q	*	110	63	2.0	1698	5052	38.40	2	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*
1. REC 1 (NE CORNER)	*	68.0	66.0	5.9	*
2. REC 2 (N 25)	*	68.0	91.0	5.9	*
3. REC 3 (N 50)	*	68.0	116.0	5.9	*
4. REC 4 (E 25)	*	93.0	66.0	5.9	*
5. REC 5 (E 50)	*	118.0	66.0	5.9	*
6. REC 6 (N 25 E 25)	*	93.0	91.0	5.9	*
7. REC 7 (N 25 E 50)	*	118.0	91.0	5.9	*
8. REC 8 (N 50 E 25)	*	93.0	116.0	5.9	*
9. REC 9 (N 50 E 50)	*	118.0	116.0	5.9	*
10. REC 10(SE CORNER)	*	70.0	-66.0	5.9	*
11. REC 11(S 25)	*	70.0	-91.0	5.9	*
12. REC 12(S 50)	*	70.0	-116.0	5.9	*
13. REC 13(E 25)	*	95.0	-66.0	5.9	*
14. REC 14(E 50)	*	120.0	-66.0	5.9	*
15. REC 15(S 25 E 25)	*	95.0	-91.0	5.9	*
16. REC 16(S 25 E 50)	*	120.0	-91.0	5.9	*
17. REC 17(S 50 E 25)	*	95.0	-116.0	5.9	*
18. REC 18(S 50 E 50)	*	120.0	-116.0	5.9	*
19. REC 19(SW CORNER)	*	-68.0	-68.0	5.9	*
20. REC 20(S 25)	*	-68.0	-93.0	5.9	*
21. REC 21(S 50)	*	-68.0	-118.0	5.9	*
22. REC 22(W 25)	*	-93.0	-68.0	5.9	*
23. REC 23(W 50)	*	-118.0	-68.0	5.9	*
24. REC 24(S 25 W 25)	*	-93.0	-93.0	5.9	*
25. REC 25(S 25 W 50)	*	-118.0	-93.0	5.9	*
26. REC 26(S 50 W 25)	*	-93.0	-118.0	5.9	*
27. REC 27(S 50 W 50)	*	-118.0	-118.0	5.9	*
28. REC 28(NW CORNER)	*	-70.0	66.0	5.9	*
29. REC 29(N 25)	*	-70.0	91.0	5.9	*
30. REC 30(N 50)	*	-70.0	116.0	5.9	*
31. REC 31(W 25)	*	-95.0	66.0	5.9	*
32. REC 32(W 50)	*	-120.0	66.0	5.9	*
33. REC 33(N 25 W 25)	*	-95.0	91.0	5.9	*
34. REC 34(N 25 W 50)	*	-120.0	91.0	5.9	*
35. REC 35(N 50 W 25)	*	-95.0	116.0	5.9	*
36. REC 36(N 50 W 50)	*	-120.0	116.0	5.9	*

JOB: MAIN & GILBERT 2-LANE RBT NORTH PARK-AND RUN: GILBERT EXTENSION MG 2L RBT NPNR

MODEL RESULTS

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	0.4	0.4	0.4	0.3	0.1	0.3	0.1	0.3	0.1	0.8	0.7	0.6	0.9	0.8	0.8	0.6	0.6	0.4	1.4	1.0
10.	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.7	0.5	0.4	0.7	0.7	0.6	0.4	0.4	0.3	1.5	1.3
20.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.5	0.3	0.6	0.6	0.5	0.4	0.3	0.3	1.3	1.0
30.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.5	0.3	0.6	0.5	0.4	0.4	0.3	0.1	1.2	0.9
40.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.4	0.3	0.7	0.6	0.4	0.2	0.1	0.1	0.9	0.8
50.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.5	0.1	0.6	0.4	0.3	0.3	0.1	0.1	0.8	1.0
60.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.3	0.2	0.4	0.4	0.3	0.3	0.2	0.2	1.2	1.1
70.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.2	0.5	0.5	0.3	0.3	0.2	0.2	1.2	1.2
80.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.2	0.1	0.5	0.5	0.2	0.2	0.1	0.1	1.0	1.0
90.	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.4	0.1	0.1	0.4	0.4	0.1	0.1	0.1	0.1	1.0	1.0
100.	0.5	0.2	0.2	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.2	0.2	0.1	0.1	0.0	0.0	1.0	1.1
110.	0.6	0.3	0.2	0.5	0.4	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.9	0.9
120.	0.6	0.4	0.3	0.5	0.5	0.3	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	1.0
130.	0.7	0.6	0.3	0.7	0.5	0.3	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.9
140.	0.8	0.6	0.5	0.7	0.5	0.6	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.0
150.	0.7	0.6	0.5	0.8	0.6	0.6	0.5	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.9
160.	0.7	0.5	0.5	0.7	0.7	0.6	0.6	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
170.	0.7	0.6	0.5	0.7	0.7	0.7	0.6	0.5	0.5	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
180.	0.8	0.8	0.9	1.0	0.9	0.9	0.9	0.8	0.7	0.4	0.4	0.4	0.2	0.2	0.2	0.2	0.2	0.1	0.6	0.6
190.	1.0	0.9	0.8	1.1	1.1	1.0	1.1	0.9	0.9	0.9	0.8	0.8	0.5	0.2	0.5	0.2	0.4	0.2	0.3	0.3
200.	1.0	1.1	0.7	1.3	1.2	1.0	1.1	0.8	1.0	1.2	1.1	1.0	0.6	0.5	0.5	0.5	0.5	0.4	0.1	0.1
210.	1.0	0.9	0.6	1.1	1.2	0.8	1.0	0.5	0.7	1.2	1.2	1.2	0.7	0.6	0.6	0.5	0.6	0.5	0.0	0.0
220.	0.7	0.8	0.6	0.9	1.1	0.6	0.8	0.4	0.3	1.1	1.0	1.0	0.8	0.6	0.7	0.6	0.7	0.6	0.0	0.0
230.	0.9	0.8	0.8	0.7	0.7	0.6	0.5	0.7	0.5	1.0	1.0	0.9	0.9	0.5	0.8	0.5	0.7	0.5	0.0	0.0
240.	0.9	0.8	0.9	0.8	0.8	0.7	0.7	0.6	0.7	1.0	1.0	0.9	0.9	0.7	0.9	0.5	0.8	0.5	0.0	0.0
250.	0.7	1.0	0.9	0.8	0.9	0.6	0.6	0.7	0.7	1.0	1.1	1.0	0.8	0.7	0.9	0.7	0.9	0.5	0.0	0.0
260.	0.7	0.9	1.0	0.5	0.5	0.7	0.7	0.7	0.7	1.0	1.1	1.0	1.0	0.8	0.9	0.7	0.9	0.7	0.2	0.0
270.	0.8	0.9	0.8	0.6	0.6	0.6	0.6	0.6	0.5	1.0	1.2	1.2	1.1	1.0	1.0	0.8	1.0	0.8	0.4	0.2
280.	0.7	0.9	0.8	0.5	0.5	0.6	0.5	0.6	0.6	1.0	1.3	1.4	1.0	0.8	1.1	0.9	1.2	1.0	0.8	0.4
290.	0.8	0.8	0.8	0.6	0.5	0.6	0.6	0.5	0.5	1.0	1.1	1.4	0.9	0.7	0.9	0.7	1.1	0.7	0.9	0.5
300.	0.8	0.8	0.7	0.6	0.6	0.6	0.5	0.5	0.5	0.9	1.0	1.2	0.7	0.8	0.7	0.6	1.2	0.6	0.9	0.6
310.	0.8	0.8	0.7	0.6	0.5	0.5	0.4	0.5	0.4	0.9	0.8	1.3	0.8	0.8	0.7	0.6	0.7	0.4	0.8	0.6
320.	0.8	0.7	0.7	0.6	0.4	0.5	0.4	0.5	0.4	0.9	0.8	0.8	0.8	0.8	0.6	0.6	0.6	0.5	0.8	0.5
330.	0.8	0.7	0.7	0.6	0.4	0.6	0.3	0.6	0.3	0.9	0.8	0.9	0.9	1.0	0.8	0.7	0.5	0.6	0.7	0.5
340.	0.7	0.7	0.6	0.5	0.3	0.5	0.3	0.5	0.3	1.0	0.8	0.8	1.1	1.0	0.8	0.8	0.7	0.7	0.7	0.5
350.	0.6	0.6	0.6	0.4	0.3	0.4	0.3	0.3	0.3	0.9	0.9	0.8	1.0	0.9	0.8	0.8	0.7	0.6	1.0	0.8
MAX	1.0	1.1	1.0	1.3	1.2	1.0	1.1	0.9	1.0	1.2	1.3	1.4	1.1	1.0	1.1	0.9	1.2	1.0	1.5	1.3
DEGR.	190	200	260	200	200	190	190	190	200	200	280	280	270	270	280	280	280	280	10	10

JOB: MAIN & GILBERT 2-LANE RBT NORTH PARK-AND RUN: GILBERT EXTENSION MG 2L RBT NPNR

MODEL RESULTS

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36
0.	0.9	1.1	1.0	0.9	0.8	0.9	0.8	0.7	0.7	0.7	0.4	0.1	0.3	0.1	0.3	0.1
10.	1.1	1.4	1.1	1.1	0.9	1.0	0.9	1.1	1.1	1.0	0.6	0.4	0.5	0.3	0.5	0.3
20.	1.1	1.6	1.3	1.1	1.0	0.9	1.0	1.2	1.2	1.2	0.8	0.5	0.7	0.5	0.7	0.4
30.	0.9	1.4	1.3	0.9	1.1	0.8	0.6	1.2	1.1	1.1	0.8	0.6	0.8	0.6	0.8	0.6
40.	1.0	1.1	1.3	0.7	0.6	0.6	0.6	1.2	1.2	1.1	1.0	0.6	0.8	0.6	0.8	0.5
50.	1.0	0.9	0.9	0.6	0.6	0.8	0.5	1.1	1.1	1.0	0.8	0.7	0.7	0.6	0.7	0.6
60.	1.1	1.1	1.0	0.9	0.8	0.9	0.9	1.1	1.2	1.1	0.8	0.6	0.8	0.6	0.7	0.6
70.	1.1	1.1	1.1	1.0	0.8	0.8	0.7	1.0	1.2	1.1	0.6	0.6	0.7	0.6	0.7	0.5
80.	1.1	1.0	1.0	0.8	0.7	0.9	0.6	0.8	1.1	1.1	0.7	0.6	0.8	0.6	0.8	0.7
90.	1.0	0.9	0.8	0.9	0.6	0.9	0.7	1.0	1.1	1.1	0.8	0.8	0.8	0.6	0.8	0.6
100.	0.9	0.8	0.8	0.9	0.8	0.7	0.7	0.9	1.3	1.3	0.7	0.8	0.9	0.8	1.0	0.8
110.	0.8	0.8	0.7	0.8	0.7	0.7	0.6	0.9	1.3	1.4	0.8	0.7	0.8	0.8	1.0	0.9
120.	0.8	0.8	0.7	0.7	0.7	0.6	0.6	0.9	1.1	1.4	0.6	0.5	0.6	0.5	1.0	0.6
130.	0.8	0.7	0.7	0.7	0.5	0.6	0.5	0.7	0.7	1.1	0.7	0.6	0.7	0.5	0.5	0.7
140.	0.9	0.8	0.5	0.6	0.5	0.6	0.5	0.8	1.1	1.0	0.6	0.8	0.7	0.6	0.9	0.5
150.	0.9	0.6	0.5	0.6	0.4	0.5	0.4	1.0	0.8	1.2	0.9	0.9	0.7	0.7	0.7	0.6
160.	0.9	0.5	0.4	0.5	0.4	0.5	0.4	1.2	1.1	1.1	0.9	0.9	0.9	0.8	0.8	0.7
170.	0.8	0.5	0.4	0.5	0.4	0.5	0.4	1.3	1.2	1.1	0.9	0.8	0.8	0.8	0.9	0.7
180.	0.6	0.4	0.2	0.3	0.2	0.3	0.2	0.9	0.9	0.8	0.8	0.6	0.7	0.6	0.6	0.6
190.	0.3	0.1	0.0	0.1	0.0	0.1	0.0	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.4
200.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.3	0.4	0.4	0.4	0.3	0.3	0.3
210.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.3
220.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
230.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
240.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.2	0.4	0.3	0.2	0.2	0.2	0.2
250.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2
260.	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.3	0.2	0.1	0.3	0.3	0.2	0.2	0.1	0.1
270.	0.1	0.4	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0
280.	0.1	0.7	0.7	0.4	0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290.	0.3	0.9	0.8	0.5	0.5	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300.	0.4	0.9	0.9	0.5	0.5	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	0.4	0.8	0.8	0.6	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	0.5	0.8	0.8	0.5	0.5	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	0.5	0.8	0.8	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	0.5	0.8	0.8	0.5	0.5	0.5	0.5	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
350.	0.7	0.8	0.7	0.6	0.5	0.6	0.5	0.3	0.3	0.3	0.1	0.0	0.1	0.0	0.1	0.0
MAX	1.1	1.6	1.3	1.1	1.1	1.0	1.0	1.3	1.3	1.4	1.0	0.9	0.9	0.8	1.0	0.9
DEGR.	10	20	30	10	30	10	20	170	100	110	40	150	160	100	100	110

THE HIGHEST CONCENTRATION OF 1.60 PPM OCCURRED AT RECEPTOR REC22.

JOB: MAIN & GILBERT 2-LANE RBT SOUTH PARK-AND RUN: GILBERT EXTENSION MG 2L RBT SPNR

DATE : 11/28/12
TIME : 13:44:14

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

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. M EB LT Q	*	-68.0	-30.0	-214.5	-30.0	*	146.	270.	AG	84.	100.0	0.0	10.0	0.93	7.4
2. M EB TH APP	*	0.0	-44.0	-985.0	-44.0	*	985.	270.	AG	899.	6.3	0.0	40.0		
3. M EB TH DEP	*	0.0	-44.0	985.0	-44.0	*	985.	90.	AG	1108.	6.5	0.0	40.0		
4. M EB TH Q	*	-68.0	-44.0	-244.8	-44.0	*	177.	270.	AG	135.	100.0	0.0	20.0	0.44	9.0
5. M WB LT Q	*	74.0	-4.0	155.9	-4.0	*	82.	90.	AG	174.	100.0	0.0	16.0	0.40	4.2
6. M WB TH APP	*	0.0	24.0	985.0	24.0	*	985.	90.	AG	558.	6.5	0.0	38.0		
7. M WB TH DEP	*	0.0	24.0	-985.0	24.0	*	985.	270.	AG	838.	6.3	0.0	38.0		
8. M WB TH Q	*	74.0	24.0	188.4	24.0	*	114.	90.	AG	140.	100.0	0.0	18.0	0.29	5.8
9. M WB R APP	*	0.0	42.0	985.0	42.0	*	985.	90.	AG	164.	6.5	0.0	30.0		
10. M WB R Q	*	74.0	42.0	141.3	42.0	*	67.	90.	AG	70.	100.0	0.0	10.0	0.39	3.4
11. G NB LT Q	*	-8.0	-74.0	-8.0	-134.6	*	61.	180.	AG	184.	100.0	0.0	20.0	0.45	3.1
12. G NB TH APP	*	24.0	0.0	24.0	-985.0	*	985.	180.	AG	1382.	6.5	0.0	53.0		
13. G NB TH DEP	*	24.0	0.0	24.0	985.0	*	985.	360.	AG	1785.	6.5	0.0	53.0		
14. G NB TH Q	*	24.0	-74.0	24.0	-245.0	*	171.	180.	AG	191.	100.0	0.0	33.0	0.26	8.7
15. G NB R APP	*	44.0	0.0	44.0	-985.0	*	985.	180.	AG	222.	6.5	0.0	30.0		
16. G WB R Q	*	44.0	-74.0	44.0	-156.5	*	83.	180.	AG	64.	100.0	0.0	10.0	0.41	4.2
17. G SB LT Q	*	-10.0	74.0	-10.0	143.3	*	69.	360.	AG	180.	100.0	0.0	20.0	0.42	3.5
18. G SB TH APP	*	-36.0	0.0	-36.0	985.0	*	985.	360.	AG	1667.	6.5	0.0	53.0		
19. G SB TH DEP	*	-36.0	0.0	-36.0	-985.0	*	985.	180.	AG	2214.	6.5	0.0	53.0		
20. G SB TH Q	*	-36.0	74.0	-36.0	280.4	*	206.	360.	AG	191.	100.0	0.0	33.0	0.32	10.5

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
1. M EB LT Q	*	110	90	2.0	239	1770	38.40	2	3
4. M EB TH Q	*	110	72	2.0	899	3276	38.40	2	3
5. M WB LT Q	*	110	93	2.0	323	3433	38.40	2	3
8. M WB TH Q	*	110	75	2.0	558	3454	38.40	2	3
10. M WB R Q	*	110	75	2.0	164	1507	38.40	2	3
11. G NB LT Q	*	110	98	2.0	227	3433	38.40	2	3

