2.9 Transportation and Traffic

This section assesses general transportation and traffic conditions in the County of San Diego (County) and identifies potential transportation and traffic impacts that could occur as a result of implementation of the proposed Zoning Ordinance amendments. The information used in this analysis is general in nature and is derived from the most readily available information in applicable resource and planning documents. Site-specific traffic studies were not performed for the proposed Zoning Ordinance amendments.

2.9.1 Existing Conditions

The proposed project would apply to properties located in the unincorporated portions of the County over which the County has land use jurisdiction. There are two defined project areas: (1) for small wind turbines and Meteorological Testing (MET) facilities, the project area includes all properties in the unincorporated County over which the County has jurisdiction, as depicted in Figure 1-3; (2) for large wind turbines, the project area is defined by wind resource areas within the unincorporated County, as depicted in Figure 1-4. The exact location of wind turbine and MET facility projects is currently unknown. As a result, it is not possible to provide more specific information regarding existing transportation and circulation conditions that could be affected by the proposed Zoning Ordinance amendments.

Existing Roadway Network

The County Department of Public Works Road Section is responsible for maintaining nearly 2,000 miles of County Mobility Element roadways and other transportation facilities within the unincorporated County. Non-County-maintained roadways include private roads (maintained by adjacent property owners), public roads (maintained by respective municipalities), and state highways (maintained by the California Department of Transportation (Caltrans)). The County's existing General Plan Mobility Element (2011a) provides definitions for the roadway classification of County-maintained roads and identifies existing major roadways. Roadways include freeways (also known as state highways), expressways, prime arterials, major roads, collector roads, town collector roads, light collector roads, recreational parkways, rural collector roads, rural light collector roads, and rural mountain roads.

For the purpose of this analysis, northwestern communities include the Bonsall community planning area (CPA), Fallbrook CPA, North County Metro Subregion, Pala/Pauma Valley Subregion, Pendleton/De Luz CPA, Rainbow CPA, San Dieguito CPA, and Valley Center CPA. Southwestern communities include Alpine CPA, County Islands CPA, Crest/Dehesa Subregion, Jamul/Dulzura Subregion, Lakeside CPA, Otay Subregion, Ramona CPA, Spring Valley CPA, Sweetwater CPA, and Valle de Oro CPA. Eastern communities include Central Mountain

Subregion, Desert Subregion, Julian CPA, Mountain Empire Subregion, and North Mountain Subregion. The existing roadway network within the unincorporated County includes 454 lane miles of state highway facilities, 2,190 lane miles of existing roads, and 415 lane miles of local public roads, for a total of 3,059 lane miles (County of San Diego 2011b). Lane miles represent the lengths of the roadway (linear miles) multiplied by the number of travel lanes. Planning areas that have the greatest number of roadway lane miles include Desert Subregion (308 miles), Mountain Empire Subregion (267 miles), North Mountain Subregion (262 miles), Ramona CPA (222 miles), and Central Mountain Subregion (215 miles).

In total, the northwestern communities contain 884 roadway lane miles, southwestern communities contain 1,062 roadway lane miles, and eastern communities contain 1,113 roadway lane miles. Approximately half of the state highway lane miles in the unincorporated area are located in the eastern communities, with County Mobility Element roadway lane miles fairly evenly distributed among the northwestern, southwestern, and eastern communities. The eastern communities have the fewest lane miles of local public roads.

Traffic Conditions and Trends

Historically, vehicle trips in the unincorporated County have been increasing at a faster rate than that of the population growth. Travel behavior is influenced by many factors, including demographics, land uses, lifestyles, the economy, employment locations, and work practices. The San Diego region has seen a gradual decline in commuting by carpool and transit in favor of driving alone. As projected in the *2030 San Diego Regional Transportation Plan* (SANDAG 2007), the San Diego region faces a large increase in vehicle miles of travel during the next two decades. In 1990, daily travel demand was approximately 9 million average daily trips/traffic (ADT). The region's current population makes an estimated 16.7 million ADT by some form of motorized travel.

Additionally, as a result of the increase in motor vehicle travel and limited financial capacity of jurisdictions to keep pace with demand, many of the region's major transportation facilities are operating at or beyond their capacity. Of all trips taken by transportation modes, the average trip length is more than 6 miles. Work travel, as measured in vehicle miles of travel, comprises 26% of all highway travel, while non-work travel makes up 74% of travel on the region's highways.

Work trips tend to be longer than non-work trips. In 2007, work trips averaged 11.9 miles in length compared to 5.7 miles for the non-work trips. Work trips make up the largest portion of travel demand during the morning and afternoon peak periods, although there are large shares of other trips, such as shopping and recreation, in the afternoon hours. Morning trips tend to be mostly commuter trips, going directly from home to work. Evening trips involve a greater variety of origins and destinations causing the evening peak period to spread out over a longer period of

time. School trips constitute the smallest share of trips throughout the day. It is the peaking of travel demand during short periods of the day that strains the regional transportation system, which has excess capacity during off-peak periods. The average commute time in the region grew by only 3 minutes between 1990 and 2000, indicating that people make personal adjustments to keep commute times reasonable (SANDAG 2007).

2.9.2 Regulatory Setting

State Regulations

California Department of Transportation Standards

Caltrans is responsible for planning, designing, building, operating, and maintaining California's $300 billion, 50,000-lane-mile state road system. Caltrans sets standards, policies, and strategic plans that aim to do the following: (1) provide the safest transportation system in the nation for users and workers; (2) maximize transportation system performance and accessibility; (3) efficiently deliver quality transportation projects and services; (4) preserve and enhance California's resources and assets; and (5) promote quality service. Caltrans has the discretionary authority to issue special permits for the use of California state highways for other-than-normal transportation purposes. Caltrans also reviews all requests from utility companies, developers, volunteers, nonprofit organizations, and others desiring to conduct various activities within the California highway right-of-way. The Caltrans *Highway Design Manual*, prepared by the Office of Geometric Design Standards (Caltrans 2009), establishes uniform policies and procedures to carry out the highway design functions of Caltrans. Caltrans has also prepared the *Guide for the Preparation of Traffic Impact Studies* (Caltrans 2002). Objectives for the preparation of this guide include providing consistency and uniformity in the identification of traffic impacts generated by local land use proposals.

