

Appendix A: Policy Plan Overlay

Rockville Trails Preserve Policy Plan Overlay (PP-15-01) Land Use and Development Standards

Statement of Purpose

The purpose and intent of this policy plan overlay district (PP) is to provide for the establishment of specific site development standards and general open space standards consistent with the establishment of a public open space area. Under the Policy Plan Overlay, development of the property shown on the Rockville Trails Preserve Development Plan (Exhibit A) is consistent with the General Plan and provides needed flexibility in addressing the concerns of area residents and maintaining the open space setting.

Definitions for the purposes of this Policy Plan Overlay

Agricultural Education – Sharing information, knowledge and skills pertaining to agriculture, habitat conservation, protection and restoration, and cultural resource protection. Would include but are not limited to tours, self-guided interpretation, outdoor demonstration classes or outdoor interactive seminars that model best practices in agriculture, cultural and natural resource conservation.

Habitat and Resource Protection – The practice of renewing and restoring degraded, damaged or destroyed ecosystems. Does not include a conservation or mitigation bank.

Stable – A structure for the shelter, care or feeding of horses used for the grazing operation and daily Preserve visitors and not used for commercial purposes such as boarding, training, or rental.

Permitted Uses

The following uses are allowed by right on the parcels identified for development of public open space in the Rockville Trails Preserve Development Plan.

ALLOWED USES* See Definitions Section 28-01			
A = Allowed by right		Permitted Uses	Additional Regulations
AGRICULTURAL USES			
A.	CROP PRODUCTION AND GRAZING		
	Agricultural accessory structures	A	28.71.10(B)(1)
	Non-irrigated farming, Grazing	A	28.71.10

	Grazing or pastured livestock	A	28.71.10
	RECREATION, EDUCATION AND PUBLIC ASSEMBLY USES		
A	RECREATION USES		
	Public open space area	A	28.73.10A
	Stable	A	28.73.10(A)&(B)(3)
B	EDUCATION USES		
	Agricultural Education	A	28.01
	RESOURCE PROTECTION USES		
	Habitat and Resource Protection	A	28.79A

Development Standards

Agricultural accessory structures

Agricultural accessory structures are subject to the regulations in Section 28.71.10(B)(1) of the County Code. Structures for shade or feed storage, subject to the provisions of Chapter 28, if applicable, shall be allowed with any required building permit(s).

Equestrian Activities

Stables are allowed subject to the development standards in Section 28.73.10(A)&(B)(3) of the County Code. Horseback riding is permitted subject to the development standards provided in Table 28.73B of the County Code.

Grazing Operations

New enclosures, fencing, corrals, loading/unloading ramps, feed/water troughs, livestock water storage tanks, piping and pumping facilities, structures for shade or feed storage, subject to provisions of Chapter 28, if applicable, shall be allowed with any required building permit(s).

Public open space

Vehicle parking is limited to no more than 75 parking spaces, inclusive of parking for horse trailers and buses. Buildings or shelters utilized as part of the public open space area shall not exceed 400 square feet of floor area, individually or combined. Permanent restroom facilities and stables used by visitors are not include within this 400 square foot limitation.

Trails

No new public trails shall be built within 150' feet of the eastern and western boundaries of the Rockville Trails Preserve as shown on the Rockville Trails Preserve Development Plan.

Environmental Standards

Biological

Work associated with rock lining (delimiting) of the Harmonia Hill (Trail K as shown on Exhibit A) trail margins and blocking access to the trail shall be restricted to the non-growing season of nodding harmonia, which is after seed set to emergence and adjusted seasonally. This area shall be closed to public access or use between plant emergence to seed-set and adjusted seasonally.

The following measures shall be implemented in the construction of the staging area:

- Tree removal, pruning, or grubbing activities shall be conducted during the non-nesting season (September 1-January 31) to avoid impacts to nesting birds.
- If construction begins during the breeding season (February 1 – August 31), preconstruction nest surveys shall be conducted by a qualified biologist no more than two weeks prior to equipment or material staging, pruning/grubbing or surface-disturbing activities. Surveys shall be conducted within the impact areas and shall encompass adjacent habitats up to 300 feet from the Project boundary. If no active nests are found within the survey area, no further mitigation is necessary.
- If active nests, i.e. nests with eggs or young present, are found within the survey area, non-disturbance buffers shall be established at a distance sufficient to minimize disturbance based on the nest location, topography, cover, the nesting pair's tolerance to disturbance and the type/duration of potential disturbance. No work shall occur within the non-disturbance buffers until the young have fledged as determined by a qualified biologist. Buffer size shall be determined in cooperation with CDFW and USFWS Migratory Bird Permit Office. If buffers are established and it is determined that project activities are resulting in nest disturbance, work shall cease immediately and CDFW and USFWS Migratory Bird Permit Office shall be contacted for further guidance.