14. G NB TH Q	*	110	68	2.0	1382	5079	38.40	2	3
16. G WB R Q	*	110	68	2.0	222	1577	38.40	2	3
17. G SB LT Q	*	110	96	2.0	264	3433	38.40	2	3
20. G SB TH Q	*	110	68	2.0	1667	5046	38.40	2	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. REC 1 (NE CORNER)	68.0	66.0	5.9
2. REC 2 (N 25)	68.0	91.0	5.9
3. REC 3 (N 50)	68.0	116.0	5.9
4. REC 4 (E 25)	93.0	66.0	5.9
5. REC 5 (E 50)	118.0	66.0	5.9
6. REC 6 (N 25 E 25)	93.0	91.0	5.9
7. REC 7 (N 25 E 50)	118.0	91.0	5.9
8. REC 8 (N 50 E 25)	93.0	116.0	5.9
9. REC 9 (N 50 E 50)	118.0	116.0	5.9
10. REC 10(SE CORNER)	70.0	-66.0	5.9
11. REC 11(S 25)	70.0	-91.0	5.9
12. REC 12(S 50)	70.0	-116.0	5.9
13. REC 13(E 25)	95.0	-66.0	5.9
14. REC 14(E 50)	120.0	-66.0	5.9
15. REC 15(S 25 E 25)	95.0	-91.0	5.9
16. REC 16(S 25 E 50)	120.0	-91.0	5.9
17. REC 17(S 50 E 25)	95.0	-116.0	5.9
18. REC 18(S 50 E 50)	120.0	-116.0	5.9
19. REC 19(SW CORNER)	-68.0	-68.0	5.9
20. REC 20(S 25)	-68.0	-93.0	5.9
21. REC 21(S 50)	-68.0	-118.0	5.9
22. REC 22(W 25)	-93.0	-68.0	5.9
23. REC 23(W 50)	-118.0	-68.0	5.9
24. REC 24(S 25 W 25)	-93.0	-93.0	5.9
25. REC 25(S 25 W 50)	-118.0	-93.0	5.9
26. REC 26(S 50 W 25)	-93.0	-118.0	5.9
27. REC 27(S 50 W 50)	-118.0	-118.0	5.9
28. REC 28(NW CORNER)	-70.0	66.0	5.9
29. REC 29(N 25)	-70.0	91.0	5.9
30. REC 30(N 50)	-70.0	116.0	5.9
31. REC 31(W 25)	-95.0	66.0	5.9
32. REC 32(W 50)	-120.0	66.0	5.9
33. REC 33(N 25 W 25)	-95.0	91.0	5.9
34. REC 34(N 25 W 50)	-120.0	91.0	5.9
35. REC 35(N 50 W 25)	-95.0	116.0	5.9
36. REC 36(N 50 W 50)	-120.0	116.0	5.9

JOB: MAIN & GILBERT 2-LANE RBT SOUTH PARK-AND RUN: GILBERT EXTENSION MG 2L RBT SPNR

MODEL RESULTS

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	0.4	0.4	0.4	0.3	0.1	0.3	0.1	0.3	0.1	0.9	0.7	0.6	0.9	0.8	0.8	0.6	0.6	0.4	1.4	1.1
10.	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.6	0.5	0.4	0.7	0.7	0.6	0.5	0.4	0.3	1.5	1.4
20.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.5	0.3	0.6	0.6	0.5	0.4	0.3	0.3	1.3	1.1
30.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.5	0.3	0.6	0.5	0.4	0.4	0.3	0.1	1.3	0.9
40.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.4	0.3	0.7	0.6	0.4	0.2	0.1	0.1	0.9	0.8
50.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.5	0.1	0.6	0.4	0.3	0.3	0.1	0.1	0.8	1.0
60.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.3	0.2	0.4	0.4	0.3	0.3	0.1	0.1	1.2	1.1
70.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.2	0.5	0.5	0.3	0.3	0.2	0.2	1.2	1.2
80.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.2	0.1	0.5	0.5	0.2	0.2	0.1	0.1	1.0	1.0
90.	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.3	0.1	0.1	0.3	0.3	0.1	0.1	0.1	0.1	1.0	1.0
100.	0.4	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.2	0.2	0.1	0.1	0.0	0.0	1.0	1.0
110.	0.5	0.3	0.2	0.4	0.3	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.9	0.9
120.	0.6	0.3	0.3	0.5	0.4	0.3	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
130.	0.7	0.6	0.3	0.7	0.5	0.3	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.0
140.	0.8	0.6	0.4	0.7	0.6	0.6	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
150.	0.7	0.6	0.5	0.8	0.6	0.6	0.5	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.0
160.	0.7	0.5	0.4	0.7	0.7	0.6	0.6	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
170.	0.7	0.6	0.5	0.7	0.7	0.7	0.6	0.5	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
180.	0.8	0.8	0.9	1.0	0.9	0.9	0.9	0.8	0.7	0.4	0.4	0.4	0.2	0.2	0.2	0.1	0.2	0.1	0.6	0.6
190.	1.0	0.9	0.7	1.1	1.1	1.0	1.0	0.9	0.9	0.9	0.8	0.8	0.5	0.2	0.5	0.2	0.4	0.2	0.3	0.3
200.	1.1	1.1	0.7	1.2	1.3	0.9	1.1	0.7	1.0	1.2	1.0	0.9	0.6	0.5	0.6	0.5	0.5	0.4	0.1	0.1
210.	1.0	0.8	0.6	1.1	1.2	0.8	0.9	0.5	0.7	1.1	1.1	1.1	0.8	0.6	0.6	0.5	0.6	0.5	0.0	0.0
220.	0.7	0.8	0.6	0.9	1.1	0.6	0.8	0.4	0.3	1.1	1.0	1.0	0.8	0.6	0.8	0.6	0.7	0.6	0.0	0.0
230.	0.8	0.8	0.9	0.7	0.6	0.6	0.5	0.7	0.6	1.0	1.0	0.9	0.9	0.7	0.8	0.6	0.7	0.5	0.0	0.0
240.	0.9	0.7	0.9	0.8	0.8	0.7	0.7	0.7	0.7	1.1	1.0	0.9	0.9	0.7	0.9	0.7	0.8	0.5	0.0	0.0
250.	0.7	0.9	1.0	0.8	0.9	0.6	0.6	0.7	0.7	1.0	1.1	1.0	0.8	0.6	0.9	0.6	0.8	0.4	0.0	0.0
260.	0.6	0.9	1.0	0.5	0.5	0.7	0.7	0.6	0.6	1.0	1.1	1.0	1.0	0.8	0.9	0.7	0.9	0.7	0.2	0.0
270.	0.8	1.0	0.9	0.6	0.6	0.6	0.6	0.6	0.6	1.0	1.3	1.2	1.0	0.9	1.0	0.9	1.0	0.8	0.4	0.1
280.	0.8	0.9	0.9	0.5	0.5	0.6	0.6	0.6	0.6	1.1	1.2	1.4	0.9	0.8	1.1	0.8	1.2	1.0	0.8	0.4
290.	0.9	0.9	0.8	0.6	0.6	0.6	0.6	0.6	0.5	0.9	1.2	1.4	0.9	0.7	0.9	0.7	1.1	0.8	0.9	0.6
300.	0.9	0.8	0.8	0.6	0.6	0.6	0.6	0.5	0.5	0.9	1.0	1.2	0.7	0.8	0.7	0.5	1.1	0.6	0.8	0.6
310.	0.9	0.8	0.7	0.6	0.5	0.5	0.5	0.5	0.4	0.9	0.8	1.3	0.7	0.8	0.7	0.6	0.7	0.4	0.8	0.6
320.	0.8	0.7	0.7	0.7	0.4	0.7	0.4	0.6	0.4	0.9	0.8	0.9	0.9	0.9	0.6	0.6	0.6	0.5	0.8	0.5
330.	0.8	0.8	0.7	0.6	0.4	0.6	0.4	0.6	0.3	1.0	0.9	0.9	1.0	1.0	0.9	0.8	0.5	0.6	0.7	0.5
340.	0.7	0.7	0.7	0.6	0.3	0.5	0.3	0.5	0.3	1.1	0.9	0.9	1.2	1.0	0.9	0.8	0.7	0.7	0.7	0.5
350.	0.6	0.6	0.6	0.4	0.3	0.4	0.3	0.4	0.3	0.9	0.9	0.8	1.1	0.9	0.8	0.8	0.7	0.6	1.0	0.8
MAX	1.1	1.1	1.0	1.2	1.3	1.0	1.1	0.9	1.0	1.2	1.3	1.4	1.2	1.0	1.1	0.9	1.2	1.0	1.5	1.4
DEGR.	200	200	250	200	200	190	200	190	200	200	270	280	340	330	280	270	280	280	10	10

JOB: MAIN & GILBERT 2-LANE RBT SOUTH PARK-AND RUN: GILBERT EXTENSION MG 2L RBT SPNR

MODEL RESULTS

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36
0.	0.9	1.1	1.0	0.9	0.8	0.9	0.8	0.8	0.7	0.7	0.4	0.1	0.4	0.1	0.3	0.1
10.	1.3	1.4	1.1	1.2	0.9	1.0	0.9	1.1	1.1	1.1	0.6	0.4	0.6	0.4	0.5	0.3
20.	1.2	1.6	1.3	1.2	1.1	1.0	1.0	1.3	1.2	1.2	0.8	0.6	0.8	0.5	0.7	0.5
30.	0.9	1.4	1.4	0.9	1.2	0.8	0.6	1.3	1.2	1.2	0.9	0.7	0.9	0.6	0.8	0.6
40.	1.0	1.1	1.3	0.7	0.6	0.6	0.6	1.3	1.3	1.2	1.0	0.7	0.9	0.7	0.9	0.7
50.	1.0	0.9	0.9	0.6	0.6	0.8	0.5	1.2	1.2	1.0	0.8	0.7	0.9	0.6	0.8	0.6
60.	1.1	1.1	0.9	0.8	0.8	0.9	0.8	1.1	1.2	1.1	0.9	0.7	0.8	0.7	0.7	0.6
70.	1.0	1.1	1.1	1.1	0.8	0.7	0.6	1.0	1.2	1.2	0.8	0.6	0.8	0.7	0.7	0.7
80.	1.0	1.0	1.0	0.8	0.7	0.9	0.6	0.8	1.3	1.2	0.7	0.6	0.9	0.7	0.8	0.7
90.	1.0	0.9	0.8	0.9	0.6	0.9	0.7	1.0	1.2	1.3	0.9	0.7	0.9	0.6	0.9	0.7
100.	1.0	0.8	0.7	0.9	0.7	0.7	0.6	0.9	1.4	1.5	0.7	0.8	0.9	0.8	1.1	0.8
110.	0.9	0.8	0.6	0.7	0.6	0.7	0.5	0.9	1.3	1.5	0.8	0.7	0.9	0.8	1.0	0.9
120.	0.9	0.8	0.6	0.7	0.6	0.6	0.5	0.9	1.2	1.6	0.6	0.6	0.6	0.5	1.0	0.6
130.	0.8	0.7	0.7	0.6	0.5	0.6	0.5	0.7	0.7	1.2	0.7	0.6	0.6	0.6	0.6	0.7
140.	0.9	0.8	0.5	0.6	0.5	0.6	0.5	0.8	1.0	1.1	0.6	0.8	0.7	0.6	0.9	0.5
150.	0.9	0.6	0.5	0.6	0.4	0.5	0.4	1.0	0.7	1.1	0.9	0.9	0.7	0.7	0.7	0.6
160.	0.9	0.5	0.4	0.5	0.4	0.5	0.4	1.3	1.1	1.0	0.8	0.9	0.9	0.8	0.7	0.7
170.	0.8	0.5	0.4	0.5	0.4	0.5	0.4	1.3	1.2	1.0	0.9	0.8	0.8	0.8	0.9	0.7
180.	0.6	0.3	0.2	0.3	0.2	0.3	0.1	0.9	0.8	0.8	0.7	0.6	0.7	0.6	0.6	0.6
190.	0.3	0.1	0.0	0.1	0.0	0.1	0.0	0.6	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.5
200.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3
210.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3
220.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.3
230.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
240.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.2	0.4	0.3	0.2	0.2	0.2	0.2
250.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2
260.	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.3	0.2	0.1	0.3	0.3	0.2	0.2	0.1	0.1
270.	0.1	0.4	0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0
280.	0.1	0.8	0.7	0.4	0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
290.	0.3	0.9	0.9	0.5	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300.	0.4	0.8	0.8	0.6	0.5	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	0.5	0.8	0.8	0.5	0.5	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	0.5	0.8	0.8	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	0.5	0.8	0.8	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	0.5	0.8	0.8	0.5	0.5	0.5	0.5	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
350.	0.7	0.8	0.7	0.6	0.5	0.6	0.5	0.3	0.3	0.3	0.1	0.0	0.1	0.0	0.1	0.0
MAX	1.3	1.6	1.4	1.2	1.2	1.0	1.0	1.3	1.4	1.6	1.0	0.9	0.9	0.8	1.1	0.9
DEGR.	10	20	30	10	30	10	20	30	100	120	40	150	80	100	100	110

THE HIGHEST CONCENTRATION OF 1.60 PPM OCCURRED AT RECEPTOR REC22.

JOB: MAIN & STAPLEY NO BUILD RUN: GILBERT EXTENSION MS NO BUILD

DATE : 11/27/12
TIME : 10:12:29

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

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. M EB LT Q	*	-56.0	-4.0	-74.2	-4.0	*	18.	270.	AG	93.	100.0	0.0	10.0	0.35	0.9
2. M EB TH APP	*	0.0	-20.0	-985.0	-20.0	*	985.	270.	AG	1012.	6.1	0.0	42.0		
3. M EB TH DEP	*	0.0	-20.0	985.0	-20.0	*	985.	90.	AG	1210.	6.3	0.0	42.0		
4. M EB TH Q	*	-56.0	-20.0	-224.8	-20.0	*	169.	270.	AG	126.	100.0	0.0	22.0	0.45	8.6
5. M EB R APP	*	0.0	-36.0	-985.0	-36.0	*	985.	270.	AG	154.	6.1	0.0	30.0		
6. M EB R Q	*	-56.0	-36.0	-107.4	-36.0	*	51.	270.	AG	63.	100.0	0.0	10.0	0.34	2.6
7. M WB LT Q	*	48.0	4.0	123.5	4.0	*	75.	90.	AG	87.	100.0	0.0	10.0	0.75	3.8
8. M WB TH APP	*	0.0	20.0	985.0	20.0	*	985.	90.	AG	673.	6.3	0.0	42.0		
9. M WB TH DEP	*	0.0	20.0	-985.0	20.0	*	985.	270.	AG	892.	6.1	0.0	42.0		
10. M WB TH Q	*	48.0	20.0	149.0	20.0	*	101.	90.	AG	113.	100.0	0.0	22.0	0.25	5.1
11. M WB R APP	*	0.0	36.0	985.0	36.0	*	985.	90.	AG	80.	6.3	0.0	30.0		
12. M WB R Q	*	48.0	36.0	72.1	36.0	*	24.	90.	AG	57.	100.0	0.0	10.0	0.15	1.2
13. S NB LT Q	*	-4.0	-64.0	-4.0	-347.7	*	284.	180.	AG	94.	100.0	0.0	10.0	1.22	14.4
14. S NB TH APP	*	14.0	0.0	14.0	-985.0	*	985.	180.	AG	1007.	6.3	0.0	42.0		
15. S NB TH DEP	*	14.0	0.0	14.0	-985.0	*	985.	180.	AG	1038.	6.3	0.0	42.0		
16. S NB TH Q	*	14.0	-64.0	14.0	-240.0	*	176.	180.	AG	132.	100.0	0.0	22.0	0.45	8.9
17. S SB LT Q	*	0.0	64.0	0.0	401.4	*	337.	360.	AG	94.	100.0	0.0	10.0	1.27	17.1
18. S SB TH APP	*	-20.0	0.0	-20.0	985.0	*	985.	360.	AG	985.	6.3	0.0	42.0		
19. S SB TH DEP	*	-20.0	0.0	-20.0	-985.0	*	985.	180.	AG	1271.	6.3	0.0	42.0		
20. S SB TH Q	*	-20.0	64.0	-20.0	236.2	*	172.	360.	AG	132.	100.0	0.0	22.0	0.44	8.7

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
1. M EB LT Q	*	100	90	2.0	37	1770	38.40	2	3
4. M EB TH Q	*	100	61	2.0	1012	3234	38.40	2	3
6. M EB R Q	*	100	61	2.0	154	1314	38.40	2	3
7. M WB LT Q	*	100	84	2.0	160	1770	38.40	2	3
10. M WB TH Q	*	100	55	2.0	673	3234	38.40	2	3
12. M WB R Q	*	100	55	2.0	80	1314	38.40	2	3

13. S NB LT Q	*	100	91	2.0	107	1770	38.40	2	3
16. S NB TH Q	*	100	64	2.0	1007	3474	38.40	2	3
17. S SB LT Q	*	100	91	2.0	112	1770	38.40	2	3
20. S SB TH Q	*	100	64	2.0	985	3509	38.40	2	3

RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (FT) X	Y	Z	*
1. REC 1 (NE CORNER)	*	40.0	56.0	5.9	*
2. REC 2 (N 25)	*	40.0	81.0	5.9	*
3. REC 3 (N 50)	*	40.0	106.0	5.9	*
4. REC 4 (E 25)	*	65.0	56.0	5.9	*
5. REC 5 (E 50)	*	90.0	56.0	5.9	*
6. REC 6 (N 25 E 25)	*	65.0	81.0	5.9	*
7. REC 7 (N 25 E 50)	*	90.0	81.0	5.9	*
8. REC 8 (N 50 E 25)	*	65.0	106.0	5.9	*
9. REC 9 (N 50 E 50)	*	90.0	106.0	5.9	*
10. REC 10(SE CORNER)	*	40.0	-52.0	5.9	*
11. REC 11(S 25)	*	40.0	-77.0	5.9	*
12. REC 12(S 50)	*	40.0	-102.0	5.9	*
13. REC 13(E 25)	*	65.0	-52.0	5.9	*
14. REC 14(E 50)	*	90.0	-52.0	5.9	*
15. REC 15(S 25 E 25)	*	65.0	-77.0	5.9	*
16. REC 16(S 25 E 50)	*	90.0	-77.0	5.9	*
17. REC 17(S 50 E 25)	*	65.0	-102.0	5.9	*
18. REC 18(S 50 E 50)	*	90.0	-102.0	5.9	*
19. REC 19(SW CORNER)	*	-44.0	-54.0	5.9	*
20. REC 20(S 25)	*	-44.0	-79.0	5.9	*
21. REC 21(S 50)	*	-44.0	-104.0	5.9	*
22. REC 22(W 25)	*	-69.0	-54.0	5.9	*
23. REC 23(W 50)	*	-94.0	-54.0	5.9	*
24. REC 24(S 25 W 25)	*	-69.0	-79.0	5.9	*
25. REC 25(S 25 W 50)	*	-94.0	-79.0	5.9	*
26. REC 26(S 50 W 25)	*	-69.0	-104.0	5.9	*
27. REC 27(S 50 W 50)	*	-94.0	-104.0	5.9	*
28. REC 28(NW CORNER)	*	-44.0	50.0	5.9	*
29. REC 29(N 25)	*	-44.0	75.0	5.9	*
30. REC 30(N 50)	*	-44.0	100.0	5.9	*
31. REC 31(W 25)	*	-69.0	50.0	5.9	*
32. REC 32(W 50)	*	-94.0	50.0	5.9	*
33. REC 33(N 25 W 25)	*	-69.0	75.0	5.9	*
34. REC 34(N 25 W 50)	*	-94.0	75.0	5.9	*
35. REC 35(N 50 W 25)	*	-69.0	100.0	5.9	*
36. REC 36(N 50 W 50)	*	-94.0	100.0	5.9	*

JOB: MAIN & STAPLEY NO BUILD RUN: GILBERT EXTENSION MS NO BUILD

MODEL RESULTS

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	0.2	0.2	0.2	0.1	0.0	0.1	0.0	0.1	0.0	0.9	0.8	0.6	0.6	0.6	0.6	0.5	0.5	0.4	0.8	0.8
10.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.4	0.3	0.9	0.8
20.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.3	0.6	0.5	0.5	0.4	0.3	0.2	0.9	0.7
30.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.4	0.5	0.5	0.5	0.4	0.3	0.2	0.6	0.7
40.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.3	0.5	0.4	0.4	0.3	0.2	0.2	0.8	0.9
50.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.4	0.2	0.5	0.4	0.3	0.3	0.2	0.2	0.9	0.8
60.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.3	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.9	0.9
70.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.9	0.9
80.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.1	0.4	0.4	0.3	0.3	0.1	0.1	0.8	0.9
90.	0.2	0.2	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.3	0.1	0.1	0.3	0.2	0.1	0.1	0.1	0.1	0.9	0.9
100.	0.4	0.2	0.2	0.4	0.3	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.7	0.7
110.	0.6	0.3	0.2	0.5	0.5	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.7
120.	0.7	0.3	0.2	0.5	0.4	0.3	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
130.	0.7	0.4	0.3	0.5	0.4	0.3	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
140.	0.6	0.5	0.3	0.5	0.4	0.4	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
150.	0.6	0.5	0.4	0.5	0.5	0.5	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2
160.	0.6	0.4	0.4	0.6	0.5	0.5	0.5	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.1
170.	0.7	0.7	0.5	0.6	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
180.	1.0	1.0	0.9	1.0	0.8	0.8	0.8	0.8	0.7	1.0	1.0	1.0	0.4	0.3	0.3	0.3	0.3	0.2	0.7	0.7
190.	1.0	1.0	1.0	1.3	1.0	1.0	1.0	0.8	0.9	1.2	1.2	1.2	0.7	0.3	0.7	0.3	0.7	0.3	0.2	0.2
200.	1.0	0.8	0.5	1.2	1.0	0.9	0.9	0.7	0.8	1.4	1.4	1.3	0.9	0.5	0.9	0.5	0.9	0.5	0.1	0.1
210.	0.7	0.6	0.4	0.9	1.0	0.6	0.8	0.3	0.7	1.4	1.4	1.4	0.9	0.6	0.9	0.5	0.9	0.5	0.0	0.0
220.	0.5	0.5	0.5	0.8	1.0	0.4	0.6	0.5	0.1	1.1	1.2	1.2	0.8	0.6	0.8	0.6	0.8	0.6	0.0	0.0
230.	0.6	0.4	0.6	0.4	0.8	0.5	0.4	0.4	0.4	1.0	1.1	1.1	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0
240.	0.5	0.4	0.6	0.6	0.7	0.4	0.4	0.6	0.4	0.9	1.1	1.0	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0
250.	0.5	0.6	0.7	0.5	0.6	0.4	0.4	0.6	0.6	0.8	1.0	1.0	0.5	0.5	0.6	0.6	0.6	0.6	0.0	0.0
260.	0.5	0.5	0.6	0.5	0.5	0.5	0.4	0.5	0.5	0.9	1.0	1.0	0.6	0.5	0.6	0.6	0.6	0.6	0.1	0.0
270.	0.4	0.5	0.5	0.4	0.4	0.4	0.5	0.5	0.4	1.0	1.2	1.1	0.7	0.7	0.8	0.7	0.7	0.7	0.4	0.1
280.	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.3	1.1	1.4	1.3	0.8	0.8	0.9	0.7	0.9	0.8	0.7	0.3
290.	0.3	0.4	0.4	0.3	0.3	0.4	0.3	0.4	0.3	1.0	1.3	1.3	0.7	0.8	0.7	0.6	0.9	0.7	0.8	0.5
300.	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.4	0.3	0.9	1.0	1.3	0.7	0.7	0.7	0.7	0.8	0.7	0.7	0.4
310.	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.4	0.3	1.0	0.9	1.3	0.6	0.3	0.6	0.5	0.7	0.6	0.7	0.5
320.	0.5	0.5	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.9	0.9	1.0	0.6	0.5	0.5	0.3	0.8	0.4	0.6	0.5
330.	0.5	0.5	0.5	0.3	0.3	0.3	0.3	0.3	0.2	0.8	0.9	1.1	0.6	0.8	0.5	0.6	0.5	0.3	0.6	0.5
340.	0.6	0.5	0.5	0.3	0.2	0.3	0.2	0.2	0.2	0.9	0.8	1.0	0.7	0.8	0.5	0.8	0.6	0.5	0.4	0.4
350.	0.3	0.3	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.8	0.7	0.8	0.8	0.7	0.7	0.7	0.4	0.5	0.7	0.6
MAX	1.0	1.0	1.0	1.3	1.0	1.0	1.0	0.8	0.9	1.4	1.4	1.4	0.9	0.8	0.9	0.8	0.9	0.8	1.2	1.2
DEGR.	180	180	190	190	190	190	190	180	190	200	200	210	200	280	280	340	280	280	150	150

JOB: MAIN & STAPLEY NO BUILD RUN: GILBERT EXTENSION MS NO BUILD

MODEL RESULTS

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36
0.	0.7	0.9	0.8	0.7	0.6	0.5	0.4	0.6	0.6	0.6	0.2	0.1	0.1	0.1	0.1	0.1
10.	0.7	1.1	1.0	0.8	0.8	0.6	0.7	0.8	0.7	0.7	0.4	0.2	0.4	0.1	0.4	0.1
20.	0.9	0.9	1.0	0.7	0.8	0.5	0.6	0.9	0.9	0.9	0.5	0.3	0.5	0.3	0.5	0.3
30.	0.6	0.9	0.9	0.5	0.7	0.3	0.5	0.9	0.9	0.9	0.6	0.4	0.5	0.3	0.5	0.3
40.	0.8	0.6	0.8	0.3	0.5	0.6	0.2	0.7	0.8	0.8	0.6	0.4	0.6	0.4	0.5	0.4
50.	1.0	0.5	0.8	0.8	0.3	0.7	0.5	0.5	0.7	0.7	0.4	0.4	0.4	0.4	0.4	0.4
60.	1.0	0.8	0.8	0.7	0.7	0.9	0.6	0.5	0.7	0.7	0.4	0.4	0.4	0.4	0.4	0.4
70.	1.0	0.9	0.8	0.8	0.6	0.8	0.7	0.4	0.7	0.7	0.3	0.3	0.4	0.4	0.4	0.4
80.	0.8	0.8	0.7	0.9	0.7	0.8	0.7	0.4	0.6	0.7	0.3	0.3	0.4	0.4	0.4	0.4
90.	0.9	0.8	0.7	0.7	0.6	0.8	0.6	0.5	0.8	0.6	0.4	0.5	0.6	0.5	0.4	0.4
100.	0.7	0.7	0.6	0.6	0.5	0.7	0.5	0.8	0.9	0.8	0.6	0.6	0.5	0.5	0.6	0.6
110.	0.7	0.6	0.5	0.7	0.5	0.7	0.5	0.8	0.7	0.9	0.6	0.6	0.5	0.4	0.7	0.5
120.	0.8	0.7	0.5	0.7	0.5	0.7	0.5	0.7	0.6	0.9	0.5	0.7	0.4	0.4	0.6	0.5
130.	0.8	0.7	0.5	0.7	0.5	0.7	0.5	0.7	0.6	0.9	0.7	0.7	0.3	0.6	0.4	0.3
140.	0.9	0.7	0.6	0.7	0.6	0.6	0.6	0.7	0.6	0.7	0.9	0.7	0.6	0.6	0.6	0.6
150.	1.2	0.6	0.6	0.6	0.6	0.6	0.5	0.9	0.8	0.8	0.9	1.0	0.7	0.7	0.6	0.6
160.	1.1	0.6	0.5	0.6	0.5	0.5	0.5	1.2	1.0	0.9	0.8	0.9	0.8	0.9	0.8	0.8
170.	1.0	0.5	0.4	0.5	0.4	0.5	0.4	1.3	1.1	1.1	1.0	1.0	0.9	0.8	0.8	0.8
180.	0.7	0.4	0.1	0.3	0.1	0.3	0.1	1.1	0.9	0.9	0.8	0.6	0.7	0.4	0.6	0.4
190.	0.2	0.1	0.0	0.1	0.0	0.1	0.0	0.5	0.5	0.5	0.6	0.5	0.4	0.3	0.4	0.3
200.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.5	0.5	0.3	0.3	0.3	0.3
210.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.3	0.5	0.5	0.3	0.3	0.3	0.3
220.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.3	0.5	0.5	0.3	0.3	0.3	0.3
230.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.3	0.5	0.5	0.3	0.3	0.3	0.3
240.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.3	0.4	0.4	0.3	0.3	0.2	0.2
250.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.2	0.4	0.4	0.2	0.2	0.2	0.2
260.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.4	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2
270.	0.1	0.4	0.4	0.1	0.1	0.1	0.1	0.3	0.2	0.1	0.3	0.3	0.1	0.1	0.1	0.1
280.	0.2	0.6	0.6	0.3	0.2	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
290.	0.3	0.8	0.7	0.4	0.4	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300.	0.3	0.7	0.6	0.4	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	0.4	0.7	0.6	0.4	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	0.4	0.7	0.7	0.5	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	0.3	0.7	0.7	0.5	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	0.3	0.7	0.7	0.5	0.4	0.3	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
350.	0.6	0.7	0.7	0.5	0.5	0.4	0.4	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
MAX	1.2	1.1	1.0	0.9	0.8	0.9	0.7	1.3	1.1	1.1	1.0	1.0	0.9	0.9	0.8	0.8
DEGR.	150	10	10	80	10	60	10	170	170	170	170	150	170	160	160	160

THE HIGHEST CONCENTRATION OF 1.40 PPM OCCURRED AT RECEPTOR REC10.

JOB: MAIN & STAPLEY 4-LANE NORTH PARK-AND-RID RUN: GILBERT EXTENSION MS 4-L N PNR

DATE : 12/ 3/12
TIME : 18:19: 5

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

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. M EB LT Q	*	60.0	-10.0	43.8	-10.0	*	16.	270.	AG	93.	100.0	0.0	10.0	0.31	0.8
2. M EB TH APP	*	0.0	-24.0	-985.0	-24.0	*	985.	270.	AG	1166.	6.1	0.0	40.0		
3. M EB TH DEP	*	0.0	-24.0	985.0	-24.0	*	985.	90.	AG	1210.	6.3	0.0	40.0		
4. M EB TH Q	*	-60.0	-24.0	-254.5	-24.0	*	194.	270.	AG	126.	100.0	0.0	20.0	0.49	9.9
5. M WB LT Q	*	45.0	30.0	162.2	30.0	*	117.	90.	AG	87.	100.0	0.0	10.0	0.92	6.0
6. M WB TH APP	*	0.0	46.0	985.0	46.0	*	985.	90.	AG	803.	6.3	0.0	40.0		
7. M WB TH DEP	*	0.0	46.0	-985.0	46.0	*	985.	270.	AG	824.	6.1	0.0	40.0		
8. M WB TH Q	*	45.0	46.0	165.6	46.0	*	121.	90.	AG	113.	100.0	0.0	20.0	0.29	6.1
9. S NB LT Q	*	-4.0	-62.0	-4.0	-356.4	*	294.	180.	AG	94.	100.0	0.0	10.0	1.23	15.0
10. S NB TH APP	*	14.0	0.0	14.0	-985.0	*	985.	180.	AG	1004.	6.3	0.0	42.0		
11. S NB TH DEP	*	14.0	0.0	14.0	-985.0	*	985.	180.	AG	1064.	6.3	0.0	42.0		
12. S NB TH Q	*	14.0	-62.0	14.0	-237.7	*	176.	180.	AG	132.	100.0	0.0	22.0	0.45	8.9
13. S SB LT Q	*	0.0	80.0	0.0	395.9	*	316.	360.	AG	94.	100.0	0.0	10.0	1.25	16.0
14. S SB TH APP	*	-20.0	0.0	-20.0	985.0	*	985.	360.	AG	982.	6.3	0.0	42.0		
15. S SB TH DEP	*	-20.0	0.0	-20.0	-985.0	*	985.	180.	AG	1304.	6.3	0.0	42.0		
16. S SB TH Q	*	-20.0	80.0	-20.0	251.8	*	172.	360.	AG	132.	100.0	0.0	22.0	0.44	8.7

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
1. M EB LT Q	*	100	90	2.0	33	1770	38.40	2	3
4. M EB TH Q	*	100	61	2.0	1166	3413	38.40	2	3
5. M WB LT Q	*	100	84	2.0	196	1770	38.40	2	3
8. M WB TH Q	*	100	55	2.0	803	3413	38.40	2	3
9. S NB LT Q	*	100	91	2.0	108	1770	38.40	2	3
12. S NB TH Q	*	100	64	2.0	1004	3458	38.40	2	3
13. S SB LT Q	*	100	91	2.0	110	1770	38.40	2	3
16. S SB TH Q	*	100	64	2.0	982	3509	38.40	2	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. REC 1 (NE CORNER)	44.0	74.0	5.9
2. REC 2 (N 25)	44.0	99.0	5.9
3. REC 3 (N 50)	44.0	124.0	5.9
4. REC 4 (E 25)	69.0	74.0	5.9
5. REC 5 (E 50)	94.0	74.0	5.9
6. REC 6 (N 25 E 25)	69.0	99.0	5.9
7. REC 7 (N 25 E 50)	94.0	99.0	5.9
8. REC 8 (N 50 E 25)	69.0	124.0	5.9
9. REC 9 (N 50 E 50)	94.0	124.0	5.9
10. REC 10(SE CORNER)	44.0	-62.0	5.9
11. REC 11(S 25)	44.0	-87.0	5.9
12. REC 12(S 50)	44.0	-112.0	5.9
13. REC 13(E 25)	69.0	-62.0	5.9
14. REC 14(E 50)	94.0	-62.0	5.9
15. REC 15(S 25 E 25)	69.0	-87.0	5.9
16. REC 16(S 25 E 50)	94.0	-87.0	5.9
17. REC 17(S 50 E 25)	69.0	-112.0	5.9
18. REC 18(S 50 E 50)	94.0	-112.0	5.9
19. REC 19(SW CORNER)	-54.0	-62.0	5.9
20. REC 20(S 25)	-54.0	-87.0	5.9
21. REC 21(S 50)	-54.0	-112.0	5.9
22. REC 22(W 25)	-79.0	-62.0	5.9
23. REC 23(W 50)	-104.0	-62.0	5.9
24. REC 24(S 25 W 25)	-79.0	-87.0	5.9
25. REC 25(S 25 W 50)	-104.0	-87.0	5.9
26. REC 26(S 50 W 25)	-79.0	-112.0	5.9
27. REC 27(S 50 W 50)	-104.0	-112.0	5.9
28. REC 28(NW CORNER)	-64.0	74.0	5.9
29. REC 29(N 25)	-64.0	99.0	5.9
30. REC 30(N 50)	-64.0	124.0	5.9
31. REC 31(W 25)	-79.0	74.0	5.9
32. REC 32(W 50)	-104.0	74.0	5.9
33. REC 33(N 25 W 25)	-79.0	99.0	5.9
34. REC 34(N 25 W 50)	-104.0	99.0	5.9
35. REC 35(N 50 W 25)	-79.0	124.0	5.9
36. REC 36(N 50 W 50)	-104.0	124.0	5.9