Statewide Transportation Improvement Program

The California 2007 Statewide Transportation Improvement Program, approved by the U.S. Department of Transportation in October 2006, is a multiyear, statewide, intermodal program of transportation projects that is consistent with the statewide transportation plan and planning processes, metropolitan plans, and Title 23 of the federal Code of Regulations. The Statewide Transportation Improvement Program is prepared by Caltrans in cooperation with the Metropolitan Planning Organizations and the Regional Transportation Planning Agencies. In the County, the Metropolitan Planning Organization and Regional Transportation Planning Agency is the San Diego Association of Governments (SANDAG). The Statewide Transportation Improvement Program contains all capital and non-capital transportation projects or identified

phases of transportation projects for funding under the Federal Transit Act and Title 23 of the U.S. Code, including federally funded projects.

Transportation Development Act

The Transportation Development Act provides two major sources of funding for public transportation: the Local Transportation Fund and the State Transit Assistance Fund. These funds are for the development and support of public transportation needs that exist in California and are allocated to areas of each county based on population, taxable sales, and transit performance. Some counties have the option of using the Local Transportation Fund for local streets and roads projects if they can show there are no unmet transit needs. The branch provides oversight of the public hearing process used to identify unmet transit needs. It provides interpretation of and initiates changes or additions to legislation and regulations concerning all aspects of the Transportation Development Act. It also provides training and documentation regarding Transportation Development Act statutes and regulations. Caltrans ensures local planning agencies complete performance audits required for participation in the Transportation Development Act.

Local Regulations

Mobility Element of the County of San Diego General Plan

The County's General Plan Mobility Element (2011a) provides a framework for a balanced, multi-modal transportation system for the movement of people and goods within the unincorporated areas of the County. The guiding principles focus on a central theme to support a multi-modal transportation network that enhances connectivity and supports existing development patterns while retaining community character and maintaining environmental sustainability by reducing gasoline consumption and greenhouse gas (GHG) emissions. A primary goal of the Mobility Element is to achieve a road network that accommodates build-out of the land use map while operating with acceptable levels of congestion for the efficient and effective movement of people and goods. For example, the Mobility Element requires development projects to provide associated road improvements necessary to achieve a level of service (LOS) of "D" or higher on all Mobility Element roads, except those where failing LOS has been accepted by the County pursuant to specific criteria. LOS is a quality of service measure that describes the operational conditions on a transportation facility, such as a roadway or intersection. Six LOS capacity thresholds are defined for each type of roadway, with letters A through F used to establish the LOS measure. Criteria for each LOS threshold include speed, travel time, freedom to maneuver, traffic interruptions, comfort, convenience, and safety. LOS A represents free flow, almost complete freedom to maneuver within the traffic stream. LOS F represents forced flow, where more vehicles are attempting to use the road facility than can be served, resulting in stop and go traffic. In

circumstances where development is proposed on roads with a failing LOS that has been determined to be acceptable, mitigation such as road improvements or fair share contribution to a road improvement program is required (County of San Diego 2011b).

County of San Diego Consolidated Fire Code

The County, in collaboration with the local fire protection districts, created the first Consolidated Fire Code in 2001. The Consolidated Fire Code contains the County's and fire protection districts' amendments to the California Fire Code. Emergency ingress/egress is established by the County's Consolidated Fire Code. Ingress/egress is necessary for both citizen evacuation and to provide access for emergency vehicles in the event of a fire or other emergency. Section 902.2 of the Consolidated Fire Code dictates minimum design standards for "Fire Apparatus Access Roads" and includes minimum road standards, secondary access requirements, and restrictions for gated roads and gated communities. Road standard requirements for emergency vehicles specify a minimum 12-foot paved lane or 24-foot travel way.

County of San Diego Transportation Impact Fee Ordinance

The County has developed an overall programmatic solution that addresses existing and projected future road deficiencies in the unincorporated portion of the County. This program commits the County to construct additional capacity on identified deficient roadways and includes the adoption of a Transportation Impact Fee program to fund improvements to roadways necessary to mitigate potential cumulative impacts caused by traffic from future development. The fees are collected at issuance of a development permit (including building permits) and at the time that a change of occupancy occurs. The fees are used to fund identified transportation facilities, or portions thereof, that provide increased road capacity necessitated by the cumulative impacts of future development. This program is based on a summary of projections contained in an adopted planning document that evaluates regional or area-wide conditions contributing to cumulative transportation impacts. Although the program does not address every road in the unincorporated County, it is considered to be a broad-based approach to mitigation of cumulative traffic impacts from additional traffic generated by a project or series of projects.

Regional Transportation Plans and Programs

The County General Plan Update Environmental Impact Report (EIR) states: "SANDAG serves as the forum for decision-making on regional issues such as growth, transportation, land use, the economy, the environment, and criminal justice. SANDAG builds consensus, makes strategic plans, obtains and allocates resources, and provides information on a broad range of topics pertinent to the region's quality of life. SANDAG is governed by a Board of Directors composed of mayors, council

members, and supervisors from each of the San Diego region's 19 local governments" (County of San Diego 2011b).

"As the San Diego County Metropolitan Planning Organization (MPO) and Regional Transportation Planning Agency, SANDAG has produced the following documents that identify transportation plans and policies in the San Diego area" (County of San Diego 2011b).

Regional Transportation Plan (RTP)

The RTP, also known as MOBILITY 2030, serves as a blueprint to address the mobility challenges created by the San Diego region's growing population and employment. It contains an integrated set of public policies, strategies, and investments to maintain, manage, and improve the transportation system in the region. The 2030 RTP was approved on March 28, 2003. Changes in anticipated cost and revenue have resulted in an update of the RTP that was approved by the SANDAG Board of Directors in 2006. Additional updates and approvals were obtained in late 2007 to incorporate a new regional growth forecast, strategic initiatives, and several other white papers on topics not previously covered in the RTP (County of San Diego 2011b).