The following measures shall be implemented during the construction of the staging area:

- Work activities shall be completed between April 1 and November 1, or as modified by regulatory permits issued by other agencies.
- Prior to the start of construction, the qualified biologist shall conduct an educational training program for all construction personnel including subcontractors. The training will include, at a minimum, a description of the California red-legged frog and foothill yellow-legged frog and their habitat; associated habitats of these species within the project site; an explanation of the status of this species and protection under state and federal laws; the avoidance and minimization measures to be implemented to reduce take of this species; communication and work stoppage procedures in case a listed species is observed within the project site, implications of non-compliance; and purpose of the Federal Endangered Species Act (ESA) and wildlife exclusion fencing and the importance of maintaining these structures. A fact sheet conveying this information shall be prepared and distributed to all construction personnel. Upon completion of the training, personnel shall sign a form stating that they attended the

training and understand all the avoidance and minimization measures and implications of non-compliance.

- If required by any permitting agency, prior to start of any project-related ground-disturbing activities, the qualified biologist shall conduct a preconstruction survey for California red-legged frog and foothill yellow-legged frog.
- If California red-legged frogs are found, the qualified biologist shall halt construction activities within 50 feet of the frog(s) and immediately notify USFWS, and CDFW. Construction will not continue until the frog(s) have moved away on its own and the appropriate buffer is in place under the guidance of the biologist. If buffers are not feasible, the USFWS and CDFW shall be contacted for further guidance. Based on the professional judgment of the biologist, if construction activities can be conducted without injuring or killing the frog(s), it may be left at the location of discovery and monitored by the biologist. All project personnel shall be notified of the finding and at no time will work occur within 50 feet of the frog(s) without a biologist present. If it is determined by the biologist that relocating the California red-legged frog(s) is necessary, only a USFWS-approved biologist with a 10(a)(1)(A) Recovery Permit shall capture and relocate the frog(s) in accordance with the following steps:
 - California red-legged frogs shall be relocated to nearby suitable habitat outside of the work area and released at a location approved by the USFWS. If suitable habitat cannot be identified, the USFWS shall be contacted to determine an acceptable alternative. If California red-legged frogs are relocated, the USFWS shall be notified within 24 hours of relocation.
 - Based on the professional judgment of the biologist, if construction activities can be conducted without injuring or killing the California red-legged frog(s), it may be left at the location of discovery and monitored by the USFWS-approved biologist. All project personnel shall be notified of the finding and at no time will work occur within 50 feet of the California red-legged frog(s) without a USFWS-approved biologist present.
 - All construction-related cavities and materials capable of entrapping wildlife such as trenches and pipes shall be covered at the end of each work day to prevent entrapment. Prior to commencing daily construction activities, stored equipment, materials, and debris shall be thoroughly inspected by the USFWS-approved biologist or designated monitor.
 - All trash shall be collected daily at the end of each work day and placed into a securely-covered container which shall be removed as necessary or upon project completion.
 - Pets from project personnel shall not be allowed anywhere in the project area during construction.
 - Firearms shall not be allowed on the project site during construction except for those carried by authorized security personnel, or local, State or Federal law enforcement officials.
 - All equipment shall be properly maintained and free of leaks. Servicing of vehicles and construction equipment including fueling, cleaning, and maintenance shall occur at least 65 feet away from any riparian habitat or water body. If not feasible, servicing and maintenance

areas shall be adequately contained to prevent spills from entering the riparian habitat. Spill containment kits shall be kept on site at all times during construction operations and/or staging or fueling of equipment.

- Upon project completion the exclusion fencing shall be removed, the area cleaned of debris and trash, and returned to pre-project conditions or better.

Permits for working in and potentially altering wetland shall be applied for prior to construction in the staging area from the regulatory agencies (USACE, CDFW, RWQCB) and in accordance with Solano County encroachment permits. The project shall mitigate for alteration of wetlands in the drainage ditch and creek using appropriate mitigation requirements onsite provided by these agencies. The project shall restore a minimum of 2:1 enhancement (which would be 214 linear feet of enhancement for 107 feet of impacts) Final project designs and measures shall be approved by all required agencies.

In order to mitigate for the removal of blue oak trees for the staging areas and access road, blue oak trees shall be planted on the property at a minimum 2:1 ratio for each blue oak tree of any size diameter removed. Blue oak trees shall be fenced for a minimum of 5 years and planted from acorns to avoid the risk of introducing soil-borne pathogens. The site shall be monitored to ensure that at least a 2:1 ratio of trees is surviving after 5 years. Trees shall be irrigated for a maximum of 3 years, as determined necessary by a qualified biologist.