JOB: MAIN & STAPLEY 4-LANE NORTH PARK-AND-RID RUN: GILBERT EXTENSION MS 4-L N PNR

MODEL RESULTS

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	0.2	0.2	0.2	0.1	0.0	0.1	0.0	0.1	0.0	0.7	0.7	0.5	0.6	0.5	0.5	0.4	0.3	0.4	0.8	0.6
10.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.2	0.5	0.5	0.4	0.4	0.3	0.3	0.8	0.6
20.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.3	0.5	0.5	0.4	0.4	0.2	0.2	0.7	0.6
30.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.3	0.5	0.5	0.4	0.2	0.3	0.2	0.5	0.4
40.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.2	0.5	0.3	0.2	0.2	0.2	0.2	0.7	0.8
50.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.8	0.7
60.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.9	1.0
70.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.8	0.9
80.	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.4	0.3	0.1	0.4	0.4	0.3	0.2	0.1	0.1	0.7	0.9
90.	0.4	0.1	0.1	0.4	0.3	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.8	0.8
100.	0.5	0.2	0.2	0.4	0.4	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.7	0.7
110.	0.7	0.3	0.2	0.6	0.5	0.3	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
120.	0.7	0.5	0.3	0.7	0.6	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
130.	0.7	0.5	0.3	0.7	0.7	0.5	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
140.	0.7	0.5	0.4	0.7	0.7	0.5	0.5	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
150.	0.7	0.5	0.4	0.7	0.7	0.5	0.5	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
160.	0.5	0.5	0.4	0.6	0.6	0.5	0.5	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
170.	0.8	0.6	0.6	0.6	0.6	0.5	0.5	0.4	0.4	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.6
180.	1.1	0.9	0.8	1.0	0.9	0.9	0.8	0.8	0.7	0.7	0.7	0.6	0.3	0.2	0.3	0.2	0.3	0.2	0.5	0.4
190.	1.1	1.0	0.8	1.3	1.1	1.0	1.0	0.8	0.8	1.2	1.1	1.1	0.7	0.3	0.7	0.3	0.6	0.3	0.1	0.1
200.	0.8	0.7	0.6	1.1	1.1	0.8	1.0	0.8	0.9	1.2	1.2	1.2	0.9	0.5	0.8	0.5	0.8	0.3	0.0	0.0
210.	0.5	0.5	0.3	1.1	1.2	0.5	0.9	0.4	0.6	1.3	1.3	1.1	0.9	0.5	0.8	0.5	0.8	0.5	0.0	0.0
220.	0.4	0.6	0.5	0.8	1.0	0.3	0.5	0.4	0.3	1.1	1.1	1.1	0.7	0.6	0.7	0.6	0.7	0.5	0.0	0.0
230.	0.5	0.4	0.6	0.7	0.7	0.5	0.5	0.4	0.3	1.0	1.0	1.0	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0
240.	0.5	0.4	0.6	0.6	0.6	0.4	0.5	0.6	0.4	1.0	1.0	1.0	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0
250.	0.5	0.6	0.6	0.5	0.7	0.4	0.4	0.5	0.6	1.0	1.0	1.0	0.6	0.5	0.6	0.6	0.6	0.6	0.0	0.0
260.	0.6	0.5	0.6	0.6	0.5	0.5	0.4	0.5	0.5	1.0	1.0	1.0	0.7	0.6	0.6	0.6	0.6	0.6	0.1	0.0
270.	0.5	0.5	0.5	0.4	0.5	0.4	0.4	0.5	0.4	1.2	1.2	1.1	0.7	0.6	0.8	0.7	0.7	0.7	0.3	0.1
280.	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.3	1.1	1.4	1.2	0.8	0.8	1.0	0.8	0.8	0.8	0.5	0.4
290.	0.4	0.4	0.4	0.3	0.3	0.4	0.3	0.4	0.3	0.9	1.4	1.3	0.8	0.7	0.8	0.7	0.9	0.8	0.7	0.4
300.	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.4	0.3	1.0	1.3	1.3	0.7	0.7	0.7	0.7	0.9	0.7	0.6	0.5
310.	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.8	1.0	1.2	0.8	0.6	0.6	0.5	0.7	0.7	0.6	0.5
320.	0.5	0.5	0.5	0.4	0.3	0.3	0.3	0.3	0.3	1.0	1.0	1.1	0.5	0.4	0.5	0.4	0.6	0.4	0.6	0.4
330.	0.5	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.8	0.9	0.9	0.4	0.6	0.5	0.3	0.5	0.3	0.5	0.4
340.	0.4	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.7	0.8	0.9	0.6	0.8	0.4	0.5	0.6	0.4	0.5	0.3
350.	0.3	0.3	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.8	0.6	0.8	0.7	0.7	0.6	0.6	0.4	0.4	0.5	0.4
MAX	1.1	1.0	0.8	1.3	1.2	1.0	1.0	0.8	0.9	1.3	1.4	1.3	0.9	0.8	1.0	0.8	0.9	0.8	0.9	1.0
DEGR.	180	190	180	190	210	190	190	180	200	210	280	290	200	280	280	280	290	290	60	60

JOB: MAIN & STAPLEY 4-LANE NORTH PARK-AND-RID RUN: GILBERT EXTENSION MS 4-L N PNR

MODEL RESULTS

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36
0.	0.5	0.7	0.6	0.6	0.5	0.4	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
10.	0.5	0.8	0.7	0.6	0.6	0.5	0.4	0.5	0.4	0.4	0.3	0.1	0.3	0.1	0.1	0.1
20.	0.5	0.8	0.8	0.5	0.7	0.5	0.5	0.5	0.5	0.5	0.5	0.3	0.4	0.3	0.4	0.2
30.	0.6	0.6	0.8	0.3	0.5	0.3	0.5	0.6	0.6	0.5	0.4	0.3	0.4	0.3	0.4	0.3
40.	0.8	0.5	0.5	0.2	0.4	0.5	0.2	0.6	0.6	0.6	0.4	0.4	0.4	0.4	0.4	0.3
50.	0.9	0.5	0.5	0.8	0.3	0.7	0.6	0.6	0.6	0.6	0.4	0.4	0.4	0.4	0.4	0.4
60.	0.8	0.8	0.7	0.7	0.7	0.8	0.5	0.5	0.6	0.6	0.4	0.4	0.4	0.4	0.4	0.4
70.	0.9	0.9	0.7	0.8	0.5	0.8	0.7	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4
80.	0.8	0.8	0.7	0.9	0.7	0.7	0.6	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
90.	0.8	0.7	0.6	0.7	0.6	0.8	0.6	0.5	0.5	0.5	0.6	0.6	0.5	0.4	0.5	0.5
100.	0.7	0.7	0.6	0.6	0.5	0.7	0.5	0.7	0.7	0.6	0.6	0.5	0.6	0.5	0.6	0.5
110.	0.7	0.6	0.5	0.6	0.5	0.6	0.5	0.6	0.6	0.7	0.5	0.6	0.5	0.5	0.7	0.5
120.	0.7	0.7	0.5	0.7	0.5	0.7	0.5	0.4	0.6	0.8	0.5	0.4	0.5	0.4	0.5	0.5
130.	0.7	0.7	0.5	0.6	0.5	0.6	0.5	0.4	0.5	0.7	0.6	0.7	0.3	0.3	0.4	0.3
140.	0.8	0.6	0.5	0.6	0.5	0.6	0.5	0.7	0.5	0.4	0.9	0.7	0.6	0.6	0.3	0.6
150.	0.7	0.6	0.6	0.6	0.5	0.6	0.5	0.7	0.7	0.8	0.8	0.8	0.7	0.7	0.6	0.6
160.	0.8	0.6	0.5	0.5	0.5	0.5	0.4	0.9	0.8	0.7	0.8	0.9	0.8	0.8	0.8	0.7
170.	0.6	0.5	0.3	0.4	0.3	0.4	0.3	0.8	0.8	0.9	0.9	0.6	0.9	0.6	0.8	0.6
180.	0.4	0.3	0.1	0.3	0.1	0.3	0.1	0.7	0.7	0.6	0.6	0.4	0.6	0.4	0.6	0.4
190.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3
200.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
210.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3
220.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3
230.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.2
240.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.2	0.4	0.4	0.3	0.2	0.2	0.2
250.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2
260.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2
270.	0.1	0.3	0.3	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.3	0.3	0.1	0.1	0.1	0.1
280.	0.1	0.5	0.5	0.3	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
290.	0.3	0.7	0.6	0.4	0.4	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300.	0.3	0.6	0.6	0.5	0.5	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	0.4	0.6	0.6	0.5	0.5	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	0.4	0.6	0.6	0.4	0.4	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	0.3	0.6	0.6	0.4	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	0.2	0.5	0.5	0.4	0.4	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	0.3	0.5	0.5	0.4	0.4	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
MAX	0.9	0.9	0.8	0.9	0.7	0.8	0.7	0.9	0.8	0.9	0.9	0.9	0.9	0.8	0.8	0.7
DEGR.	50	70	20	80	20	60	70	160	160	170	140	160	170	160	160	160

THE HIGHEST CONCENTRATION OF 1.40 PPM OCCURRED AT RECEPTOR REC11.

JOB: MAIN & STAPLEY 4-LANE SOUTH PARK-AND-RID RUN: GILBERT EXTENSION MS 4-L S PNR

DATE : 11/27/12
TIME : 10:25:51

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

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. M EB LT Q	*	60.0	-10.0	43.8	-10.0	*	16.	270.	AG	93.	100.0	0.0	10.0	0.31	0.8
2. M EB TH APP	*	0.0	-24.0	-985.0	-24.0	*	985.	270.	AG	1166.	6.1	0.0	40.0		
3. M EB TH DEP	*	0.0	-24.0	985.0	-24.0	*	985.	90.	AG	1221.	6.3	0.0	40.0		
4. M EB TH Q	*	-60.0	-24.0	-254.5	-24.0	*	194.	270.	AG	126.	100.0	0.0	20.0	0.49	9.9
5. M WB LT Q	*	45.0	30.0	151.0	30.0	*	106.	90.	AG	88.	100.0	0.0	10.0	0.91	5.4
6. M WB TH APP	*	0.0	46.0	985.0	46.0	*	985.	90.	AG	785.	6.3	0.0	40.0		
7. M WB TH DEP	*	0.0	46.0	-985.0	46.0	*	985.	270.	AG	806.	6.1	0.0	40.0		
8. M WB TH Q	*	45.0	46.0	165.0	46.0	*	120.	90.	AG	115.	100.0	0.0	20.0	0.29	6.1
9. S NB LT Q	*	-4.0	-62.0	-4.0	-356.4	*	294.	180.	AG	94.	100.0	0.0	10.0	1.23	15.0
10. S NB TH APP	*	14.0	0.0	14.0	-985.0	*	985.	180.	AG	1009.	6.3	0.0	42.0		
11. S NB TH DEP	*	14.0	0.0	14.0	-985.0	*	985.	180.	AG	1064.	6.3	0.0	42.0		
12. S NB TH Q	*	14.0	-62.0	14.0	-235.6	*	174.	180.	AG	130.	100.0	0.0	22.0	0.44	8.8
13. S SB LT Q	*	0.0	80.0	0.0	460.4	*	380.	360.	AG	94.	100.0	0.0	10.0	1.32	19.3
14. S SB TH APP	*	-20.0	0.0	-20.0	985.0	*	985.	360.	AG	982.	6.3	0.0	42.0		
15. S SB TH DEP	*	-20.0	0.0	-20.0	-985.0	*	985.	180.	AG	1285.	6.3	0.0	42.0		
16. S SB TH Q	*	-20.0	80.0	-20.0	249.1	*	169.	360.	AG	130.	100.0	0.0	22.0	0.42	8.6

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
1. M EB LT Q	*	100	90	2.0	33	1770	38.40	2	3
4. M EB TH Q	*	100	61	2.0	1166	3413	38.40	2	3
5. M WB LT Q	*	100	85	2.0	177	1770	38.40	2	3
8. M WB TH Q	*	100	56	2.0	785	3409	38.40	2	3
9. S NB LT Q	*	100	91	2.0	108	1770	38.40	2	3
12. S NB TH Q	*	100	63	2.0	1009	3453	38.40	2	3
13. S SB LT Q	*	100	91	2.0	116	1770	38.40	2	3
16. S SB TH Q	*	100	63	2.0	982	3509	38.40	2	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. REC 1 (NE CORNER)	44.0	74.0	5.9
2. REC 2 (N 25)	44.0	99.0	5.9
3. REC 3 (N 50)	44.0	124.0	5.9
4. REC 4 (E 25)	69.0	74.0	5.9
5. REC 5 (E 50)	94.0	74.0	5.9
6. REC 6 (N 25 E 25)	69.0	99.0	5.9
7. REC 7 (N 25 E 50)	94.0	99.0	5.9
8. REC 8 (N 50 E 25)	69.0	124.0	5.9
9. REC 9 (N 50 E 50)	94.0	124.0	5.9
10. REC 10(SE CORNER)	44.0	-62.0	5.9
11. REC 11(S 25)	44.0	-87.0	5.9
12. REC 12(S 50)	44.0	-112.0	5.9
13. REC 13(E 25)	69.0	-62.0	5.9
14. REC 14(E 50)	94.0	-62.0	5.9
15. REC 15(S 25 E 25)	69.0	-87.0	5.9
16. REC 16(S 25 E 50)	94.0	-87.0	5.9
17. REC 17(S 50 E 25)	69.0	-112.0	5.9
18. REC 18(S 50 E 50)	94.0	-112.0	5.9
19. REC 19(SW CORNER)	-54.0	-62.0	5.9
20. REC 20(S 25)	-54.0	-87.0	5.9
21. REC 21(S 50)	-54.0	-112.0	5.9
22. REC 22(W 25)	-79.0	-62.0	5.9
23. REC 23(W 50)	-104.0	-62.0	5.9
24. REC 24(S 25 W 25)	-79.0	-87.0	5.9
25. REC 25(S 25 W 50)	-104.0	-87.0	5.9
26. REC 26(S 50 W 25)	-79.0	-112.0	5.9
27. REC 27(S 50 W 50)	-104.0	-112.0	5.9
28. REC 28(NW CORNER)	-54.0	74.0	5.9
29. REC 29(N 25)	-54.0	99.0	5.9
30. REC 30(N 50)	-54.0	124.0	5.9
31. REC 31(W 25)	-79.0	74.0	5.9
32. REC 32(W 50)	-104.0	74.0	5.9
33. REC 33(N 25 W 25)	-79.0	99.0	5.9
34. REC 34(N 25 W 50)	-104.0	99.0	5.9
35. REC 35(N 50 W 25)	-79.0	124.0	5.9
36. REC 36(N 50 W 50)	-104.0	124.0	5.9