2006 Regional Transportation Improvement Program (RTIP)

The RTIP is a multi-year program of proposed major highway, arterial, transit, and bikeway projects. The 2006 RTIP is a prioritized program designed to implement the region's overall strategy for providing mobility and improving the efficiency and safety of efforts to attain federal and state air quality standards for the region. The 2006 RTIP also incrementally implements the latest update to the RTP. The 2006 RTIP covers fiscal years 2007 to 2011. The 2006 RTIP, including an air quality emissions analysis for all regionally significant projects, was adopted on August 4, 2006 (County of San Diego 2011b).

Congestion Management Program (CMP)

State Proposition 111, passed by voters in 1990, established a requirement that urbanized areas prepare and regularly update a CMP, which is a part of SANDAG's RTP. The purpose of the CMP is to monitor the performance of the region's transportation system, develop programs to address near-term and long-term congestion, and better integrate transportation and land use planning. SANDAG, as the designated Congestion Management Agency for San Diego region, must develop, adopt, and update the CMP in response to specific legislative requirements. SANDAG, local jurisdictions, and transportation operators such as Caltrans, MTDB, and NCTD, are responsible for implementing and monitoring the CMP (County of San Diego 2011b).

2.9.3 Analysis of Project Effects and Determination of Significance

The proposed project consists of amendments to the Zoning Ordinance related to wind turbines and temporary MET facilities. Under the proposed project, large turbines will continue to require approval of a Major Use Permit while a small wind turbine or MET facility meeting the height designator of the zone in which it is located would be allowed without discretionary review. The impact analysis below has been separated into "Small Turbine(s)/MET Facilities" and "Large Turbine(s)" to reflect the distinction in the level of review required for the establishment of each use (discretionary vs. non-discretionary).

2.9.3.1 Conflict with Plan, Policy, or Ordinance

Guidelines for the Determination of Significance

For the purpose of this EIR, Appendix G of the California Environmental Quality Act (CEQA) Guidelines and the County's *Guidelines for Determining Significance: Transportation and Traffic* (County of San Diego 2010a) apply to the direct and indirect impact analysis, as well as the cumulative impact analysis. A significant impact would result if:

- The project would conflict with an applicable plan, ordinance, or policy establishing measures of the effectiveness of the circulation system performance, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

Analysis

As stated in Section 2.9.1, the proposed project comprises a large study area encompassing the unincorporated portions of the County. The actual locations and actions of future project sites are unknown at this time; therefore, the actual vehicle trip generation cannot be quantified. To evaluate whether the proposed project would have an impact on road segments, the thresholds in Table 2.9-1 and the criteria in Table 2.9-2 were utilized. The evaluation of peak hour intersection operations would be appropriate for addressing specific transportation corridors (i.e., intersections) that may be impacted by a proposed project. However, this approach is not feasible for the proposed project (zoning ordinance update) due to its size. Therefore, estimated ADT and road segment thresholds were evaluated for both construction and operation/maintenance stages of future wind turbines and MET facilities projects to determine if a significant impact would result. If the proposed project includes development that would exceed the thresholds, the proposed project would have the potential to conflict with an applicable plan or policy establishing measures of the effectiveness of the circulation system performance.

Small Turbine(s)/MET Facilities

Construction

Construction activities for small wind turbines and MET facilities may generate a minimal amount of traffic on project-area roadways. Construction traffic would be limited to the delivery of component parts and equipment (if the turbine is too large for the individual property owner to manage), and if a concrete foundation must be poured or if assistance is needed to erect the turbine tower, one or two additional vehicles/equipment. Some smaller turbines such as roof-mounted turbines would not require construction vehicles at the project site since they can typically be installed by the property owner. Only turbines requiring substantial earth-moving activities or those requiring the delivery of larger-scale turbine tower or hub equipment would require heavy, drivable equipment. Due to the brief construction time period associated with the installation of small-scale wind turbines and MET facilities (usually lasting one day), and because traffic generated by the construction of these facilities would be relatively minor, transportation and traffic impacts would be less than significant. Certain small wind turbines (those including deliveries of heavy loads to the project site) and MET facilities would be required to obtain all necessary permits regarding the delivery of oversized materials on County roadways, state highways, and interstate freeways. Additionally, future small wind turbines and MET facilities requiring substantial earth-moving activities would be subject to the County Grading Ordinance, which requires the implementation of dust control measures. Contractors would be required to minimize land disturbance to the extent feasible, and all active grading areas must be watered at least twice daily to decrease ambient particulate matter. Speed limits would be imposed to restrict vehicles traveling on unpaved roads and trucks hauling soil material will be required to be covered. Therefore, impacts associated with the construction of future small wind turbines and MET facilities would be less than significant.

Operation and Maintenance

Traffic generated during the operational phase of future projects would consist of sporadic maintenance trips from wind turbine manufacturers, as necessary. Maintenance activities for small wind turbines and MET facilities usually occur every 1 to 3 years, or as needs arise, and may not require vehicle trips. Frequently, annual maintenance may consist of the property owner visually inspecting facilities with a pair of binoculars and also checking that bearings are lubricated. If additional maintenance is required, it is anticipated that one vehicle and a small amount of equipment would access the site. Large construction equipment (e.g., bulldozers) would not be utilized during the operational phase of future projects. Due to the small number of vehicles and equipment likely to be required for maintenance at future project sites (less than 1 ADT), impacts during the operational phase of future small wind turbines and MET facilities would be less than significant.

Table 2.9-1 includes thresholds from the County's *Guidelines for Determining Significance: Transportation and Traffic* (County of San Diego 2010a). Because small wind turbines and MET facilities would not substantially increase traffic or exceed LOS levels during construction or operation and maintenance, the project would not conflict with an applicable plan or policy and impacts would be **less than significant**.