Trees to be preserved on the staging area and access roads shall be protected by implementing the following measures:

- Prior to the start of construction, a certified arborist shall meet with the project engineer and/or contractor to determine the location of tree protection fencing, review planned work procedures around trees, review the need for certified arborist approval for any adjustment of the tree protection fencing and/or need to work within fenced areas; identify locations, if any, where specialized treatments are required; and review the requirements for clearance pruning based on contractor's equipment. All trees identified for preservation shall be mapped, and flagged in the field as "save" trees. All contractors onsite shall be educated on the importance and location of each of the "save" trees.
- For all trees to be preserved in the vicinity of proposed equipment operations, a Tree Protection Perimeter shall be established. The tree protection perimeter shall be mapped and fenced or otherwise clearly demarcated prior to any onsite construction activity. No grading, construction, trenching, demolition, vegetation removal, or other work shall be allowed in the tree protection perimeter of any trees to be preserved unless such work is overseen by a certified arborist. No soil, chemicals, debris, equipment, or other material shall be dumped or stored within the tree protection perimeter on unpaved areas. Any modifications to the Tree Protection Perimeter must be approved by the certified arborist.
- Tree removal work shall be completed prior to the initiation of construction. All trees to be removed will be clearly identified with water-soluble paint using a numbering scheme consistent with the numbering scheme used on the site plan, taking care to avoid confusion with the flagged "save" trees. Care shall also be taken not to damage trees to be preserved

during pruning or felling. Vehicle access routes shall be clearly identified to avoid compacting soil in unpaved areas around trees to be preserved. All tree removal shall be performed by a tree contractor possessing a State of California Contractor's License for Tree Service. Tree debris shall be chipped and retained on site to avoid the potential spread of pathogens off site.

- Pruning shall be kept to the minimum necessary for safety, improving long-term tree structure, and providing the necessary clearance for construction equipment. All pruning shall be performed by a contractor possessing a State of California Contractor's License for Tree Service. All operations shall be in accordance with accepted industry practice, such as the Tree Pruning Guidelines (International Society of Arboriculture) and the most recent editions of the American National Standard for Tree Care Operations and Pruning. Heading cuts shall not be used.
- In locations where excavation would occur near trees, excavation shall proceed with care with equipment stopping to cut roots cleanly as they are encountered to avoid pulling or damaging the roots. Any roots greater than 1-inch in diameter that are injured (i.e., torn, broken, wounded, desiccated etc.) during construction must be pruned to a point 1-inch behind the edge of damage.
- Supplemental irrigation is required whenever tree roots are uncovered or severed by trenching or grading. Open trenches with exposed roots require a two-layer minimum of damp burlap or other acceptable covering at all times. Exposed roots shall be kept moist until they can be buried.
- In areas where construction equipment needs to travel in the vicinity of tree roots, a thick layer (6 inches or thicker) of wood chip mulch (such as that generated by tree removal onsite) shall be placed on the soil surface. The mulch will help prevent compaction of the soil surface.

Cultural Resources

To ensure that CA-SOL-335 and CA-SOL-352 are avoided, a 200-foot buffer shall be established beyond the known limits of each of these sites, with no construction or maintenance activities inside that buffer. No new trails or other improvements shall be developed that lead to or encourage public use of the space within those buffer areas, and if significant maintenance or any construction is required within those buffer areas, an archaeological monitor who meets the Secretary of the Interior's Qualifications for Archaeology shall be retained by the property owner to monitor the work. If substantial components of either site are impacted by the activity, then a qualified archaeologist shall develop and implement an Archaeological Treatment Plan prior to resumption of construction or maintenance activities. If necessary maintenance or construction is planned for either site area, an Archaeological Treatment Plan may also be formulated and implemented proactively prior to any such ground disturbances.

- If cultural materials (e.g., unusual amounts of shell, animal bone, glass, ceramics, etc.) are discovered during Project-related construction activities, ground disturbances within 50 feet of the find shall be halted and a qualified professional archaeologist shall be retained by the property owner to evaluate the discovery. If the archaeologist determines that the resource is

potentially significant per CEQA Guidelines §15064.5, then the archaeologist shall develop appropriate mitigation. Mitigation shall include, but not be limited to, avoidance, in-field documentation, archival research, archaeological testing, data recovery excavations or recordation, and shall be implemented prior to resuming construction in the vicinity of the find.