JOB: MAIN & STAPLEY 4-LANE SOUTH PARK-AND-RID RUN: GILBERT EXTENSION MS 4-L S PNR

MODEL RESULTS

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	0.2	0.2	0.2	0.1	0.0	0.1	0.0	0.1	0.0	0.6	0.7	0.5	0.6	0.5	0.5	0.4	0.3	0.3	0.8	0.6
10.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.2	0.5	0.5	0.4	0.4	0.3	0.2	0.8	0.6
20.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.2	0.5	0.5	0.4	0.3	0.2	0.2	0.7	0.6
30.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.3	0.5	0.4	0.3	0.2	0.3	0.2	0.5	0.4
40.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.3	0.2	0.4	0.3	0.2	0.2	0.2	0.2	0.7	0.8
50.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.8	0.7
60.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.8	1.0
70.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.8	0.9
80.	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.4	0.3	0.1	0.4	0.4	0.2	0.2	0.1	0.1	0.7	0.9
90.	0.4	0.1	0.1	0.4	0.3	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.8	0.8
100.	0.5	0.2	0.2	0.5	0.4	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.7	0.7
110.	0.7	0.3	0.2	0.5	0.5	0.3	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
120.	0.7	0.4	0.3	0.7	0.5	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
130.	0.7	0.5	0.3	0.7	0.7	0.5	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
140.	0.7	0.5	0.4	0.7	0.7	0.5	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
150.	0.6	0.5	0.4	0.6	0.6	0.5	0.5	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
160.	0.5	0.5	0.4	0.6	0.6	0.5	0.5	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
170.	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.4	0.4	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.6
180.	1.1	0.9	0.8	1.0	0.9	0.9	0.8	0.8	0.7	0.7	0.7	0.6	0.3	0.2	0.3	0.2	0.3	0.2	0.5	0.4
190.	1.1	1.0	0.8	1.3	1.1	1.0	1.0	0.8	0.8	1.2	1.1	1.1	0.7	0.3	0.7	0.3	0.6	0.3	0.1	0.1
200.	0.8	0.7	0.6	1.1	1.1	0.8	1.0	0.8	0.9	1.2	1.2	1.2	0.9	0.5	0.8	0.5	0.8	0.3	0.0	0.0
210.	0.5	0.5	0.3	1.0	1.1	0.5	1.0	0.4	0.6	1.3	1.3	1.1	0.8	0.5	0.8	0.5	0.8	0.5	0.0	0.0
220.	0.4	0.6	0.5	0.8	1.0	0.3	0.5	0.4	0.3	1.1	1.1	1.0	0.8	0.6	0.8	0.6	0.8	0.5	0.0	0.0
230.	0.5	0.4	0.6	0.7	0.7	0.5	0.5	0.4	0.3	1.0	1.0	1.0	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0
240.	0.5	0.4	0.6	0.6	0.6	0.4	0.5	0.6	0.4	1.0	1.0	1.0	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0
250.	0.5	0.6	0.6	0.5	0.6	0.4	0.4	0.5	0.6	1.0	1.0	1.0	0.6	0.5	0.6	0.6	0.6	0.6	0.0	0.0
260.	0.6	0.5	0.6	0.5	0.6	0.5	0.4	0.5	0.5	1.0	1.0	1.0	0.7	0.6	0.6	0.6	0.6	0.6	0.1	0.0
270.	0.5	0.5	0.5	0.4	0.5	0.4	0.4	0.5	0.4	1.1	1.1	1.0	0.7	0.6	0.8	0.7	0.7	0.7	0.3	0.1
280.	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.3	1.0	1.3	1.2	0.8	0.8	1.0	0.8	0.8	0.8	0.5	0.3
290.	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.9	1.4	1.3	0.8	0.7	0.8	0.7	0.9	0.8	0.7	0.4
300.	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.4	0.3	1.0	1.2	1.3	0.7	0.6	0.7	0.7	0.9	0.7	0.6	0.5
310.	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.8	1.0	1.2	0.7	0.6	0.6	0.5	0.7	0.7	0.6	0.5
320.	0.5	0.5	0.5	0.3	0.3	0.3	0.3	0.3	0.3	1.0	1.0	1.0	0.5	0.4	0.5	0.4	0.6	0.4	0.6	0.4
330.	0.5	0.5	0.4	0.3	0.3	0.3	0.2	0.3	0.2	0.8	0.9	1.0	0.4	0.6	0.5	0.3	0.5	0.3	0.5	0.4
340.	0.4	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.7	0.8	0.9	0.6	0.8	0.4	0.5	0.6	0.4	0.5	0.3
350.	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.8	0.6	0.8	0.7	0.7	0.5	0.6	0.4	0.4	0.5	0.4
MAX	1.1	1.0	0.8	1.3	1.1	1.0	1.0	0.8	0.9	1.3	1.4	1.3	0.9	0.8	1.0	0.8	0.9	0.8	0.8	1.0
DEGR.	180	190	180	190	190	190	190	180	200	210	290	290	200	280	280	280	290	290	10	60

JOB: MAIN & STAPLEY 4-LANE SOUTH PARK-AND-RID RUN: GILBERT EXTENSION MS 4-L S PNR

MODEL RESULTS

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36
0.	0.6	0.7	0.6	0.6	0.5	0.4	0.3	0.4	0.4	0.4	0.1	0.1	0.1	0.1	0.1	0.1
10.	0.5	0.8	0.8	0.6	0.7	0.5	0.5	0.5	0.5	0.5	0.3	0.1	0.3	0.1	0.2	0.1
20.	0.6	0.8	0.8	0.5	0.7	0.5	0.5	0.6	0.6	0.6	0.5	0.3	0.4	0.3	0.4	0.2
30.	0.6	0.6	0.8	0.3	0.5	0.3	0.5	0.6	0.6	0.6	0.4	0.3	0.4	0.3	0.4	0.3
40.	0.7	0.5	0.5	0.2	0.4	0.5	0.2	0.6	0.6	0.6	0.4	0.4	0.4	0.3	0.4	0.3
50.	0.9	0.5	0.5	0.7	0.3	0.7	0.5	0.6	0.6	0.6	0.4	0.4	0.4	0.4	0.4	0.4
60.	0.8	0.8	0.7	0.7	0.7	0.8	0.5	0.5	0.6	0.6	0.4	0.4	0.4	0.4	0.4	0.4
70.	0.9	0.9	0.7	0.8	0.5	0.8	0.7	0.5	0.6	0.6	0.4	0.3	0.4	0.4	0.4	0.4
80.	0.8	0.8	0.7	0.9	0.7	0.7	0.6	0.5	0.6	0.6	0.4	0.4	0.4	0.3	0.4	0.4
90.	0.8	0.7	0.6	0.7	0.6	0.7	0.6	0.6	0.7	0.7	0.5	0.6	0.5	0.4	0.5	0.5
100.	0.7	0.7	0.6	0.6	0.5	0.6	0.5	0.8	0.8	0.8	0.5	0.5	0.6	0.5	0.6	0.5
110.	0.7	0.6	0.5	0.6	0.5	0.6	0.5	0.7	0.9	0.9	0.5	0.6	0.5	0.5	0.7	0.5
120.	0.7	0.7	0.5	0.7	0.5	0.7	0.5	0.6	0.7	0.9	0.5	0.4	0.5	0.4	0.5	0.5
130.	0.7	0.7	0.5	0.6	0.5	0.6	0.5	0.4	0.6	0.8	0.6	0.7	0.3	0.3	0.4	0.3
140.	0.8	0.6	0.5	0.6	0.5	0.6	0.5	0.6	0.4	0.6	0.9	0.7	0.5	0.6	0.3	0.5
150.	0.7	0.6	0.6	0.6	0.5	0.6	0.5	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.6	0.6
160.	0.8	0.6	0.5	0.5	0.5	0.5	0.4	0.9	0.8	0.8	0.8	0.9	0.8	0.8	0.8	0.7
170.	0.6	0.5	0.3	0.4	0.3	0.4	0.3	0.9	0.9	0.9	0.9	0.6	0.9	0.6	0.8	0.6
180.	0.4	0.3	0.1	0.3	0.1	0.3	0.1	0.8	0.8	0.8	0.6	0.4	0.6	0.4	0.6	0.4
190.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3
200.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
210.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
220.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3
230.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.2
240.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.2	0.4	0.4	0.3	0.2	0.2	0.2
250.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2
260.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2
270.	0.1	0.3	0.3	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.3	0.3	0.1	0.1	0.1	0.1
280.	0.1	0.5	0.5	0.3	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
290.	0.3	0.7	0.6	0.4	0.4	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300.	0.3	0.6	0.6	0.5	0.5	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	0.4	0.6	0.6	0.5	0.5	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	0.4	0.6	0.6	0.4	0.4	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	0.3	0.6	0.6	0.4	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	0.2	0.5	0.5	0.4	0.4	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	0.3	0.5	0.5	0.4	0.4	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
MAX	0.9	0.9	0.8	0.9	0.7	0.8	0.7	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.7
DEGR.	50	70	10	80	10	60	70	160	170	110	140	160	170	160	160	160

THE HIGHEST CONCENTRATION OF 1.40 PPM OCCURRED AT RECEPTOR REC11.

JOB: MAIN & STAPLEY 2-LANE NORTH PARK-AND-RID RUN: GILBERT EXTENSION MS 2-L N PNR

DATE : 11/27/12
TIME : 10:53:41

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

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. M EB LT Q	*	-60.0	-18.0	-80.6	-18.0	*	21.	270.	AG	96.	100.0	0.0	10.0	0.58	1.0
2. M EB TH APP	*	0.0	-18.0	-985.0	-18.0	*	985.	270.	AG	923.	6.1	0.0	30.0		
3. M EB TH DEP	*	0.0	-18.0	985.0	-18.0	*	985.	90.	AG	858.	6.3	0.0	30.0		
4. M EB TH Q	*	-60.0	-18.0	-2918.8	-18.0	*	2859.	270.	AG	54.	100.0	0.0	10.0	1.37	145.2
5. M WB LT Q	*	54.0	22.0	590.9	22.0	*	537.	90.	AG	91.	100.0	0.0	10.0	1.27	27.3
6. M WB TH APP	*	0.0	32.0	985.0	32.0	*	985.	90.	AG	612.	6.3	0.0	30.0		
7. M WB TH DEP	*	0.0	32.0	-985.0	32.0	*	985.	270.	AG	645.	6.1	0.0	30.0		
8. M WB TH Q	*	54.0	32.0	231.4	32.0	*	177.	90.	AG	50.	100.0	0.0	10.0	0.82	9.0
9. S NB LT Q	*	-4.0	-60.0	-4.0	-365.2	*	305.	180.	AG	95.	100.0	0.0	10.0	1.26	15.5
10. S NB TH APP	*	14.0	0.0	14.0	-985.0	*	985.	180.	AG	1061.	6.3	0.0	42.0		
11. S NB TH DEP	*	14.0	0.0	14.0	985.0	*	985.	360.	AG	1386.	6.3	0.0	42.0		
12. S NB TH Q	*	14.0	-60.0	14.0	-243.7	*	184.	180.	AG	120.	100.0	0.0	22.0	0.39	9.3
13. S SB LT Q	*	0.0	64.0	0.0	83.4	*	19.	360.	AG	85.	100.0	0.0	10.0	0.16	1.0
14. S SB TH APP	*	-20.0	0.0	-20.0	985.0	*	985.	360.	AG	982.	6.3	0.0	42.0		
15. S SB TH DEP	*	-20.0	0.0	-20.0	-985.0	*	985.	180.	AG	1386.	6.3	0.0	42.0		
16. S SB TH Q	*	-20.0	64.0	-20.0	285.7	*	222.	360.	AG	139.	100.0	0.0	22.0	0.54	11.3

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
1. M EB LT Q	*	110	102	2.0	37	1770	38.40	2	3
4. M EB TH Q	*	110	58	2.0	923	1548	38.40	2	3
5. M WB LT Q	*	110	97	2.0	183	1770	38.40	2	3
8. M WB TH Q	*	110	53	2.0	612	1546	38.40	2	3
9. S NB LT Q	*	110	101	2.0	101	1770	38.40	2	3
12. S NB TH Q	*	110	64	2.0	1051	3493	38.40	2	3
13. S SB LT Q	*	110	91	2.0	39	1770	38.40	2	3
16. S SB TH Q	*	110	74	2.0	1097	3507	38.40	2	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. REC 1 (NE CORNER)	48.0	58.0	5.9
2. REC 2 (N 25)	48.0	83.0	5.9
3. REC 3 (N 50)	48.0	108.0	5.9
4. REC 4 (E 25)	79.0	58.0	5.9
5. REC 5 (E 50)	98.0	58.0	5.9
6. REC 6 (N 25 E 25)	73.0	83.0	5.9
7. REC 7 (N 25 E 50)	98.0	83.0	5.9
8. REC 8 (N 50 E 25)	73.0	108.0	5.9
9. REC 9 (N 50 E 50)	98.0	108.0	5.9
10. REC 10(SE CORNER)	50.0	-54.0	5.9
11. REC 11(S 25)	50.0	-79.0	5.9
12. REC 12(S 50)	50.0	-104.0	5.9
13. REC 13(E 25)	75.0	-54.0	5.9
14. REC 14(E 50)	100.0	-54.0	5.9
15. REC 15(S 25 E 25)	75.0	-79.0	5.9
16. REC 16(S 25 E 50)	100.0	-79.0	5.9
17. REC 17(S 50 E 25)	75.0	-104.0	5.9
18. REC 18(S 50 E 50)	100.0	-104.0	5.9
19. REC 19(SW CORNER)	-50.0	-54.0	5.9
20. REC 20(S 25)	-50.0	-79.0	5.9
21. REC 21(S 50)	-50.0	-104.0	5.9
22. REC 22(W 25)	-75.0	-54.0	5.9
23. REC 23(W 50)	-100.0	-54.0	5.9
24. REC 24(S 25 W 25)	-75.0	-79.0	5.9
25. REC 25(S 25 W 50)	-100.0	-79.0	5.9
26. REC 26(S 50 W 25)	-75.0	-104.0	5.9
27. REC 27(S 50 W 50)	-100.0	-104.0	5.9
28. REC 28(NW CORNER)	-50.0	58.0	5.9
29. REC 29(N 25)	-50.0	83.0	5.9
30. REC 30(N 50)	-50.0	108.0	5.9
31. REC 31(W 25)	-75.0	58.0	5.9
32. REC 32(W 50)	-100.0	58.0	5.9
33. REC 33(N 25 W 25)	-75.0	83.0	5.9
34. REC 34(N 25 W 50)	-100.0	83.0	5.9
35. REC 35(N 50 W 25)	-75.0	108.0	5.9
36. REC 36(N 50 W 50)	-100.0	108.0	5.9

JOB: MAIN & STAPLEY 2-LANE NORTH PARK-AND-RID RUN: GILBERT EXTENSION MS 2-L N PNR

MODEL RESULTS

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	0.3	0.3	0.3	0.1	0.1	0.2	0.1	0.1	0.1	0.6	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.6	0.6
10.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.8	0.8
20.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.8	0.7
30.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.7	0.6
40.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.5	0.7
50.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.8	0.6
60.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.7	0.7
70.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.6	0.8
80.	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.4	0.2	0.1	0.4	0.4	0.2	0.2	0.1	0.1	0.7	0.7
90.	0.4	0.2	0.0	0.3	0.3	0.2	0.2	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.7	0.8
100.	0.6	0.3	0.3	0.6	0.6	0.3	0.3	0.3	0.3	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.6	0.6
110.	0.6	0.4	0.3	0.6	0.6	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.6
120.	0.5	0.4	0.3	0.5	0.5	0.4	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
130.	0.5	0.4	0.4	0.5	0.5	0.4	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
140.	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
150.	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
160.	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
170.	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
180.	0.7	0.7	0.7	0.6	0.6	0.7	0.6	0.6	0.5	0.4	0.4	0.4	0.2	0.1	0.2	0.1	0.2	0.1	0.5	0.5
190.	0.9	0.9	0.8	0.8	0.7	0.8	0.7	0.6	0.6	0.7	0.7	0.7	0.5	0.2	0.4	0.2	0.3	0.2	0.1	0.1
200.	0.9	0.8	0.7	1.0	0.8	0.7	0.8	0.6	0.7	0.9	0.9	0.8	0.6	0.4	0.6	0.4	0.6	0.2	0.0	0.0
210.	0.8	0.5	0.5	0.8	0.8	0.6	0.7	0.3	0.6	0.8	0.8	0.8	0.7	0.4	0.7	0.4	0.7	0.4	0.0	0.0
220.	0.6	0.6	0.6	0.7	0.7	0.4	0.4	0.4	0.3	0.8	0.8	0.8	0.5	0.4	0.5	0.4	0.5	0.4	0.0	0.0
230.	0.6	0.6	0.7	0.5	0.7	0.6	0.4	0.4	0.2	0.8	0.8	0.8	0.5	0.5	0.5	0.4	0.5	0.4	0.0	0.0
240.	0.6	0.5	0.6	0.4	0.5	0.5	0.4	0.6	0.4	0.7	0.8	0.8	0.5	0.4	0.5	0.5	0.5	0.4	0.0	0.0
250.	0.7	0.7	0.8	0.7	0.6	0.6	0.5	0.7	0.6	0.7	0.8	0.8	0.4	0.4	0.5	0.4	0.5	0.4	0.0	0.0
260.	0.6	0.8	0.8	0.7	0.6	0.7	0.6	0.7	0.6	0.7	0.8	0.8	0.5	0.5	0.5	0.4	0.5	0.4	0.1	0.0
270.	0.7	0.6	0.5	0.7	0.6	0.5	0.4	0.5	0.3	0.7	0.9	1.0	0.5	0.5	0.7	0.6	0.7	0.6	0.2	0.2
280.	0.5	0.5	0.5	0.5	0.3	0.4	0.3	0.5	0.3	0.7	0.9	1.0	0.5	0.6	0.6	0.5	0.7	0.6	0.4	0.2
290.	0.6	0.5	0.5	0.4	0.3	0.5	0.3	0.5	0.3	0.6	1.0	1.0	0.5	0.5	0.6	0.5	0.7	0.5	0.4	0.3
300.	0.5	0.5	0.5	0.5	0.3	0.5	0.3	0.5	0.3	0.6	0.6	0.8	0.5	0.5	0.4	0.5	0.4	0.4	0.4	0.3
310.	0.6	0.6	0.6	0.5	0.3	0.5	0.3	0.5	0.3	0.7	0.6	0.7	0.4	0.4	0.4	0.4	0.4	0.2	0.4	0.3
320.	0.6	0.6	0.6	0.5	0.4	0.5	0.4	0.5	0.4	0.5	0.5	0.6	0.4	0.4	0.5	0.4	0.3	0.5	0.4	0.2
330.	0.6	0.6	0.6	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.6	0.7	0.5	0.6	0.5	0.4	0.5	0.4	0.4	0.2
340.	0.7	0.5	0.5	0.4	0.4	0.4	0.3	0.4	0.3	0.6	0.6	0.5	0.5	0.7	0.5	0.5	0.5	0.5	0.3	0.1
350.	0.5	0.5	0.5	0.3	0.2	0.3	0.2	0.3	0.2	0.6	0.6	0.6	0.7	0.6	0.5	0.5	0.5	0.5	0.5	0.3
MAX	0.9	0.9	0.8	1.0	0.8	0.8	0.8	0.7	0.7	0.9	1.0	1.0	0.7	0.7	0.7	0.6	0.7	0.6	0.9	0.9
DEGR.	190	190	190	200	200	190	200	250	200	200	290	270	350	340	270	270	270	270	150	150