Large Turbine(s)

The proposed project amends certain provisions of the County's Zoning Ordinance related to large turbines. These updates are necessary to address advancements in technology that have obviated many of the current provisions. The proposed amendments related to large wind turbines consist of updated definitions and requirements related to setbacks, noise, height, and locations where large turbines are permissible. All future large turbine projects will be subject to discretionary review and required to obtain a Major Use Permit. As part of the County's discretionary review process, projects would be evaluated under CEQA and would be required to implement measures to minimize transportation and traffic impacts, as necessary. CEQA requires proposed projects to provide detailed information on the potentially significant environmental effects they are likely to have, list ways in which the significant environmental effects would be minimized, and identify alternatives that would reduce or avoid the significant impacts identified for the project.

Pursuant to the County's *Report Format and Content Requirements: Transportation and Traffic* (County of San Diego 2010b), criteria are used for CEQA purposes to evaluate whether a proposed project could potentially have a significant adverse impact due to increased traffic and therefore would require the preparation of a traffic impact study (TIS). The typical criteria used (based on ADT) to determine if a TIS is required and what type of TIS is most appropriate are presented in Table 2.9-2. If required, a TIS would include project-specific trip generation, evaluation of traffic safety impacts and hazards and other appropriate information depending on which type of TIS is required. The TIS would assess site-specific conditions and would require projects to apply feasible mitigation, as necessary.

As stated previously, the actual locations and actions of future projects are unknown at this time; therefore, the actual vehicle trip generation for future large wind turbines cannot be quantified. Additionally, there are no published trip generation rates for wind turbines either in the national Institute of Transportation Engineers *Trip Generation Manual*, or in the regional SANDAG *Brief Guide to Vehicular Traffic Generation Rates for the San Diego Region*. To determine whether a future large wind turbine project would have the potential to impact existing traffic loads or exceed LOS thresholds, a review of two sample projects was conducted. The first sample project would construct and operate 33 large wind turbines with a 2.3- to 3.0-megawatt (MW) capacity range and would reach a total capacity of approximately 90 MW. The second sample project

would construct and operate 128 large wind turbines with a 1.5 to 3.0 MW generating capacity range for a total capacity of approximately 200 MW.

Construction

Construction schedules can vary greatly depending on a number of factors. The first sample project anticipates a 12-month construction schedule and the following assumptions. Project construction would typically occur Monday through Friday between 7:00 a.m. and 4:00 p.m. The construction phase would generate traffic from construction worker travel and the arrival/departure of trucks delivering construction materials and equipment. The sample project anticipates 75 construction workers during a typical day during the peak of the construction period and 2.5 employees per vehicle. Assuming all these factors, the peak a.m. and p.m. total is estimated to add approximately 50 ADT to associated road segments. Per Table 2.9-1, the anticipated traffic would be below the County threshold of 200 ADT for LOS E and 100 ADT for LOS F.

The second sample project assumes construction would occur in an 18- to 24-month period. A typical day during the peak of the construction period would generate approximately 200 total truck trips, which would include the transportation of turbine components, movement of heavy equipment, and transport of material and concrete, as well as trips for water delivery and pump and subcontractor trucks. A total of up to 325 construction workers (125 on site and 200 delivery drivers) are expected at the project site on a typical day during the peak of the construction period. This sample project's peak a.m. and p.m. total is estimated to add 165 ADT to associated road segments. Therefore, the project's construction could potentially result in traffic that would cause an increase in the traffic load and street system capacity.

Operation and Maintenance

The operation and maintenance activities for both sample projects are not anticipated to result in traffic impacts. Operational activities for the first sample project would include operation of the wind turbines and associated maintenance activities with limited traffic from routine work access. Employees would be responsible for scheduled changes of lubricating and cooling fluids and greases, as well as possible routine brush clearing. These activities would be conducted on an as-needed basis. An additional two to five trips per day during these maintenance activities are expected.

The second sample project would require 12 full-time employees during the operation and maintenance phase. These employees would be on site during regular business hours. This would add an additional 24 trips per day to the existing traffic conditions, which is also considered minimal and would not reach LOS thresholds.

As part of the County's discretionary review process, all future projects would be evaluated under CEQA and required to implement feasible mitigation measures, as needed. However, because there is ultimately no guarantee on a project-specific level that mitigation measures will reduce impacts to below a level of significance, the proposed project may result in significant impacts due to substantially increasing traffic or exceeding a LOS standard **(TRAF-1).**

2.9.3.2 Conflict with CMP Guidelines for the Determination of Significance

For the purpose of this EIR, Appendix G of the CEQA Guidelines and the County's *Guidelines for Determining Significance: Transportation and Traffic* (County of San Diego 2010a) apply to the direct and indirect impact analysis, as well as the cumulative impact analysis. A significant impact would result if:

- The project would conflict with an applicable CMP, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

Analysis

As described in Section 2.9.2, SANDAG is the designated Congestion Management Agency for the San Diego region. The CMP for San Diego is a part of SANDAG's RTP. The purpose of the CMP is to monitor the performance of the region's transportation system, develop programs to address near-term and long-term congestion, and better integrate transportation and land use planning. The same factors associated with the analysis in Section 2.9.3.1 apply to this analysis. Under the CMP's Land Use Analysis Program, the CMP requires a review of large projects that generate 2,400 or more average daily trips or 200 or more peak hour trips (refer to Table 2.9-2). If the proposed project includes development that would exceed these thresholds, the proposed project could potentially conflict with the CMP.