In accordance with the California Health and Safety Code, if human remains are uncovered during ground-disturbing activities, the construction contractor and/or the property owner shall immediately halt potentially damaging excavation within 100 feet of the burial and notify the Solano County Coroner and a professional archaeologist to determine the nature of the remains. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code §7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact the Native American Heritage Commission (NAHC) by phone within 24 hours of making that determination (Health and Safety Code §7050[c]). Following the coroner's findings, the Solano Land Trust, contractor, an archaeologist, and the NAHC-designated Most Likely Descendent (MLD) shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments are not disturbed. The responsibilities for acting upon notification of a discovery of Native American human remains are identified in California Public Resources Code §5097.9.

Prohibited Uses

All uses not specifically identified herein as permitted uses are prohibited within the area subject to the Policy Plan Overlay.

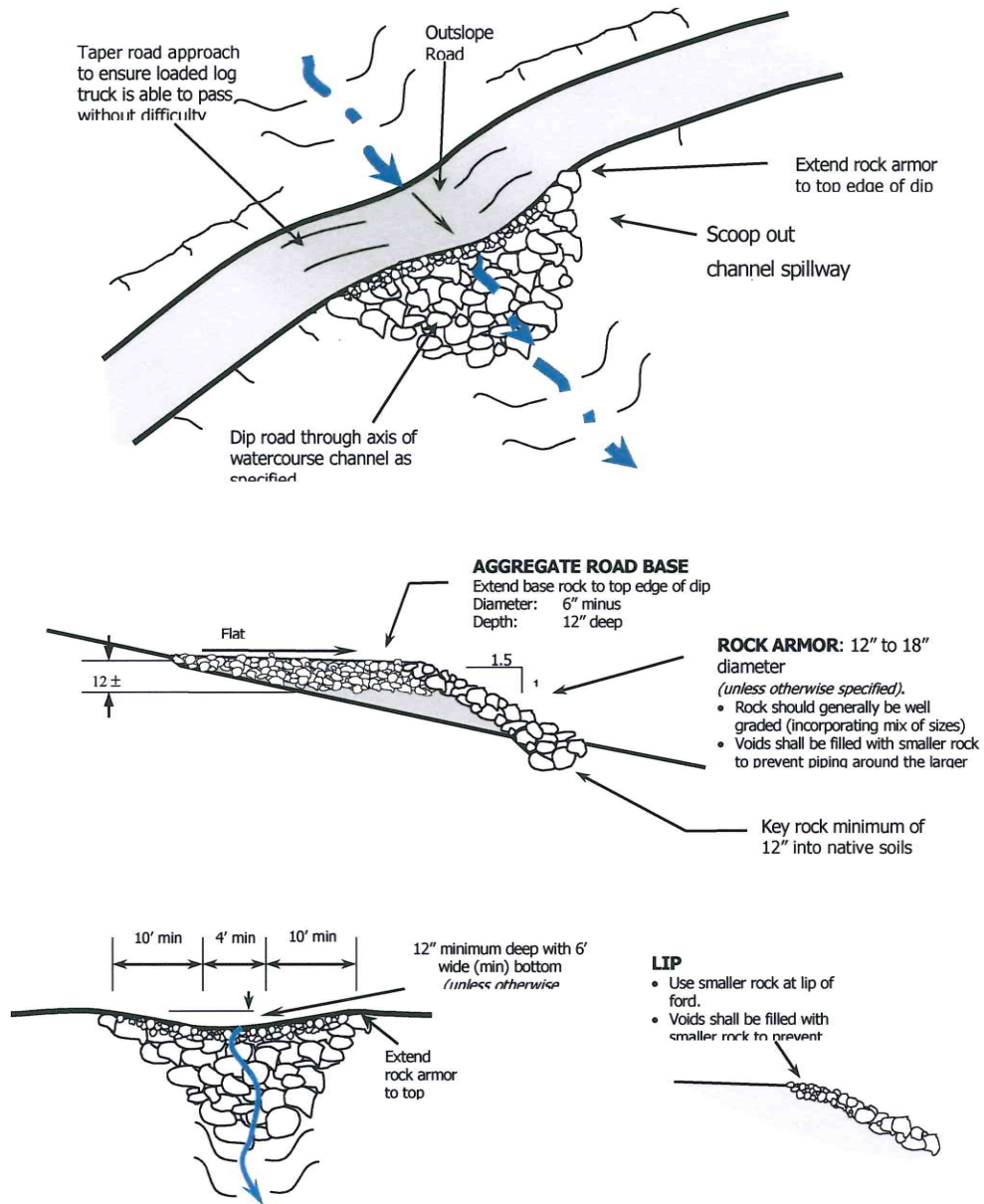
Sign Standards

Two (2) entrance signs identifying the Rockville Trails Preserve are allowed at the Staging Gate Entrance off Rockville Trails Road. Signage shall not exceed 6' in height and 60 sq. ft. in total area and shall only have indirect lighting.