JOB: MAIN & STAPLEY 2-LANE NORTH PARK-AND-RID RUN: GILBERT EXTENSION MS 2-L N PNR

MODEL RESULTS

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36
0.	0.5	0.7	0.5	0.4	0.4	0.4	0.3	0.5	0.5	0.5	0.3	0.2	0.2	0.2	0.2	0.2
10.	0.7	0.8	0.6	0.4	0.5	0.4	0.4	0.8	0.8	0.8	0.4	0.3	0.4	0.2	0.4	0.2
20.	0.8	0.8	0.6	0.5	0.5	0.6	0.4	0.9	0.9	0.9	0.6	0.3	0.6	0.3	0.6	0.3
30.	0.5	0.6	0.7	0.5	0.4	0.4	0.5	0.8	0.8	0.8	0.7	0.4	0.6	0.4	0.6	0.3
40.	0.7	0.4	0.6	0.4	0.4	0.4	0.3	0.8	0.8	0.8	0.5	0.4	0.5	0.4	0.4	0.4
50.	0.8	0.4	0.5	0.5	0.3	0.4	0.2	0.7	0.7	0.7	0.4	0.4	0.4	0.4	0.4	0.4
60.	0.8	0.8	0.3	0.6	0.5	0.7	0.4	0.7	0.7	0.7	0.4	0.4	0.4	0.4	0.4	0.4
70.	0.7	0.7	0.6	0.6	0.5	0.7	0.6	0.6	0.7	0.7	0.4	0.3	0.4	0.4	0.4	0.4
80.	0.8	0.6	0.6	0.7	0.5	0.7	0.6	0.7	0.7	0.7	0.4	0.3	0.4	0.4	0.4	0.4
90.	0.7	0.6	0.5	0.6	0.5	0.5	0.5	0.8	0.9	0.7	0.6	0.6	0.6	0.5	0.4	0.4
100.	0.6	0.6	0.5	0.5	0.4	0.5	0.4	0.7	1.1	1.0	0.6	0.6	0.7	0.6	0.7	0.7
110.	0.6	0.5	0.4	0.5	0.4	0.5	0.4	0.8	0.9	1.0	0.6	0.6	0.6	0.6	0.7	0.6
120.	0.7	0.5	0.4	0.5	0.4	0.5	0.4	0.6	0.9	1.0	0.4	0.5	0.6	0.4	0.7	0.5
130.	0.7	0.5	0.4	0.5	0.4	0.5	0.4	0.6	0.6	1.0	0.5	0.4	0.4	0.4	0.4	0.3
140.	0.7	0.5	0.5	0.5	0.5	0.5	0.5	0.7	0.7	0.6	0.6	0.5	0.4	0.4	0.4	0.4
150.	0.8	0.5	0.5	0.5	0.5	0.5	0.4	0.7	0.7	0.7	0.7	0.7	0.5	0.6	0.5	0.4
160.	0.8	0.5	0.4	0.5	0.4	0.4	0.4	0.9	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7
170.	0.6	0.4	0.3	0.4	0.3	0.4	0.3	1.0	0.8	0.7	0.7	0.6	0.7	0.6	0.7	0.6
180.	0.5	0.2	0.1	0.2	0.1	0.2	0.1	0.6	0.7	0.7	0.4	0.4	0.4	0.3	0.4	0.3
190.	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.3	0.3	0.3	0.4	0.3	0.3	0.2	0.3	0.2
200.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2
210.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2
220.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.2
230.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.2
240.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
250.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3
260.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3
270.	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.3	0.1	0.0	0.3	0.3	0.1	0.1	0.0	0.0
280.	0.2	0.4	0.4	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
290.	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300.	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	0.1	0.3	0.3	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	0.1	0.3	0.3	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	0.3	0.4	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
MAX	0.8	0.8	0.7	0.7	0.5	0.7	0.6	1.0	1.1	1.0	0.7	0.7	0.7	0.7	0.7	0.7
DEGR.	20	10	30	80	10	60	70	170	100	100	30	150	100	160	100	100

THE HIGHEST CONCENTRATION OF 1.10 PPM OCCURRED AT RECEPTOR REC29.

JOB: MAIN & STAPLEY 2-LANE SOUTH PARK-AND-RID RUN: GILBERT EXTENSION MS 2-L S PNR

DATE : 11/27/12
TIME : 13:39: 5

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

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. M EB LT Q	*	-60.0	-18.0	-80.4	-18.0	*	20.	270.	AG	95.	100.0	0.0	10.0	0.46	1.0
2. M EB TH APP	*	0.0	-18.0	-985.0	-18.0	*	985.	270.	AG	923.	6.1	0.0	30.0		
3. M EB TH DEP	*	0.0	-18.0	985.0	-18.0	*	985.	90.	AG	870.	6.3	0.0	30.0		
4. M EB TH Q	*	-60.0	-18.0	-2918.8	-18.0	*	2859.	270.	AG	54.	100.0	0.0	10.0	1.37	145.2
5. M WB LT Q	*	54.0	22.0	549.8	22.0	*	496.	90.	AG	92.	100.0	0.0	10.0	1.28	25.2
6. M WB TH APP	*	0.0	32.0	985.0	32.0	*	985.	90.	AG	593.	6.3	0.0	30.0		
7. M WB TH DEP	*	0.0	32.0	-985.0	32.0	*	985.	270.	AG	626.	6.1	0.0	30.0		
8. M WB TH Q	*	54.0	32.0	232.3	32.0	*	178.	90.	AG	51.	100.0	0.0	10.0	0.83	9.1
9. S NB LT Q	*	-4.0	-60.0	-4.0	-365.2	*	305.	180.	AG	95.	100.0	0.0	10.0	1.26	15.5
10. S NB TH APP	*	14.0	0.0	14.0	-985.0	*	985.	180.	AG	1056.	6.3	0.0	42.0		
11. S NB TH DEP	*	14.0	0.0	14.0	985.0	*	985.	360.	AG	1154.	6.3	0.0	42.0		
12. S NB TH Q	*	14.0	-60.0	14.0	-267.9	*	208.	180.	AG	135.	100.0	0.0	22.0	0.49	10.6
13. S SB LT Q	*	0.0	64.0	0.0	93.0	*	29.	360.	AG	96.	100.0	0.0	10.0	0.72	1.5
14. S SB TH APP	*	-20.0	0.0	-20.0	985.0	*	985.	360.	AG	1097.	6.3	0.0	42.0		
15. S SB TH DEP	*	-20.0	0.0	-20.0	-985.0	*	985.	180.	AG	1367.	6.3	0.0	42.0		
16. S SB TH Q	*	-20.0	64.0	-20.0	282.7	*	219.	360.	AG	137.	100.0	0.0	22.0	0.52	11.1

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
1. M EB LT Q	*	110	101	2.0	37	1770	38.40	2	3
4. M EB TH Q	*	110	58	2.0	923	1548	38.40	2	3
5. M WB LT Q	*	110	98	2.0	164	1770	38.40	2	3
8. M WB TH Q	*	110	55	2.0	593	1546	38.40	2	3
9. S NB LT Q	*	110	101	2.0	101	1770	38.40	2	3
12. S NB TH Q	*	110	72	2.0	1056	3488	38.40	2	3
13. S SB LT Q	*	110	102	2.0	46	1770	38.40	2	3
16. S SB TH Q	*	110	73	2.0	1097	3507	38.40	2	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. REC 1 (NE CORNER)	48.0	58.0	5.9
2. REC 2 (N 25)	48.0	83.0	5.9
3. REC 3 (N 50)	48.0	108.0	5.9
4. REC 4 (E 25)	73.0	58.0	5.9
5. REC 5 (E 50)	98.0	58.0	5.9
6. REC 6 (N 25 E 25)	73.0	83.0	5.9
7. REC 7 (N 25 E 50)	98.0	83.0	5.9
8. REC 8 (N 50 E 25)	73.0	108.0	5.9
9. REC 9 (N 50 E 50)	98.0	108.0	5.9
10. REC 10(SE CORNER)	50.0	-54.0	5.9
11. REC 11(S 25)	50.0	-79.0	5.9
12. REC 12(S 50)	50.0	-104.0	5.9
13. REC 13(E 25)	75.0	-54.0	5.9
14. REC 14(E 50)	100.0	-54.0	5.9
15. REC 15(S 25 E 25)	75.0	-79.0	5.9
16. REC 16(S 25 E 50)	100.0	-79.0	5.9
17. REC 17(S 50 E 25)	75.0	-104.0	5.9
18. REC 18(S 50 E 50)	100.0	-104.0	5.9
19. REC 19(SW CORNER)	-50.0	-54.0	5.9
20. REC 20(S 25)	-50.0	-79.0	5.9
21. REC 21(S 50)	-50.0	-104.0	5.9
22. REC 22(W 25)	-75.0	-54.0	5.9
23. REC 23(W 50)	-100.0	-54.0	5.9
24. REC 24(S 25 W 25)	-75.0	-79.0	5.9
25. REC 25(S 25 W 50)	-100.0	-79.0	5.9
26. REC 26(S 50 W 25)	-75.0	-104.0	5.9
27. REC 27(S 50 W 50)	-100.0	-104.0	5.9
28. REC 28(NW CORNER)	-50.0	58.0	5.9
29. REC 29(N 25)	-50.0	83.0	5.9
30. REC 30(N 50)	-50.0	108.0	5.9
31. REC 31(W 25)	-75.0	58.0	5.9
32. REC 32(W 50)	-100.0	58.0	5.9
33. REC 33(N 25 W 25)	-75.0	83.0	5.9
34. REC 34(N 25 W 50)	-100.0	83.0	5.9
35. REC 35(N 50 W 25)	-75.0	108.0	5.9
36. REC 36(N 50 W 50)	-100.0	108.0	5.9

JOB: MAIN & STAPLEY 2-LANE SOUTH PARK-AND-RID RUN: GILBERT EXTENSION MS 2-L S PNR

MODEL RESULTS

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	0.3	0.3	0.3	0.2	0.1	0.2	0.1	0.2	0.1	0.6	0.5	0.5	0.5	0.4	0.4	0.3	0.4	0.3	0.6	0.6
10.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.8	0.7
20.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.8	0.7
30.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.6	0.6
40.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.5	0.7
50.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.2	0.4	0.4	0.2	0.2	0.2	0.2	0.7	0.6
60.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.7	0.7
70.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.6	0.8
80.	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.4	0.2	0.1	0.4	0.4	0.2	0.2	0.1	0.1	0.7	0.7
90.	0.4	0.2	0.0	0.3	0.3	0.2	0.2	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.5	0.7
100.	0.6	0.3	0.3	0.6	0.6	0.3	0.3	0.3	0.3	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.6	0.6
110.	0.6	0.4	0.3	0.6	0.6	0.4	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6
120.	0.5	0.4	0.3	0.5	0.5	0.4	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
130.	0.5	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
140.	0.5	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
150.	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
160.	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.9
170.	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
180.	0.7	0.7	0.7	0.7	0.6	0.7	0.6	0.6	0.6	0.4	0.4	0.4	0.2	0.1	0.2	0.1	0.2	0.1	0.5	0.5
190.	1.0	0.9	0.8	0.9	0.7	0.8	0.7	0.6	0.6	0.7	0.7	0.7	0.5	0.2	0.4	0.2	0.4	0.2	0.1	0.1
200.	0.9	0.8	0.7	1.0	0.8	0.7	0.8	0.6	0.7	0.9	0.9	0.9	0.7	0.4	0.7	0.4	0.6	0.3	0.0	0.0
210.	0.7	0.5	0.4	0.8	0.8	0.6	0.8	0.4	0.5	0.8	0.8	0.8	0.7	0.5	0.7	0.4	0.6	0.4	0.0	0.0
220.	0.6	0.5	0.5	0.5	0.7	0.4	0.3	0.3	0.3	0.8	0.8	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0
230.	0.6	0.5	0.7	0.5	0.6	0.5	0.4	0.3	0.3	0.8	0.8	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0
240.	0.6	0.5	0.7	0.5	0.6	0.4	0.4	0.5	0.3	0.8	0.8	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0
250.	0.7	0.8	0.9	0.6	0.6	0.5	0.5	0.6	0.6	0.7	0.8	0.8	0.5	0.4	0.5	0.5	0.5	0.5	0.0	0.0
260.	0.6	0.8	0.8	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.8	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.1	0.0
270.	0.7	0.7	0.5	0.6	0.6	0.5	0.4	0.4	0.3	0.6	1.0	1.0	0.5	0.5	0.7	0.6	0.7	0.7	0.2	0.2
280.	0.6	0.6	0.5	0.4	0.3	0.3	0.3	0.4	0.3	0.7	0.9	1.0	0.5	0.6	0.6	0.5	0.7	0.6	0.4	0.2
290.	0.6	0.5	0.5	0.3	0.3	0.4	0.3	0.4	0.3	0.6	0.9	1.0	0.5	0.5	0.6	0.6	0.7	0.5	0.4	0.3
300.	0.6	0.5	0.5	0.4	0.3	0.4	0.3	0.4	0.3	0.6	0.6	0.8	0.6	0.3	0.4	0.4	0.4	0.4	0.4	0.3
310.	0.6	0.5	0.5	0.4	0.3	0.4	0.3	0.4	0.3	0.7	0.5	0.7	0.4	0.4	0.5	0.4	0.4	0.2	0.4	0.3
320.	0.5	0.5	0.5	0.5	0.3	0.5	0.3	0.4	0.3	0.5	0.6	0.6	0.4	0.4	0.5	0.4	0.3	0.5	0.4	0.2
330.	0.7	0.7	0.7	0.4	0.3	0.4	0.3	0.4	0.3	0.5	0.6	0.7	0.4	0.5	0.5	0.4	0.5	0.4	0.4	0.2
340.	0.7	0.6	0.6	0.4	0.3	0.4	0.2	0.4	0.2	0.7	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.1
350.	0.5	0.5	0.5	0.3	0.2	0.3	0.2	0.3	0.2	0.5	0.6	0.6	0.7	0.5	0.5	0.4	0.5	0.5	0.5	0.3
MAX	1.0	0.9	0.9	1.0	0.8	0.8	0.8	0.6	0.7	0.9	1.0	1.0	0.7	0.6	0.7	0.6	0.7	0.7	1.0	0.9
DEGR.	190	190	250	200	200	190	200	180	200	200	270	270	350	280	270	270	270	270	160	150

JOB: MAIN & STAPLEY 2-LANE SOUTH PARK-AND-RID RUN: GILBERT EXTENSION MS 2-L S PNR

MODEL RESULTS

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36
0.	0.6	0.7	0.4	0.4	0.3	0.4	0.3	0.5	0.5	0.5	0.3	0.1	0.2	0.1	0.2	0.1
10.	0.8	0.8	0.6	0.5	0.5	0.5	0.4	0.8	0.8	0.8	0.4	0.3	0.4	0.2	0.4	0.2
20.	0.7	0.6	0.6	0.4	0.5	0.5	0.4	0.9	0.9	0.9	0.5	0.3	0.5	0.3	0.5	0.3
30.	0.5	0.4	0.6	0.5	0.4	0.4	0.5	0.9	0.9	0.9	0.6	0.4	0.5	0.4	0.5	0.3
40.	0.6	0.4	0.6	0.4	0.4	0.4	0.4	0.8	0.8	0.8	0.6	0.4	0.5	0.4	0.5	0.4
50.	0.8	0.4	0.5	0.6	0.3	0.5	0.2	0.6	0.6	0.6	0.4	0.4	0.4	0.4	0.4	0.4
60.	0.8	0.8	0.3	0.6	0.5	0.7	0.4	0.7	0.6	0.6	0.4	0.4	0.4	0.4	0.4	0.4
70.	0.8	0.7	0.6	0.6	0.5	0.7	0.6	0.6	0.6	0.6	0.4	0.3	0.4	0.4	0.4	0.4
80.	0.7	0.6	0.6	0.7	0.5	0.7	0.6	0.7	0.7	0.6	0.3	0.3	0.4	0.4	0.4	0.4
90.	0.6	0.6	0.4	0.6	0.5	0.7	0.5	0.7	0.9	0.6	0.6	0.6	0.6	0.5	0.4	0.4
100.	0.6	0.6	0.5	0.5	0.4	0.6	0.4	0.7	1.0	0.9	0.6	0.6	0.7	0.6	0.7	0.7
110.	0.6	0.5	0.4	0.6	0.4	0.6	0.4	0.7	0.9	1.0	0.6	0.6	0.6	0.6	0.7	0.6
120.	0.7	0.6	0.4	0.6	0.4	0.6	0.4	0.6	0.8	1.0	0.4	0.4	0.6	0.4	0.7	0.5
130.	0.7	0.6	0.4	0.6	0.4	0.6	0.4	0.6	0.6	1.0	0.5	0.5	0.4	0.4	0.4	0.3
140.	0.7	0.6	0.5	0.6	0.5	0.5	0.5	0.7	0.6	0.6	0.6	0.5	0.5	0.5	0.4	0.3
150.	0.9	0.5	0.5	0.5	0.5	0.5	0.5	0.7	0.7	0.8	0.7	0.7	0.5	0.6	0.4	0.4
160.	0.8	0.5	0.4	0.5	0.4	0.5	0.4	0.9	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7
170.	0.7	0.4	0.3	0.4	0.3	0.4	0.3	0.9	0.8	0.8	0.7	0.6	0.7	0.7	0.7	0.7
180.	0.5	0.2	0.1	0.2	0.1	0.2	0.1	0.7	0.8	0.8	0.4	0.4	0.4	0.3	0.4	0.3
190.	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.3	0.3	0.3	0.4	0.3	0.3	0.2	0.3	0.2
200.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2
210.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2
220.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.2
230.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.2
240.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
250.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3
260.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3
270.	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.3	0.1	0.0	0.3	0.3	0.1	0.1	0.0	0.0
280.	0.2	0.4	0.4	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
290.	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300.	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	0.1	0.3	0.3	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	0.1	0.3	0.3	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	0.3	0.4	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
MAX	0.9	0.8	0.6	0.7	0.5	0.7	0.6	0.9	1.0	1.0	0.7	0.7	0.7	0.7	0.7	0.7
DEGR.	150	10	10	80	10	60	70	160	100	110	150	150	100	160	100	100

THE HIGHEST CONCENTRATION OF 1.00 PPM OCCURRED AT RECEPTOR REC29.