Small Turbine(s)/MET Facilities

As described in Section 2.9.3.1, traffic generated during the construction and operation of future small wind turbine and MET facilities projects would not exceed the 200 ADT peak hour threshold. Additionally, the proposed project would not generate 2,400 or more ADT. Therefore, the proposed project would not result in a conflict with the CMP and impacts would be **less than significant.**

Large Turbine(s)

The proposed project amends certain provisions of the County's Zoning Ordinance related to large turbines. These updates are necessary to address advancements in technology that have obviated many of the current provisions. The proposed amendments related to large wind turbines consist of updated definitions and requirements related to setbacks, noise, height, and locations where large turbines are permissible. All future large turbine projects will be subject to discretionary review and required to obtain a Major Use Permit. As part of the County's discretionary review process, projects would be evaluated under CEQA and would be required to implement measures to minimize transportation and traffic impacts, as necessary. CEQA requires proposed projects to provide detailed information on the potentially significant environmental effects they are likely to have, list ways in which the significant environmental effects would be minimized, and identify alternatives that would reduce or avoid the significant impacts identified for the project.

As described in Section 2.9.3.1, future large wind turbines may exceed the thresholds in Table 2.9-1 and therefore may contain criteria in Table 2.9-2 requiring the preparation of a Congestion Management Analysis. Therefore, the proposed project may conflict with the CMP. As part of the County's discretionary review process, all future projects would be evaluated under CEQA and required to implement feasible mitigation measures, as needed. However, because there is ultimately no guarantee on a project-specific level that mitigation measures will reduce impacts to a level below significance, the proposed project may result in significant impacts due to substantially increasing traffic or exceeding a LOS standard **(TRAF-2).**

2.9.3.3 Road Safety Guidelines for the Determination of Significance

For the purpose of this EIR, Appendix G of the CEQA Guidelines and the County's *Guidelines for Determining Significance: Transportation and Traffic* (County of San Diego 2010a) apply to the direct and indirect impact analysis, as well as the cumulative impact analysis. A significant impact would result if:

- The proposed project would substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Analysis

Potential road hazards can occur due to a design feature or physical configuration of existing or proposed access roads that can adversely affect the safe transport of vehicles along a roadway. The physical conditions of the project site and surrounding area, such as curves, slopes, walls, landscaping, or other barriers, may also result in vehicle conflicts with other vehicles or stationary objects.

Small Turbine(s)/MET Facilities

Future small turbines and MET facilities would not alter traffic patterns, roadway design, place incompatible uses (e.g., farm equipment) on existing roadways, or create or place curves, slopes, or walls that impede adequate site distance on a road. Depending on the density of vegetation present at a project site, small wind turbine and MET facility projects may be required to remove vegetation and construct access roads for construction of the project and to aid in ongoing maintenance efforts. The location of small wind turbines and MET facilities is unknown at this time, and therefore, specific access road design information is not available. However, the design of the access roads would be specific to the needs of the projects and are not expected to result in unsafe design features or unsafe configurations. Roads would be constructed according to the San Diego County Public Road Standards, San Diego County Private Road Standards, and the San Diego County Consolidated Fire Code. Because future small wind turbines and MET facilities would be required to comply with County standards for any road improvements, the proposed project would not significantly increase hazards due to design features or incompatible uses. Impacts would be **less than significant**.

Large Turbine(s)

The proposed project amends certain provisions of the County's Zoning Ordinance related to large turbines. These updates are necessary to address advancements in technology that have obviated many of the current provisions. The proposed amendments related to large wind turbines consist of updated definitions and requirements related to setbacks, noise, height, and locations where large turbines are permissible. All future large turbine projects will be subject to discretionary review and required to obtain a Major Use Permit. As part of the County's discretionary review process, projects would be evaluated under CEQA and would be required to implement measures to minimize transportation and traffic impacts, as necessary. CEQA requires proposed projects to provide detailed information on the potentially significant environmental effects they are likely to have, list ways in which the significant environmental effects would be minimized, and identify alternatives that would reduce or avoid the significant impacts identified for the project.

If road improvements are required, they would be constructed according to the San Diego County Public Road Standards, San Diego County Private Road Standards, and the San Diego County Consolidated Fire Code. Additionally, the proposed project would not place incompatible uses (e.g., farm equipment) on existing roadways. Depending on the scale of the project, a TIS may be required, which would evaluate traffic safety and hazards on a project-specific level and require feasible mitigation as needed. Because future large wind turbines would be required to comply with County standards for any road improvements, the proposed

project would not significantly increase hazards due to design features or incompatible uses. Impacts would be **less than significant**.

2.9.3.4 Emergency Access

Guidelines for the Determination of Significance

For the purpose of this EIR, Appendix G of the CEQA Guidelines and the County's *Guidelines for Determining Significance: Transportation and Traffic* (County of San Diego 2010a) apply to the direct and indirect impact analysis, as well as the cumulative impact analysis. A significant impact would result if:

- The project would result in inadequate emergency access.

Analysis

Inadequate emergency access and egress can occur as a result of an incomplete or not fully interconnected roadway network, such as inadequate roadway widths, turning radii, dead end or gated roads, one-way roads, single ingress and egress routes, or other factors.

Small Turbine(s)/MET Facilities

Multiple regulations exist to ensure adequate emergency access exists within the County. The proposed project would allow small wind turbines or MET facilities without discretionary review if they meet the zoning verification requirements in the amended ordinance; however, the development of any associated access roads would be required to comply with the San Diego County Public Road Standards, and San Diego County Private Road Standards, which provide guidance for roadway and transportation facility development and require that sufficient emergency access is provided. Additionally, the proposed project would be required to comply with the San Diego County Consolidated Fire Code, which dictates minimum design standards for "Fire Apparatus Access Roads" and includes minimum road standards, secondary access requirements, and restrictions for gated communities. Therefore, future small wind turbines and MET facilities developed under the proposed project would not result in inadequate emergency access; impacts would be **less than significant**.

Large Turbine(s)

The proposed project amends certain provisions of the County's Zoning Ordinance related to large turbines. These updates are necessary to address advancements in technology that have obviated many of the current provisions. The proposed amendments related to large wind turbines consist of updated definitions and requirements related to setbacks, noise, height,

and locations where large turbines are permissible. All future large turbine projects will be subject to discretionary review and required to obtain a Major Use Permit. As part of the County's discretionary review process, projects would be evaluated under CEQA and would be required to implement measures to minimize transportation and traffic impacts, as necessary. CEQA requires proposed projects to provide detailed information on the potentially significant environmental effects they are likely to have, list ways in which the significant environmental effects would be minimized, and identify alternatives that would reduce or avoid the significant impacts identified for the project.