Signs located within the boundaries of the Rockville Trails Preserve, which include Preserve rules and regulations, map of Preserve, interpretive signage, plant identifying signs, trailhead markers, donor recognition signage, informational signage, are exempt from the Sign Regulations in Section 28.96 of Chapter 28 of the County Code.

Appendix B: Rock Ford Standard

Appendix B : Trail Construction and Maintenance Standard Design Details



NOTE
Details are typical and intended for use as a guideline. Adjustments to the actual design may need to occur in field during time of construction due to local site conditions

Timothy C. Best, CEG Engineering Geology and Hydrology	STANDARD PLANS	Standard Detail November 14, 2005
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Appendix C: Special Status Species Table

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Species	Status	Preferred Habitat(s)	Occurrence on Site
Fish			
Delta smelt (<i>Hypomesus transpacificus</i>)	FE	Cooler (<20-22 °C), well-oxygenated, tidal freshwater (<2 ppt) habitats in the upper SF Estuary	May occasionally utilize subtidal channel habitats in Suisun, First Mallard, and Second Mallard Sloughs
Longfin smelt (<i>Spirinchus thaleichthys</i>)	CSSC	Estuarine open waters with salinity between 15-30 ppt (juveniles through pre-spawn adults) or <2 ppt (spawning adults)	May occasionally utilize subtidal channel habitats in Suisun, First Mallard, and Second Mallard Sloughs
Sacramento splittail (<i>Pogonichthys macrolepidotus</i>)	FT	Moderately shallow (<4 m), narrow, turbid, sloughs lined with tules and other emergent vegetation in the SF Estuary	Utilizes subtidal channel habitats in Suisun, First Mallard, and Second Mallard Sloughs
Chinook salmon (<i>Oncorhynchus tshawytscha</i>): C.V. fall and late run ESU (SSC), Sac. River winter run ESU (FE), C.V. spring run ESU (FT)	See ESU, left	Spawning and rearing: Cooler, well-oxygenated, freshwater habitats throughout SF Estuary	May rarely utilize subtidal channel habitats in Suisun, First Mallard, and Second Mallard Sloughs
Steelhead (<i>Oncorhynchus mykiss</i>): Central California Coast DPS and Central Valley DPS	FT	Spawning and rearing: Cooler, well-oxygenated, freshwater habitats throughout SF Estuary	May rarely utilize subtidal channel habitats in Suisun, First Mallard, and Second Mallard Sloughs
Amphibians and reptiles			
Northwest pond turtle (<i>Actinemys marmorata</i>)	FSSC, CSSC	Freshwater and brackish ponds, marsh and lagoons, slow-moving streams	Widespread in Suisun Marsh, channel banks and channels
California tiger salamander (<i>Ambystoma californiense</i>)	FE, CE	Seasonal pools (breeding), grassland mammal burrows (estivation)	Not detected at Rush Ranch; potential suitable habitat present
California red-legged frog (<i>Rana draytonii</i>)	FT, CT	Freshwater and fresh-brackish ponds and seasonal pools, marshes	Not detected at Rush Ranch; suitable habitat present
Birds			
California clapper rail (nesting/foraging) (<i>Rallus longirostris obsoletus</i>)	FE	Tidal salt and brackish marshes in SF Estuary with unrestricted daily tidal flows, adequate invertebrate prey food supply, well developed tidal channel networks, and suitable nesting and escape cover during extreme high tide	Rush Ranch is regionally important habitat. Present in tidal marsh plains around First and Second Mallard Sloughs; may also utilize diked marsh habitat at Goat Island Marsh