JOB: MAIN & STAPLEY 2-L RBT NORTH PARK-AND-RI RUN: GILBERT EXTENSION MS 2-L RBT N PNR

DATE : 11/27/12
TIME : 13:47:12

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

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. M EB LT Q	*	-60.0	-18.0	-80.4	-18.0	*	20.	270.	AG	95.	100.0	0.0	10.0	0.46	1.0
2. M EB TH APP	*	0.0	-18.0	-985.0	-18.0	*	985.	270.	AG	923.	6.1	0.0	30.0		
3. M EB TH DEP	*	0.0	-18.0	985.0	-18.0	*	985.	90.	AG	858.	6.3	0.0	30.0		
4. M EB TH Q	*	-60.0	-18.0	-2968.5	-18.0	*	2909.	270.	AG	54.	100.0	0.0	10.0	1.38	147.8
5. M WB LT Q	*	54.0	22.0	753.2	22.0	*	699.	90.	AG	92.	100.0	0.0	10.0	1.43	35.5
6. M WB TH APP	*	0.0	32.0	985.0	32.0	*	985.	90.	AG	612.	6.3	0.0	30.0		
7. M WB TH DEP	*	0.0	32.0	-985.0	32.0	*	985.	270.	AG	645.	6.1	0.0	30.0		
8. M WB TH Q	*	54.0	32.0	241.6	32.0	*	188.	90.	AG	51.	100.0	0.0	10.0	0.86	9.5
9. S NB LT Q	*	-4.0	-60.0	-4.0	-365.2	*	305.	180.	AG	95.	100.0	0.0	10.0	1.26	15.5
10. S NB TH APP	*	14.0	0.0	14.0	-985.0	*	985.	180.	AG	1051.	6.3	0.0	42.0		
11. S NB TH DEP	*	14.0	0.0	14.0	985.0	*	985.	360.	AG	1154.	6.3	0.0	42.0		
12. S NB TH Q	*	14.0	-60.0	14.0	-269.6	*	210.	180.	AG	137.	100.0	0.0	22.0	0.50	10.6
13. S SB LT Q	*	0.0	64.0	0.0	85.5	*	22.	360.	AG	95.	100.0	0.0	10.0	0.49	1.1
14. S SB TH APP	*	-20.0	0.0	-20.0	985.0	*	985.	360.	AG	1097.	6.3	0.0	42.0		
15. S SB TH DEP	*	-20.0	0.0	-20.0	-985.0	*	985.	180.	AG	1386.	6.3	0.0	42.0		
16. S SB TH Q	*	-20.0	64.0	-20.0	282.7	*	219.	360.	AG	137.	100.0	0.0	22.0	0.52	11.1

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
1. M EB LT Q	*	110	101	2.0	37	1770	38.40	2	3
4. M EB TH Q	*	110	58	2.0	923	1536	38.40	2	3
5. M WB LT Q	*	110	98	2.0	183	1770	38.40	2	3
8. M WB TH Q	*	110	55	2.0	612	1533	38.40	2	3
9. S NB LT Q	*	110	101	2.0	101	1770	38.40	2	3
12. S NB TH Q	*	110	73	2.0	1051	3493	38.40	2	3
13. S SB LT Q	*	110	101	2.0	39	1770	38.40	2	3
16. S SB TH Q	*	110	73	2.0	1097	3507	38.40	2	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. REC 1 (NE CORNER)	48.0	58.0	5.9
2. REC 2 (N 25)	48.0	83.0	5.9
3. REC 3 (N 50)	48.0	108.0	5.9
4. REC 4 (E 25)	73.0	58.0	5.9
5. REC 5 (E 50)	98.0	58.0	5.9
6. REC 6 (N 25 E 25)	73.0	83.0	5.9
7. REC 7 (N 25 E 50)	98.0	83.0	5.9
8. REC 8 (N 50 E 25)	73.0	108.0	5.9
9. REC 9 (N 50 E 50)	98.0	108.0	5.9
10. REC 10(SE CORNER)	50.0	-54.0	5.9
11. REC 11(S 25)	50.0	-79.0	5.9
12. REC 12(S 50)	50.0	-104.0	5.9
13. REC 13(E 25)	75.0	-54.0	5.9
14. REC 14(E 50)	100.0	-54.0	5.9
15. REC 15(S 25 E 25)	75.0	-79.0	5.9
16. REC 16(S 25 E 50)	100.0	-79.0	5.9
17. REC 17(S 50 E 25)	75.0	-104.0	5.9
18. REC 18(S 50 E 50)	100.0	-104.0	5.9
19. REC 19(SW CORNER)	-50.0	-54.0	5.9
20. REC 20(S 25)	-50.0	-79.0	5.9
21. REC 21(S 50)	-50.0	-104.0	5.9
22. REC 22(W 25)	-75.0	-54.0	5.9
23. REC 23(W 50)	-100.0	-54.0	5.9
24. REC 24(S 25 W 25)	-75.0	-79.0	5.9
25. REC 25(S 25 W 50)	-100.0	-79.0	5.9
26. REC 26(S 50 W 25)	-75.0	-104.0	5.9
27. REC 27(S 50 W 50)	-100.0	-104.0	5.9
28. REC 28(NW CORNER)	-50.0	58.0	5.9
29. REC 29(N 25)	-50.0	83.0	5.9
30. REC 30(N 50)	-50.0	108.0	5.9
31. REC 31(W 25)	-75.0	58.0	5.9
32. REC 32(W 50)	-100.0	58.0	5.9
33. REC 33(N 25 W 25)	-75.0	83.0	5.9
34. REC 34(N 25 W 50)	-100.0	83.0	5.9
35. REC 35(N 50 W 25)	-75.0	108.0	5.9
36. REC 36(N 50 W 50)	-100.0	108.0	5.9

JOB: MAIN & STAPLEY 2-L RBT NORTH PARK-AND-RI RUN: GILBERT EXTENSION MS 2-L RBT N PNR

MODEL RESULTS

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	0.3	0.3	0.3	0.2	0.1	0.2	0.1	0.2	0.1	0.6	0.5	0.5	0.5	0.4	0.4	0.3	0.4	0.3	0.6	0.6
10.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.8	0.8
20.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.8	0.7
30.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.6	0.6
40.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.5	0.7
50.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.8	0.6
60.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.7	0.7
70.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.6	0.8
80.	0.2	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.4	0.2	0.2	0.4	0.4	0.2	0.2	0.2	0.2	0.7	0.7
90.	0.4	0.2	0.0	0.4	0.3	0.2	0.2	0.0	0.0	0.2	0.1	0.0	0.2	0.2	0.1	0.1	0.0	0.0	0.7	0.8
100.	0.6	0.3	0.3	0.6	0.6	0.3	0.3	0.3	0.3	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.6	0.6
110.	0.6	0.4	0.3	0.6	0.6	0.4	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6
120.	0.5	0.4	0.3	0.5	0.5	0.4	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
130.	0.5	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
140.	0.5	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
150.	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
160.	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
170.	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
180.	0.7	0.7	0.7	0.7	0.6	0.7	0.6	0.6	0.6	0.4	0.4	0.4	0.2	0.1	0.2	0.1	0.2	0.1	0.5	0.5
190.	1.0	0.9	0.8	0.9	0.7	0.8	0.7	0.6	0.6	0.7	0.7	0.7	0.5	0.2	0.4	0.2	0.4	0.2	0.1	0.1
200.	0.9	0.8	0.7	1.0	0.8	0.7	0.8	0.6	0.7	0.9	0.9	0.9	0.7	0.4	0.7	0.4	0.6	0.3	0.0	0.0
210.	0.7	0.5	0.4	0.8	0.8	0.6	0.8	0.4	0.5	0.8	0.8	0.8	0.7	0.5	0.7	0.4	0.7	0.4	0.0	0.0
220.	0.6	0.5	0.5	0.5	0.7	0.4	0.3	0.3	0.3	0.8	0.8	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0
230.	0.6	0.5	0.7	0.5	0.6	0.5	0.4	0.3	0.3	0.8	0.8	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0
240.	0.6	0.5	0.7	0.5	0.6	0.4	0.4	0.5	0.4	0.8	0.8	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0
250.	0.7	0.8	0.8	0.6	0.6	0.5	0.5	0.6	0.6	0.7	0.8	0.8	0.5	0.4	0.5	0.5	0.5	0.5	0.0	0.0
260.	0.6	0.8	0.8	0.6	0.6	0.6	0.6	0.6	0.6	0.8	0.8	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.1	0.0
270.	0.7	0.7	0.5	0.6	0.6	0.4	0.4	0.4	0.3	0.7	1.0	1.0	0.5	0.5	0.7	0.6	0.7	0.7	0.2	0.2
280.	0.6	0.5	0.5	0.4	0.3	0.3	0.3	0.4	0.3	0.7	0.9	1.0	0.5	0.6	0.6	0.5	0.7	0.6	0.4	0.2
290.	0.6	0.5	0.5	0.3	0.3	0.4	0.3	0.4	0.3	0.6	1.0	1.0	0.5	0.5	0.6	0.6	0.7	0.5	0.4	0.3
300.	0.6	0.5	0.5	0.4	0.3	0.4	0.3	0.4	0.3	0.6	0.6	0.9	0.6	0.4	0.4	0.5	0.4	0.4	0.4	0.3
310.	0.5	0.5	0.5	0.4	0.3	0.4	0.3	0.4	0.3	0.7	0.6	0.7	0.4	0.4	0.5	0.4	0.4	0.2	0.4	0.3
320.	0.5	0.5	0.5	0.5	0.3	0.5	0.3	0.4	0.3	0.5	0.5	0.6	0.4	0.4	0.5	0.4	0.3	0.5	0.4	0.2
330.	0.7	0.7	0.7	0.4	0.3	0.4	0.3	0.4	0.3	0.5	0.6	0.7	0.4	0.5	0.5	0.4	0.5	0.4	0.4	0.2
340.	0.7	0.6	0.6	0.4	0.3	0.4	0.2	0.4	0.2	0.7	0.6	0.5	0.5	0.6	0.5	0.4	0.4	0.4	0.3	0.1
350.	0.5	0.5	0.5	0.3	0.2	0.3	0.2	0.3	0.2	0.5	0.6	0.6	0.7	0.5	0.5	0.4	0.5	0.5	0.5	0.3
MAX	1.0	0.9	0.8	1.0	0.8	0.8	0.8	0.6	0.7	0.9	1.0	1.0	0.7	0.6	0.7	0.6	0.7	0.7	1.0	1.0
DEGR.	190	190	190	200	200	190	200	180	200	200	270	270	350	280	270	270	270	270	160	160

JOB: MAIN & STAPLEY 2-L RBT NORTH PARK-AND-RI RUN: GILBERT EXTENSION MS 2-L RBT N PNR

MODEL RESULTS

WIND ANGLE (DEGR)	CONCENTRATION (PPM)															
	REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36
0.	0.6	0.7	0.4	0.4	0.3	0.4	0.3	0.5	0.5	0.5	0.3	0.1	0.2	0.1	0.2	0.1
10.	0.8	0.8	0.6	0.5	0.5	0.5	0.4	0.8	0.8	0.8	0.4	0.3	0.4	0.2	0.4	0.2
20.	0.7	0.7	0.6	0.4	0.4	0.5	0.4	0.9	0.9	0.9	0.5	0.3	0.5	0.3	0.5	0.3
30.	0.5	0.4	0.7	0.5	0.4	0.4	0.5	0.9	0.9	0.9	0.6	0.4	0.5	0.4	0.5	0.3
40.	0.6	0.4	0.6	0.4	0.4	0.4	0.4	0.8	0.8	0.8	0.6	0.4	0.5	0.4	0.5	0.4
50.	0.8	0.4	0.5	0.5	0.3	0.5	0.2	0.6	0.6	0.6	0.4	0.4	0.4	0.4	0.4	0.4
60.	0.8	0.8	0.3	0.6	0.5	0.7	0.4	0.7	0.6	0.6	0.4	0.4	0.4	0.4	0.4	0.4
70.	0.8	0.7	0.6	0.6	0.5	0.7	0.6	0.6	0.6	0.6	0.4	0.3	0.4	0.4	0.4	0.4
80.	0.8	0.6	0.6	0.7	0.5	0.7	0.6	0.8	0.6	0.6	0.5	0.3	0.4	0.4	0.4	0.4
90.	0.7	0.6	0.5	0.6	0.5	0.6	0.5	0.7	0.9	0.7	0.6	0.6	0.6	0.5	0.5	0.5
100.	0.6	0.6	0.5	0.6	0.4	0.6	0.4	0.7	1.0	0.9	0.6	0.6	0.7	0.6	0.7	0.7
110.	0.6	0.5	0.4	0.6	0.4	0.6	0.4	0.7	0.9	0.9	0.6	0.6	0.6	0.6	0.7	0.6
120.	0.7	0.6	0.4	0.6	0.4	0.6	0.4	0.6	0.8	1.0	0.4	0.5	0.6	0.4	0.7	0.5
130.	0.7	0.6	0.4	0.6	0.4	0.6	0.4	0.6	0.6	0.9	0.5	0.5	0.4	0.4	0.4	0.3
140.	0.7	0.6	0.5	0.6	0.5	0.6	0.5	0.8	0.7	0.6	0.6	0.5	0.5	0.5	0.4	0.5
150.	0.9	0.5	0.5	0.5	0.5	0.5	0.5	0.7	0.7	0.8	0.7	0.7	0.5	0.6	0.5	0.4
160.	0.8	0.5	0.5	0.5	0.4	0.5	0.4	0.9	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7
170.	0.7	0.4	0.3	0.4	0.3	0.4	0.3	0.9	0.8	0.8	0.7	0.6	0.7	0.7	0.7	0.7
180.	0.5	0.2	0.1	0.2	0.1	0.2	0.1	0.7	0.8	0.8	0.4	0.4	0.4	0.3	0.4	0.3
190.	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.3	0.3	0.3	0.4	0.3	0.3	0.2	0.3	0.2
200.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2
210.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2
220.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2
230.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.2
240.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
250.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3
260.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3
270.	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.3	0.1	0.0	0.3	0.3	0.1	0.1	0.0	0.0
280.	0.2	0.4	0.4	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
290.	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300.	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	0.1	0.3	0.3	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	0.1	0.3	0.3	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	0.3	0.4	0.3	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
MAX	0.9	0.8	0.7	0.7	0.5	0.7	0.6	0.9	1.0	1.0	0.7	0.7	0.7	0.7	0.7	0.7
DEGR.	150	10	30	80	10	60	70	160	100	120	150	150	100	160	100	100

THE HIGHEST CONCENTRATION OF 1.00 PPM OCCURRED AT RECEPTOR REC29.