Similar to small wind turbines and MET facilities, as discussed previously, the development of any access roads for future large wind turbines would be required to comply with the San Diego County Public Road Standards, San Diego County Private Road Standards, and the San Diego County Consolidated Fire Code. Therefore, future large wind turbines developed under the proposed project would not result in inadequate emergency access; impacts would be **less than significant**.

2.9.3.5 Alternative Transportation

Guidelines for the Determination of Significance

For the purpose of this EIR, Appendix G of the CEQA Guidelines and the County's *Guidelines for Determining Significance: Transportation and Traffic* (County of San Diego 2010a) apply to the direct and indirect impact analysis, as well as the cumulative impact analysis. A significant impact would result if:

- The project would conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Analysis

Small Turbine(s)/MET Facilities

Any road improvements associated with future small wind turbines and MET facilities would be for access to the site for construction and maintenance activities. As discussed in Section 2.9.3.3, any access roads required for small wind turbines and MET facilities would be improved or constructed according to the San Diego County Public Road Standards, and San Diego County Private Road Standards, which includes standards for associated bicycle or pedestrian pathways. Therefore, the proposed project would not decrease the performance or safety of public transit, bicycle, or pedestrian facilities, and impacts would be **less than significant**.

Large Turbine(s)

The proposed project amends certain provisions of the County's Zoning Ordinance related to large turbines. These updates are necessary to address advancements in technology that have obviated many of the current provisions. The proposed amendments related to large wind turbines consist of updated definitions and requirements related to setbacks, noise, height, and locations where large turbines are permissible. All future large turbine projects will be subject to discretionary review and required to obtain a Major Use Permit. As part of the County's discretionary review process, projects would be evaluated under CEQA and would be required to implement measures to minimize transportation and traffic impacts, as necessary. CEQA requires proposed projects to provide detailed information on the potentially significant environmental effects they are likely to have, list ways in which the significant environmental effects would be minimized, and identify alternatives that would reduce or avoid the significant impacts identified for the project.

Similar to small wind turbines and MET facilities, the development of any access roads for future large wind turbines would be required to comply with the San Diego County Public Road Standards, and San Diego County Private Road Standards. Therefore, future large wind turbine projects would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities; impacts would be **less than significant**.

2.9.4 Cumulative Impact Analysis

The geographic scope of cumulative impact analysis for transportation and traffic is the San Diego region, including jurisdictions and special districts within and adjacent to the unincorporated County.

2.9.4.1 Conflict with Plan, Policy, or Ordinance

Under the cumulative traffic scenario in the County's General Plan Update, 34 state highways and 124 Mobility Element roads (for a total of 158 roadway segments) would operate at a deficient LOS (County of San Diego 2011b). This would be considered a cumulatively considerable impact. Additionally, 33 roadway segments would be significantly impacted upon build-out of respective adjacent cities' general plans combined with build-out of the County's General Plan Update. Therefore, cumulative projects in the region would have the potential to result in cumulatively considerable impacts due to potential conflicts with an applicable plan, ordinance, or policy establishing measures of the effectiveness of the circulation system performance.

Small Turbine(s)/MET Facilities

As described in Section 2.9.3.1, future small wind turbines and MET facilities would not substantially increase traffic or exceed LOS levels during construction or operation and maintenance. Therefore, the development of small wind turbines and MET facilities under the proposed project **would not contribute to a cumulatively considerable impact.**

Large Turbine(s)

As described in Section 2.9.3.1, some future large wind turbines may result in significant impacts due to substantially increasing traffic or exceeding a LOS standard. Therefore, the proposed project would potentially contribute to a cumulatively considerable impact **(TRAF-3).**

2.9.4.2 Conflict with CMP

Because the cumulative traffic scenario in the County's General Plan Update would result in deficient roadway segments, cumulative projects in the region would have the potential to result in cumulatively considerable impacts due to conflicts with SANDAG's CMP.

Small Turbine(s)/MET Facilities

As described in Section 2.9.3.2, traffic generated during the construction and operation of future small wind turbine and MET facilities projects would not exceed the 200 ADT peak hour threshold. Additionally, the proposed project would not generate 2,400 or more ADT. Therefore, small wind turbines and MET facilities developed under the proposed project **would not contribute to a cumulatively considerable impact.**

Large Turbine(s)

As described in Section 2.9.3.2, future large wind turbines may exceed the thresholds in Table 2.9-1. It is also possible that a future large wind turbine project would be greater in scope than the two sample projects and therefore may contain criteria in Table 2.9-2 that requires the preparation of a Congestion Management Analysis. The proposed project may conflict with the CMP. Therefore, in combination with other past, present, and foreseeable future projects, the proposed project would potentially contribute to a cumulatively considerable impact **(TRAF-4).**

2.9.4.3 Road Safety

Cumulative projects in the region include surrounding jurisdictions' general plans and regional roadway plans such as the SANDAG RTP and Southern California Association of Governments (SCAG) RTP. It is possible that older roadways in the region may not be adequate by existing roadway standards. Additionally, many unincorporated areas that surround the County, including

areas within the Counties of Riverside and Imperial have rural roadway conditions similar to the unincorporated County. Therefore, cumulative projects in these areas would face the same traffic operational concerns including roadway networks that include existing roadways with horizontal and vertical curves sharper than existing standards; increased traffic on rural roads with slow moving agricultural vehicles; increased risk to pedestrians and bicyclists by increasing and/or redistributing traffic patterns; or hazards from at-grade rail crossings. While cumulative projects would not preclude improvements to roadways with potential hazards, there is no guarantee that these improvements would be constructed concurrently with the anticipated increase in vehicle trips on these roadways. Therefore, cumulative projects would result in a cumulatively considerable impact to road safety.