California black rail (nesting/foraging) (<i>Laterallus jamaicensis coturniculus</i>)	CT, FSSC	Tidal marsh habitat in SF Estuary	Rush Ranch is regionally important habitat. Present in tidal marsh plains around First and Second Mallard Sloughs; may also utilize diked marsh habitat at Goat Island Marsh
Yellow rail (<i>Coturnicops noveboracensis</i>)	CSSC	Not well known; inhabits wet meadows and coastal tidal marshes in winter	Rush Ranch may be regionally important winter habitat. Known from tidal marsh SW of ranch complex near tidal portion of Spring Branch Creek
Cooper's hawk (nesting) (<i>Accipiter cooperii</i>)	CWL	Nests in trees, typically hunts in woodlands and forests; target prey is small to medium birds.	May occasionally forage over the site.
Golden eagle (nesting/foraging) (<i>Aquila chrysaetos</i>)	CWL CFP	Nests on cliffs or tall trees; hunts in open grasslands and other open habitats; target prey includes small mammals and birds	Known from general region and likely to forage in grasslands on site.
Short-eared owl (nesting) (<i>Asio flammeus</i>)	CSSC	Nests on the ground in grasslands and other tall herbaceous habitats; hunts in grasslands, marshlands and other open habitats; target prey is voles but also hunts other small mammals and birds.	Rush Ranch is regionally important habitat. Nests in significant numbers within the grasslands on the alluvial fans; hunts within the grassland and marsh habitats.
Western burrowing owl (nesting) (<i>Athene cunicularia hypugea</i>)	CSSC	Nests in subterranean sites, especially California ground squirrel burrows but also under rip-rap piles, in culvert pipes, and other man-made features; prefers open to low grassland and open shrub habitats where it nests and hunts; target prey is small rodents and large insects.	At least one adult has been observed on the site during the breeding season (June) indicating the species may breed on site.
Swainson's hawk (nesting/foraging) (<i>Buteo swainsoni</i>)	CT	Summer nesting migrant; nests in trees; hunts in open grasslands and low agricultural fields (such as alfalfa); target prey is small mammals, birds and insects.	No documented occurrences on the site but common in the general region of eastern Solano County and likely to hunt on site, at least occasionally.
Northern harrier (nesting) (<i>Circus cyaneus</i>)	CSSC	Nests on the ground, typically in shrubby or tall herbaceous vegetation at the edge of a marsh; hunts in open grasslands and marsh habitat; target	Rush Ranch is regionally important habitat. Commonly observed

		prey is small mammals, birds, reptiles, and insects.	hunting and nesting on the site.
White-tailed kite (nesting) (<i>Elanus caeruleus</i>)	CFP	Nests in trees; hunts in open grasslands, marshlands, low agricultural fields and other open habitats; target prey is small mammals but will also hunt small birds, reptiles and insects.	Occasionally observed on the site hunting over the grasslands and marshlands.
Loggerhead shrike (<i>Lanius ludovicianus</i>)	CSSC	Nests in shrubs; hunts in grasslands, open scrub, low agricultural fields and other open habitats; target prey includes insects, reptiles, and small mammals.	Known to forage on the site.
California horned lark (<i>Eremophila alpestris actia</i>)	CWL	Nests on the ground in grasslands; hunts primarily in grasslands; target prey includes insects and other terrestrial invertebrates.	Forages and likely nests on the site.
Tricolored blackbird (breeding colony) (<i>Agelaius tricolor</i>)	CSSC	Colonial nester within tall emergent marsh and riparian scrub habitat; hunts primarily in grasslands, riparian scrub, and some annual croplands; target prey is insects and other terrestrial invertebrates.	Known from the general region with potential to nest in emergent marsh habitat within the man-made stock pond along Spring Branch Creek and perhaps within the estuarine marsh habitats.
Suisun song sparrow (nesting/foraging) (<i>Melospiza melodia maxillaries</i>)	FSSC	Broad range of tidal and non-tidal wetland habitats throughout Suisun, including riparian areas, permanent ponds, and ditches with ample vegetation and brackish water	Rush Ranch is regionally important habitat. Known to forage and nest on the site.
Salt marsh common yellowthroat (<i>Geothlypis trichas sinuosa</i>)	CSSC	Wintering: tidal marshes and other habitats (often wetland ecotones) such as riparian thickets, freshwater marshes, marshy coastal forb vegetation, and brush or scrub near wetlands; breeding: brackish marsh, salt marsh, and associated wetland habitats	Rush Ranch is regionally important habitat. Known to forage and nest on the site.
Mammals			
Salt marsh harvest mouse (<i>Reithrodontomys raviventris</i>)	FE	Saline or subsaline marsh habitats around the SF Estuary and mixed saline/brackish areas in Suisun	Rush Ranch is regionally important habitat. Known from both tidal marsh and diked marsh habitats on the site.
Suisun shrew (<i>Sorex ornatus sinuosus</i>)	FSSC, CSSC	Primarily known from ecotone between tidal wetlands and grassland uplands along Grizzly Island and the northern extremes of Suisun Marsh	Rush Ranch is regionally critical habitat; known to breed and forage on