JOB: MAIN & STAPLEY 2-L RBT sOUTH PARK-AND-RI RUN: GILBERT EXTENSION MS 2-L RBT S PNR

DATE : 11/27/12
TIME : 13:54:19

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

SITE & METEOROLOGICAL VARIABLES

VS = 0.0 CM/S VD = 0.0 CM/S Z0 = 175. CM
U = 1.0 M/S CLAS = 4 (D) ATIM = 60. MINUTES MIXH = 1000. M AMB = 0.0 PPM

LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (FT) X1	Y1	X2	Y2	*	LENGTH (FT)	BRG (DEG)	TYPE	VPH	EF (G/MI)	H (FT)	W (FT)	V/C	QUEUE (VEH)
1. M EB LT Q	*	-60.0	-18.0	-80.6	-18.0	*	21.	270.	AG	96.	100.0	0.0	10.0	0.58	1.0
2. M EB TH APP	*	0.0	-18.0	-985.0	-18.0	*	985.	270.	AG	923.	6.1	0.0	30.0		
3. M EB TH DEP	*	0.0	-18.0	985.0	-18.0	*	985.	90.	AG	870.	6.3	0.0	30.0		
4. M EB TH Q	*	-60.0	-18.0	-2824.6	-18.0	*	2765.	270.	AG	53.	100.0	0.0	10.0	1.35	140.4
5. M WB LT Q	*	54.0	22.0	549.8	22.0	*	496.	90.	AG	92.	100.0	0.0	10.0	1.28	25.2
6. M WB TH APP	*	0.0	32.0	985.0	32.0	*	985.	90.	AG	593.	6.3	0.0	30.0		
7. M WB TH DEP	*	0.0	32.0	-985.0	32.0	*	985.	270.	AG	626.	6.1	0.0	30.0		
8. M WB TH Q	*	54.0	32.0	225.9	32.0	*	172.	90.	AG	50.	100.0	0.0	10.0	0.80	8.7
9. S NB LT Q	*	-4.0	-60.0	-4.0	-365.2	*	305.	180.	AG	95.	100.0	0.0	10.0	1.26	15.5
10. S NB TH APP	*	14.0	0.0	14.0	-985.0	*	985.	180.	AG	1056.	6.3	0.0	42.0		
11. S NB TH DEP	*	14.0	0.0	14.0	985.0	*	985.	360.	AG	1154.	6.3	0.0	42.0		
12. S NB TH Q	*	14.0	-60.0	14.0	-273.6	*	214.	180.	AG	139.	100.0	0.0	22.0	0.52	10.9
13. S SB LT Q	*	0.0	64.0	0.0	89.4	*	25.	360.	AG	95.	100.0	0.0	10.0	0.57	1.3
14. S SB TH APP	*	-20.0	0.0	-20.0	985.0	*	985.	360.	AG	1097.	6.3	0.0	42.0		
15. S SB TH DEP	*	-20.0	0.0	-20.0	-985.0	*	985.	180.	AG	1367.	6.3	0.0	42.0		
16. S SB TH Q	*	-20.0	64.0	-20.0	285.7	*	222.	360.	AG	139.	100.0	0.0	22.0	0.54	11.3

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
1. M EB LT Q	*	110	102	2.0	37	1770	38.40	2	3
4. M EB TH Q	*	110	57	2.0	923	1536	38.40	2	3
5. M WB LT Q	*	110	98	2.0	164	1770	38.40	2	3
8. M WB TH Q	*	110	53	2.0	593	1533	38.40	2	3
9. S NB LT Q	*	110	101	2.0	101	1770	38.40	2	3
12. S NB TH Q	*	110	74	2.0	1056	3488	38.40	2	3
13. S SB LT Q	*	110	101	2.0	46	1770	38.40	2	3
16. S SB TH Q	*	110	74	2.0	1097	3507	38.40	2	3

RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (FT) X	Y	Z
1. REC 1 (NE CORNER)	48.0	58.0	5.9
2. REC 2 (N 25)	48.0	83.0	5.9
3. REC 3 (N 50)	48.0	108.0	5.9
4. REC 4 (E 25)	73.0	58.0	5.9
5. REC 5 (E 50)	98.0	58.0	5.9
6. REC 6 (N 25 E 25)	73.0	83.0	5.9
7. REC 7 (N 25 E 50)	98.0	83.0	5.9
8. REC 8 (N 50 E 25)	73.0	108.0	5.9
9. REC 9 (N 50 E 50)	98.0	108.0	5.9
10. REC 10(SE CORNER)	50.0	-54.0	5.9
11. REC 11(S 25)	50.0	-79.0	5.9
12. REC 12(S 50)	50.0	-104.0	5.9
13. REC 13(E 25)	75.0	-54.0	5.9
14. REC 14(E 50)	100.0	-54.0	5.9
15. REC 15(S 25 E 25)	75.0	-79.0	5.9
16. REC 16(S 25 E 50)	100.0	-79.0	5.9
17. REC 17(S 50 E 25)	75.0	-104.0	5.9
18. REC 18(S 50 E 50)	100.0	-104.0	5.9
19. REC 19(SW CORNER)	-50.0	-54.0	5.9
20. REC 20(S 25)	-50.0	-79.0	5.9
21. REC 21(S 50)	-50.0	-104.0	5.9
22. REC 22(W 25)	-75.0	-54.0	5.9
23. REC 23(W 50)	-100.0	-54.0	5.9
24. REC 24(S 25 W 25)	-75.0	-79.0	5.9
25. REC 25(S 25 W 50)	-100.0	-79.0	5.9
26. REC 26(S 50 W 25)	-75.0	-104.0	5.9
27. REC 27(S 50 W 50)	-100.0	-104.0	5.9
28. REC 28(NW CORNER)	-50.0	58.0	5.9
29. REC 29(N 25)	-50.0	83.0	5.9
30. REC 30(N 50)	-50.0	108.0	5.9
31. REC 31(W 25)	-75.0	58.0	5.9
32. REC 32(W 50)	-100.0	58.0	5.9
33. REC 33(N 25 W 25)	-75.0	83.0	5.9
34. REC 34(N 25 W 50)	-100.0	83.0	5.9
35. REC 35(N 50 W 25)	-75.0	108.0	5.9
36. REC 36(N 50 W 50)	-100.0	108.0	5.9

JOB: MAIN & STAPLEY 2-L RBT sOUTH PARK-AND-RI RUN: GILBERT EXTENSION MS 2-L RBT S PNR

MODEL RESULTS

WIND ANGLE RANGE: 0.-350.

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC1	REC2	REC3	REC4	REC5	REC6	REC7	REC8	REC9	REC10	REC11	REC12	REC13	REC14	REC15	REC16	REC17	REC18	REC19	REC20
0.	0.3	0.3	0.3	0.2	0.1	0.2	0.1	0.2	0.1	0.6	0.5	0.5	0.5	0.4	0.4	0.3	0.4	0.3	0.6	0.6
10.	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.8	0.7
20.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.8	0.7
30.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.6	0.6
40.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.5	0.7
50.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.2	0.4	0.4	0.2	0.2	0.2	0.2	0.7	0.6
60.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.7	0.7
70.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.6	0.8
80.	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.4	0.2	0.1	0.4	0.4	0.2	0.2	0.1	0.1	0.7	0.7
90.	0.4	0.2	0.0	0.3	0.3	0.2	0.2	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.5	0.7
100.	0.6	0.3	0.3	0.6	0.6	0.3	0.3	0.3	0.3	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.6	0.6
110.	0.6	0.4	0.3	0.6	0.6	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6
120.	0.5	0.4	0.3	0.5	0.5	0.4	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
130.	0.5	0.4	0.4	0.5	0.5	0.4	0.4	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
140.	0.5	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
150.	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
160.	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0
170.	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
180.	0.7	0.7	0.7	0.7	0.6	0.7	0.6	0.6	0.5	0.4	0.4	0.4	0.2	0.1	0.2	0.1	0.2	0.1	0.5	0.5
190.	1.0	0.9	0.8	0.9	0.7	0.8	0.7	0.6	0.6	0.8	0.7	0.7	0.5	0.2	0.4	0.2	0.4	0.2	0.1	0.1
200.	0.9	0.8	0.7	1.0	0.8	0.7	0.8	0.6	0.7	0.9	0.9	0.9	0.7	0.4	0.7	0.4	0.6	0.3	0.0	0.0
210.	0.7	0.5	0.4	0.8	0.8	0.6	0.7	0.4	0.5	0.9	0.8	0.8	0.7	0.5	0.7	0.4	0.6	0.4	0.0	0.0
220.	0.6	0.5	0.5	0.5	0.7	0.4	0.3	0.3	0.3	0.8	0.8	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0
230.	0.6	0.5	0.7	0.5	0.6	0.5	0.4	0.3	0.3	0.8	0.8	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0
240.	0.6	0.5	0.7	0.5	0.6	0.4	0.4	0.5	0.3	0.8	0.8	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0
250.	0.7	0.8	0.8	0.6	0.6	0.5	0.5	0.6	0.6	0.7	0.8	0.8	0.5	0.4	0.5	0.5	0.5	0.5	0.0	0.0
260.	0.6	0.8	0.8	0.6	0.6	0.6	0.6	0.6	0.6	0.8	0.8	0.8	0.5	0.5	0.5	0.5	0.5	0.5	0.1	0.0
270.	0.7	0.7	0.5	0.6	0.6	0.4	0.4	0.4	0.3	0.6	1.0	1.0	0.5	0.5	0.7	0.6	0.7	0.7	0.2	0.2
280.	0.6	0.6	0.5	0.4	0.3	0.3	0.3	0.4	0.3	0.7	0.9	1.0	0.5	0.6	0.6	0.5	0.7	0.6	0.4	0.2
290.	0.6	0.5	0.5	0.3	0.3	0.4	0.3	0.4	0.3	0.6	0.9	1.0	0.5	0.5	0.6	0.5	0.7	0.5	0.4	0.3
300.	0.6	0.5	0.5	0.4	0.3	0.4	0.3	0.4	0.3	0.6	0.6	0.8	0.6	0.3	0.4	0.4	0.4	0.4	0.4	0.3
310.	0.5	0.5	0.5	0.4	0.3	0.4	0.3	0.4	0.3	0.7	0.5	0.7	0.4	0.4	0.5	0.4	0.4	0.2	0.4	0.3
320.	0.5	0.5	0.5	0.5	0.3	0.5	0.3	0.5	0.3	0.5	0.6	0.6	0.4	0.4	0.5	0.4	0.3	0.5	0.4	0.2
330.	0.7	0.7	0.7	0.4	0.3	0.4	0.3	0.4	0.3	0.5	0.6	0.7	0.4	0.5	0.5	0.4	0.5	0.4	0.4	0.2
340.	0.7	0.6	0.6	0.4	0.3	0.4	0.2	0.4	0.2	0.7	0.6	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.1
350.	0.5	0.5	0.5	0.3	0.2	0.3	0.2	0.3	0.2	0.5	0.6	0.6	0.7	0.5	0.5	0.4	0.5	0.5	0.5	0.3
MAX	1.0	0.9	0.8	1.0	0.8	0.8	0.8	0.6	0.7	0.9	1.0	1.0	0.7	0.6	0.7	0.6	0.7	0.7	1.0	1.0
DEGR.	190	190	190	200	200	190	200	180	200	200	270	270	350	280	270	270	270	270	160	160

JOB: MAIN & STAPLEY 2-L RBT sOUTH PARK-AND-RI RUN: GILBERT EXTENSION MS 2-L RBT S PNR

MODEL RESULTS

WIND ANGLE (DEGR)	CONCENTRATION (PPM) REC21	REC22	REC23	REC24	REC25	REC26	REC27	REC28	REC29	REC30	REC31	REC32	REC33	REC34	REC35	REC36
0.	0.6	0.7	0.4	0.4	0.3	0.4	0.3	0.5	0.5	0.5	0.3	0.1	0.2	0.1	0.2	0.1
10.	0.8	0.8	0.6	0.5	0.5	0.5	0.4	0.8	0.8	0.8	0.4	0.3	0.4	0.2	0.4	0.2
20.	0.7	0.6	0.6	0.4	0.4	0.5	0.4	0.9	0.9	0.9	0.5	0.3	0.5	0.3	0.5	0.3
30.	0.5	0.5	0.6	0.5	0.4	0.4	0.5	0.9	0.9	0.9	0.6	0.4	0.5	0.4	0.5	0.3
40.	0.6	0.4	0.6	0.4	0.4	0.4	0.4	0.8	0.8	0.8	0.6	0.4	0.6	0.4	0.5	0.4
50.	0.8	0.4	0.5	0.6	0.3	0.5	0.2	0.6	0.6	0.6	0.4	0.4	0.4	0.4	0.4	0.4
60.	0.8	0.8	0.3	0.6	0.5	0.7	0.4	0.7	0.6	0.6	0.4	0.4	0.4	0.4	0.4	0.4
70.	0.8	0.7	0.6	0.6	0.5	0.7	0.6	0.6	0.6	0.6	0.4	0.3	0.4	0.4	0.4	0.4
80.	0.7	0.6	0.6	0.7	0.5	0.7	0.6	0.7	0.6	0.6	0.3	0.3	0.4	0.4	0.4	0.4
90.	0.6	0.6	0.4	0.6	0.5	0.7	0.5	0.7	0.9	0.6	0.6	0.6	0.6	0.5	0.4	0.4
100.	0.6	0.6	0.5	0.6	0.4	0.6	0.4	0.6	1.0	0.9	0.6	0.6	0.7	0.6	0.7	0.7
110.	0.6	0.5	0.4	0.6	0.4	0.6	0.4	0.7	0.9	0.9	0.6	0.6	0.6	0.6	0.7	0.6
120.	0.7	0.6	0.4	0.6	0.4	0.6	0.4	0.6	0.8	1.0	0.4	0.4	0.6	0.4	0.7	0.5
130.	0.7	0.6	0.4	0.6	0.4	0.6	0.4	0.6	0.6	1.0	0.5	0.5	0.4	0.4	0.4	0.3
140.	0.7	0.6	0.5	0.6	0.5	0.6	0.5	0.8	0.6	0.6	0.6	0.5	0.5	0.5	0.4	0.4
150.	0.9	0.6	0.5	0.5	0.5	0.5	0.5	0.7	0.7	0.8	0.7	0.7	0.5	0.6	0.4	0.4
160.	0.8	0.5	0.5	0.5	0.4	0.5	0.4	0.9	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7
170.	0.7	0.4	0.3	0.4	0.3	0.4	0.3	0.9	0.8	0.8	0.7	0.6	0.7	0.7	0.7	0.7
180.	0.5	0.2	0.1	0.2	0.1	0.2	0.1	0.7	0.8	0.8	0.4	0.4	0.4	0.3	0.4	0.3
190.	0.1	0.1	0.0	0.1	0.0	0.1	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.2
200.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2
210.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2
220.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2
230.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.2
240.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
250.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3
260.	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3
270.	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.3	0.1	0.0	0.3	0.3	0.1	0.1	0.0	0.0
280.	0.2	0.4	0.4	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
290.	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
300.	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
310.	0.2	0.4	0.4	0.3	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
320.	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
330.	0.1	0.3	0.3	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
340.	0.1	0.3	0.3	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
350.	0.3	0.4	0.3	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
MAX	0.9	0.8	0.6	0.7	0.5	0.7	0.6	0.9	1.0	1.0	0.7	0.7	0.7	0.7	0.7	0.7
DEGR.	150	10	10	80	10	60	70	160	100	120	150	150	100	160	100	100

THE HIGHEST CONCENTRATION OF 1.00 PPM OCCURRED AT RECEPTOR REC29.

Appendix E. MPO Review and Comment Documentation

Response to MAG Comments dated March 25, 2013
Gilbert Road Extension Environmental Assessment Air Quality Technical Report, December 2012

No.	Comment	Response
1	Page 1, section 1.1: The Gilbert Road Extension EA evaluates the impacts of a proposed two-mile easterly extension of the light rail transit (LRT) system *along Main Street* to the intersection of Main Street~~/~~ *and* Gilbert Road in the City of Mesa, Arizona.	The report has been revised per your comment.
2	Page 2, section 1.4: which of the two parking facilities was used in the analysis (surface or structured)?	The park-and-ride traffic was based on travel demand projections from MAG's regional travel demand model and the results of the traffic evaluation for the Gilbert Road Extension. At this conceptual level of design, Valley Metro assumed that the facility would likely be surface but could possibly be a structure. In any case, the same numbers of parking spaces would be provided to satisfy demand whether or not the facility is surface or a structure. Since the air quality analysis was based on travel demand, the results would be the same regardless of whether the facility is a structure or surface parking.
3	Page 5, Table 1: Based on the December 14, 2012 U.S. Environmental Protection Agency announcement, revise the primary PM-2.5 annual standard level from 15 to 12 micrograms per cubic meter and add the secondary PM-2.5 annual standard of 15 micrograms per cubic meter with a form of annual mean, averaged over 3 years.	The report has been revised per your comment.
4	Page 7, section 2.2.2: In 2011, there were 18 unique days when at least one monitor exceeded the standard. There were 70 individual exceedances of the 8-hour standard which occurred at 14different *monitoring* sites.	The report has been revised per your comment.
5	Page 8, section 2.2.3: *In December 2007* ~~The Maricopa Association of Governments (~~MAG~~)~~ submitted the 2007 Five Percent Plan for PM_{10} to EPA~~ in December 2007~~.	The report has been revised per your comment.

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6	Page 8, section 2.3, last paragraph: spell out SLAMS here rather than on page 9.	The report has been revised per your comment.
7	Page 11, first paragraph: Correct “a photochemical model” to “an air quality model”.	The report has been revised per your comment.
8	Page 18, paragraph (v), third sentence should be clarified to read: “A number of monitors violate the 24-hour standard from 2009-2011 and it is important to note that a number of these PM-10 exceedances have been flagged as exceptional events.”	The report has been per your comments.
9	Page 20, last paragraph, first sentence should be revised to read: “MOBILE6.2 input files used for the 2031 CO estimates are consistent with the conformity analysis completed in July 2012 and approved by the MAG Regional Council on July 25, 2012, were obtained from MAG (via May 18, 2012 e-mail from Ieesuck Jung, MAG).	The report has been revised per your comment.
10	Page 20, section 4.1.2, last paragraph: Leesuck Jung is Ieesuck Jung (capital “i”)	The report has been revised per your comment.
11	Page 21, first paragraph, revise last sentence to read: “Consistent with the conformity analysis completed in July 2012, it is assumed that 91.6 percent of eligible onroad vehicles participate in the I/M program.”	The report has been revised per your comment.
12	Page 22, section 4.1.3.1, second bullet: clarify the land use analyzed, e.g., “office use from City land uses.”	The report has been revised per your comment. The wording shown in the report is quoted from the CAL3QHC guidance.
13	Page 32, fifth paragraph, revise first sentence to read: “The hot-spot analysis complies with the Federal Transportation Conformity Rule...”	The report has been revised per your comment.
14	Appendix A: It would be useful in future project level hot-spot conformity analyses to identify CAL3QHC modeling receptor locations overlaid on the intersection figures or provide separate figures showing receptor locations on the intersections.	Comment noted.