Small Turbine(s)/MET Facilities

As described in Section 2.9.3.3, access roads would be specific to the needs of the project and are not expected to result in unsafe design features or unsafe configurations because they would be constructed according to the San Diego County Public Road Standards, San Diego County Private Road Standards, and the San Diego County Consolidated Fire Code. Therefore, small wind turbines and MET facilities developed under the proposed project **would not contribute to a cumulatively considerable impact.**

Large Turbine(s)

As described in Section 2.9.3.3, all future large turbine projects will be subject to discretionary review and required to obtain a Major Use Permit. If road improvements are required, they would be constructed according to the San Diego County Public Road Standards, San Diego County Private Road Standards, and the San Diego County Consolidated Fire Code. Additionally, the proposed project would not place incompatible uses (e.g., farm equipment) on existing roadways. Therefore, large wind turbines developed under the proposed project **would not contribute to a cumulatively considerable impact.**

2.9.4.4 Emergency Access

Cumulative projects include the County and surrounding jurisdictions. Existing conditions in these areas may include existing inadequate roadway widths, dead-end roads, one-way roads, and gated communities, all of which have the potential to impair emergency access. However, cumulative emergency access impacts would be limited to the immediate vicinity of the impact, such as multiple obstructions to emergency access along the same route to an emergency care facility hospital. In addition, most cumulative projects, such as those identified in the SANDAG RTP, SCAG RTP, and applicable general plans, which propose the construction of new roadways, would be required to meet current state and applicable jurisdictional standards, in

addition to CEQA requirements. Community plans would also be required to consider local public and fire access roads to fully address emergency access requirements. The exception to this would be projects in Baja California, Mexico and projects on tribal land; however it would be unlikely for cumulative projects on tribal lands or within Mexico to occur simultaneously and in close enough proximity to one another to create a potentially cumulatively significant emergency access impact on roadways in the County (County of San Diego 2011b). Therefore, cumulative project impacts would be considered less than significant because emergency access impacts would be limited to the immediate vicinity of a project area and associated impacts would be considered direct, not cumulative.

Small Turbine(s)/MET Facilities

As described in Section 2.9.3.4, the development of any access roads would be required to comply with the San Diego County Public Road Standards, and San Diego County Private Road Standards, which provide guidance for roadway and transportation facility development and require that sufficient emergency access is provided in new development. Additionally, the proposed project would be required to comply with the San Diego County Consolidated Fire Code, which dictates minimum design standards for "Fire Apparatus Access Roads" and includes minimum road standards, secondary access requirements, and restrictions for gated communities. Therefore, small wind turbines and MET facilities developed under the proposed project **would not contribute to a cumulatively considerable impact** associated with emergency access.

Large Turbine(s)

As described in Section 2.9.3.4, all future large turbine projects will be subject to discretionary review and required to obtain a Major Use Permit. If road improvements are required, they would be constructed according to the San Diego County Public Road Standards, San Diego County Private Road Standards, and the San Diego County Consolidated Fire Code. Therefore, large wind turbines developed under the proposed project **would not contribute to a cumulatively considerable impact** associated with emergency access.

2.9.4.5 Alternative Transportation

Cumulative projects, consistent with applicable general plans, would locate land uses that are dependent on alternative transportation in areas that were not planned for in existing public transportation, plans, or programs such as SANDAG RTP and SCAG RTP. If cumulative projects in surrounding jurisdictions are not effectively communicated and planned with agencies managing alternative transportation in the region, conflicts would occur. However, most cumulative projects would be required to comply with existing federal, state, and local

regulations, such as Americans with Disabilities Act (ADA), Highway Capacity Manual (HCM) 2000, Transportation Development Act (TDA) funds, 2030 RTP, 2006 RTIP, and any applicable Community plans or jurisdictional standards, such as a zoning ordinance (County of San Diego 2011b). The exception to this would be projects in Baja California, Mexico, and projects on tribal land. However, since the majority of cumulative projects would be required to comply with existing regulations, cumulative project impacts would be considered less than significant.

Small Turbine(s)/MET Facilities

As described in Section 2.9.3.5, future small wind turbines and MET facilities would not decrease the performance or safety of public transit, bicycle, or pedestrian facilities. Therefore, the proposed project **would not contribute to a cumulatively considerable impact** associated with emergency access.

Large Turbine(s)

As described in Section 2.9.3.5, future large wind turbines would not decrease the performance or safety of public transit, bicycle, or pedestrian facilities. Therefore, the proposed project **would not contribute to a cumulatively considerable impact** associated with emergency access.

2.9.5 Significance of Impacts Prior to Mitigation

The proposed project would result in potentially significant impacts associated with conflicts with a plan, policy, or ordinance that establishes measures of the effectiveness of the circulation system performance and associated with potential conflicts with the CMP due to the development of large wind turbines. The proposed project would not result in potentially significant impacts relative to road safety, emergency access, and alternative transportation due to the development of large wind turbines. No potentially significant transportation and traffic impacts are associated with small wind turbines and MET facilities as a part of the proposed project.

2.9.6 Mitigation Measures

No potentially significant transportation and traffic impacts are associated with the development of small wind turbines and MET facilities. Therefore, the following discussion only pertains to the development of large wind turbines under the proposed project.

2.9.6.1 Conflict with Plan, Policy, or Ordinance

The proposed project would allow for the development of large wind turbines with a Major Use Permit that could potentially exceed ADT thresholds and in turn could conflict with a plan policy or ordinance that establishes measures of the effectiveness of the circulation system performance.

The mitigation measure described below has been identified to reduce potentially significant impacts, but not below a significant level.

Mitigation Measures

M-TRAF-1: During the environmental review process for future Major Use Permits for wind turbines, the County Guidelines for Determining Significance for Transportation and Traffic shall be applied. When traffic impacts are determined to be significant, feasible and appropriate project-specific mitigation measures shall be incorporated. Examples of standard mitigation measures within the County Guidelines include: traffic signal improvements; physical road improvements; street re-striping and parking prohibitions; fair share contributions toward identified, funded and scheduled projects; and transportation demand management programs.