			upland-estuarine ecotones on site.
Regionally Rare Invertebrates			
Hymenopteran bumblebee mimics (<i>Anthophora stanfordia</i>)	N/A	Erosional scarps at alluvial fan and distributary channel margins; unvegetated, weakly cohesive vertical slopes in soft sandstone or sandy subsoil	Known from alkali flats, meadows, seasonal pools, and erosion scars in the lower alluvial fans at Suisun Hill Hollow and Spring Branch Creek.
Tiger beetle family taxa (<i>Cicindelidae</i>), including <i>Cicindela haemorrhagica</i> , <i>C. senilis</i>	N/A	In/near fresh sediment deposits of unconsolidated or loosely consolidated, noncohesive silty or sandy sediment up to approximately 30 cm depth, avoiding dense root zones	Known from alkali pools in the lower alluvial fans at Spring Branch Creek and potentially Suisun Hill Hollow.
Staphylinid and Anthribid beetles	N/A	Playa-like, alkali flats	Known from Spring Branch Creek alluvial fan.
Mutillid wasps (Mutillidae): <i>Sphaerophthalma edwardsii</i> , <i>Photomorphus</i> spp.	N/A	Alkali ponds and flats	Known from Spring Branch Creek alluvial fan.
Coleopterid beetles - <i>Gyascutus</i> spp., potentially <i>G. pacificus</i>	N/A	On Chenopodiaceae sp. and Frankenia in alluvial flats and also in tidal marsh	Known from Spring Branch Creek alluvial fan.
Camel spider/Sun-scorpion (<i>Sulifugae</i>)	N/A	Alkali flats and barren trampled trails	Known from Spring Branch Creek alluvial fan.
Aquatic Coleopteran beetles (<i>Dytiscidae</i> and <i>Hydrophilidae</i>)	N/A	Vernal pool and alkali vernal pool habitats of alluvial flats and uplands	Known from Spring Branch Creek and Suisun Hill Hollow alluvial fans.
Heterocidae (mud-loving beetles with scissor jaws)	N/A	Alkali vernal pools	Known from Spring Branch Creek alluvial fan.
Robber-fly (<i>Wilcoxia</i> spp.)	N/A	Alkali flats and barren trampled trails	Known from Spring Branch Creek alluvial fan.
Plants			
Bolander's water-hemlock (<i>Cicuta maculata</i> L. var. <i>bolanderi</i> , syn. <i>Cicuta bolanderi</i>)	FSSC	Brackish tidal high marsh	Rare in SF Estuary and CA; Rush Landing, local
Suisun thistle (<i>Cirsium hydrophilum</i> var. <i>hydrophilum</i>)	FE, CE	Brackish tidal high marsh near channel or ditch banks	Rare, endemic to Suisun Marsh; limited to Rush Ranch tidal marsh
Soft bird's-beak (<i>Chloropyron molle</i>)	FE, CE	Brackish tidal high marsh	Rare, endemic to northern San Francisco Estuary; local at Rush Ranch tidal marsh
Jepson's tule pea (<i>Lathyrus jepsonii</i> var. <i>jepsonii</i>)	FSSC, CSSC	Brackish tidal high marsh channel banks, levees	Uncommon in eastern San Francisco Estuary and