Infeasible Mitigation Measures

The following measure was considered in attempting to reduce direct and cumulative impacts associated with transportation plan conflicts within the County to below a level of significance. However, it has been determined that this measure is infeasible for reasons described as follows. Therefore, this measure would not be implemented.

- Require future large wind turbine projects to reduce traffic impacts from construction to a level below significant. The ability to develop project-specific mitigation measures for this purpose is uncertain. Furthermore, the decision maker for large wind projects may make findings that the benefits of the project outweigh the significant temporary impacts from construction traffic.

As it cannot be concluded at this stage that traffic impacts from large wind turbines allowed with a Major Use Permit under the proposed Zoning Ordinance amendment would be avoided or mitigated, impacts would remain significant and unavoidable. Chapter 4, Project Alternatives, provides a discussion of alternatives to the proposed project that would result in some reduced impacts associated with transportation plan conflicts as compared to the proposed project.

2.9.6.2 Conflict with CMP

The proposed project would allow for the development of large wind turbines with a Major Use Permit that could potentially conflict with the CMP. Mitigation measure **M-TRAF-1**, listed under conflicts with plan, policy, or ordinance above, is also applicable to this issue and is incorporated here by reference. Incorporation of this mitigation measure could reduce potentially significant impacts associated with conflicts with the CMP, but not below a significant level.

Infeasible Mitigation Measures

The following measure was considered in attempting to reduce direct and cumulative impacts associated with CMP conflicts within the County to below a level of significance. However, it has been determined that this measure is infeasible for reasons described as follows. Therefore, this measure would not be implemented.

- Require future large wind turbine projects to reduce traffic impacts from construction to a level below significant. The ability to develop project-specific mitigation measures for this purpose is uncertain. The decision maker for large wind projects may make findings that the benefits of the project outweigh the significant temporary impacts from construction traffic.

As it cannot be concluded at this stage that traffic impacts from large wind turbines allowed with a Major Use Permit under the proposed Zoning Ordinance amendment would be avoided or mitigated, impacts would remain significant and unavoidable. Chapter 4, Project Alternatives, provides a discussion of alternatives to the proposed project that would result in some reduced impacts associated with CMP conflicts as compared to the proposed project.

2.9.6.3 Road Safety

The project will not result in any significant impacts relative to road safety, and no mitigation measures are required.

2.9.6.4 Emergency Access

The project will not result in any significant impacts relative to emergency access, and no mitigation measures are required.

2.9.6.5 Alternative Transportation

The project will not result in any significant impacts relative to alternative transportation and no mitigation measures are required.

2.9.7 Conclusion

The following discussion provides a synopsis of the conclusion reached in each of the above impact analyses, and the level of impact that would occur after mitigation measures are implemented.

Conflict with Plan, Policy, or Ordinance

Development of small wind turbines and temporary MET facilities pursuant to the proposed Zoning Ordinance amendments would not exceed thresholds and would not conflict with any policy, plan, or ordinance that establishes measures of the of the circulation system performance. Therefore, impacts would be less than significant. Development of large wind turbines pursuant to the proposed Zoning Ordinance amendments would potentially exceed thresholds and therefore would potentially conflict with a plan, policy, or ordinance that establishes measures of the effectiveness of the circulation system performance. The mitigation measures identified would not reduce potential impacts to a level below significance. Impacts would remain potentially significant and unavoidable. Future large wind turbine projects may be able to mitigate circulation impacts to a level below significance on an individual basis, although it cannot be guaranteed.

Conflict with CMP

Development of small wind turbines and temporary MET facilities pursuant to the proposed Zoning Ordinance amendments would not exceed thresholds and would not conflict with the CMP. Therefore, impacts would be less than significant. Development of large wind turbines pursuant to the proposed Zoning Ordinance amendments would potentially exceed thresholds and therefore would potentially conflict with the CMP. The mitigation measure identified would not reduce potential impacts to a level below significance. Impacts would remain potentially significant and unavoidable. Future large wind turbine projects may be able to mitigate CMP conflicts to a level below significance on an individual basis, although it cannot be guaranteed.

Road Safety

The proposed project will not result in significant impacts relative to road safety.

Emergency Access

The proposed project will not result in significant impacts relative to emergency access.

Alternative Transportation

The proposed project will not result in significant impacts relative to alternative transportation.

Table 2.9-1
Measure of Significant Project Impacts to Congestion of Road Segments: Allowable Increases on Congested Road Segments

Level of Service	Two-Lane Road	Four-Lane Road	Six-Lane Road
LOS E	200 ADT	400 ADT	600 ADT
LOS F	100 ADT	200 ADT	300 ADT

Notes:

1 By adding proposed project trips to all other trips from a list of projects, this same table must be used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project that contributes any trips must mitigate a share of the cumulative impacts.

2 The County may also determine impacts have occurred on roads even when a project's traffic or cumulative impacts do not trigger an unacceptable level of service. For example, when such traffic accounts for a significant amount of the remaining road capacity.

Table 2.9-2
County Criteria for the Need to Prepare a TIS

Project Generated Traffic	Issue Specific TIS	Focused TIS	Full TIS Needed	Congestion Management Analysis Needed
Less than 200 Average Daily Trips OR Less than 20 Peak Hour Trips	No*	No*	No	No
200–500 Average Daily Trips OR 20–50 Peak Hour Trips	Yes	No	No	No
500 Average Daily Trips OR 50 Peak Hour Trips	No	Yes	No	No
1,000 Average Daily Trips OR 100 Peak Hour Trips	No	No	Yes	No
2,400 Average Daily Trips OR 200 Peak Hour Trips	No	No	Yes	Yes

Notes:

* Other situations could result in a request for an Issue-Specific or Focused TIS. These include, but are not limited to, issues addressed in this report. NOTE: Analysis of cumulative traffic impacts may require a TIS, even when project-generated traffic volumes alone do not. See Attachment C.