Initial Study/Mitigated Negative Declaration
Rockville Trails Preserve

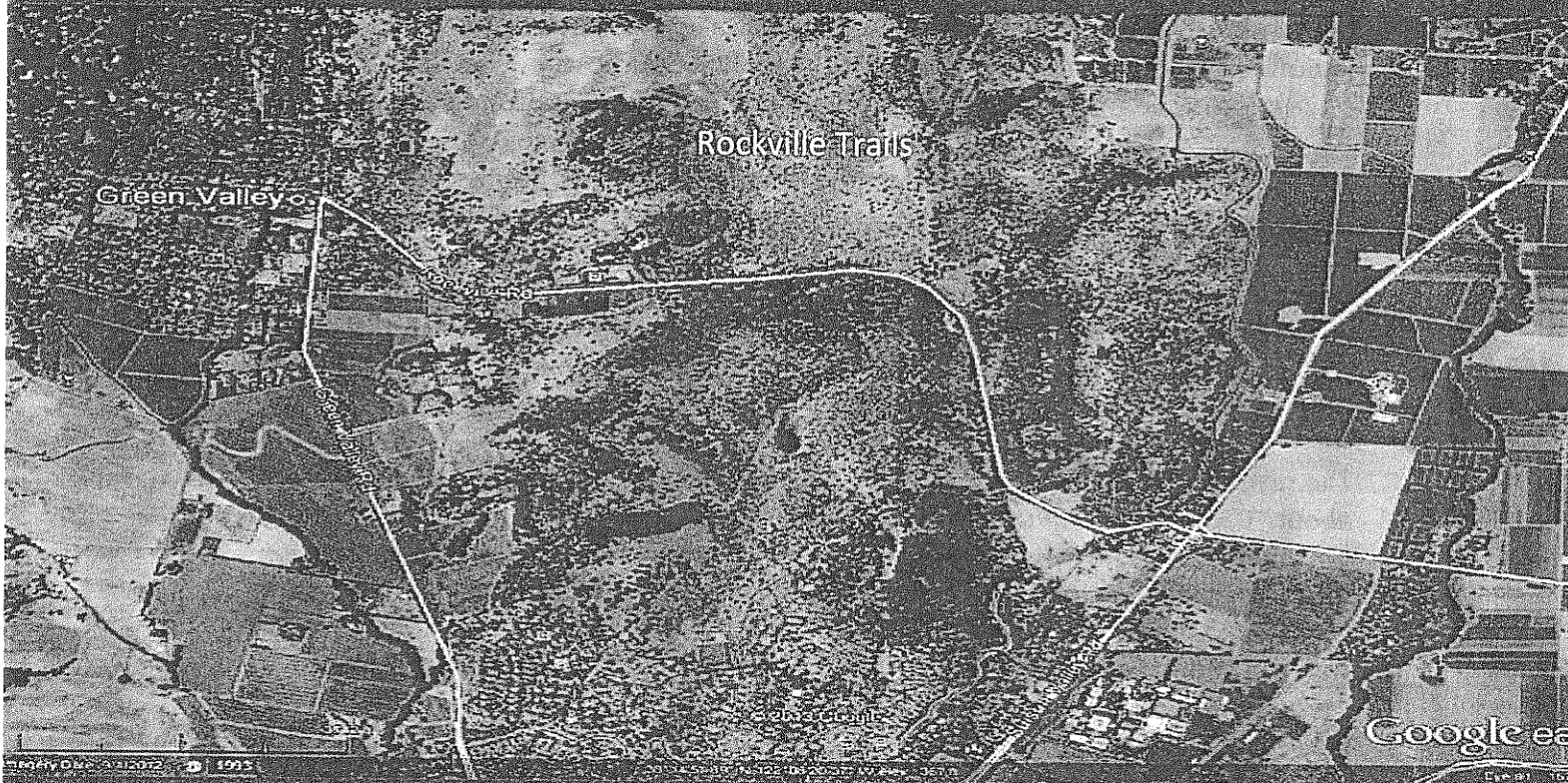
			Delta; locally in Rush Ranch tidal marsh
Mason's lilaeopsis (<i>Lilaeopsis masonii</i>)	FSSC, CSSC	Brackish tidal marsh turf, eroded banks	Uncommon in eastern San Francisco Estuary, occasional at Rush Ranch tidal marsh
Lyngbye's sedge (<i>Carex lyngbyei</i>)	N/A	Brackish tidal low marsh, middle marsh	Rare in SF Estuary; Hill Slough, upper Suisun Slough
Suisun aster (<i>Symphiotrichum lentum</i>)	FSSC, CSSC	Brackish tidal high marsh	Uncommon in eastern San Francisco Estuary and Delta; locally in Rush Ranch tidal marsh

Appendix D: Traffic Study

Rockville Trails Traffic Study

Solano Land Trust

September 2015



PHA Transportation Consultants

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Introduction

PHA Transportation Consultants conducted a focused traffic study 2013 for Rockville Trails Preserve for Solano Land Trust (SLT). The purpose of the study was to compare two potential parking lot sites, one at the existing east service gate near the curve on Rockville Road and the other via the existing corral, off. Results indicated that both sites would work well but the corral site is better from a safety standpoint as it has a longer stopping sight distance. Since then, SLT proposes to move the corral access about 150 feet further east to avoid conflicts with livestock operation. This revision updates the traffic analysis with the new access called Staging Area Gate. Our analysis indicated the revised access would not create additional impact but is actually better since it is further away from an existing driveway on the south side of Rockville Road.

The Rockville Trails Preserve is located at the north side of Rockville Road in the unincorporated area of Solano County near Fairfield. The trails consist of about 1,500 acres of land and will accommodate picnicking, hiking, horseback riding, and mountain biking activities. Figure 1 shows the locations of the trails and the two potential access points on Rockville Road. In evaluating the proposed parking lot accesses, a potential pedestrian crossing to connect with Rockville Hill Park to the south side of Rockville Road is also examined in the analysis.

The result of the analysis indicated that the proposed parking lot would likely generate about 70 – 80 peak hour trips (based on an assumption of 50 passenger vehicles and 10 horse trailers for the parking lot) during the weekends and would have little impacts on traffic operation on Rockville Road either at the east or the corral location. However, considering high traffic speeds and limited sight distance with the East Gate site, couple with the pedestrian safety with a potential pedestrian crossing under consideration, PHA believes the proposed Staging Area Gate site is the better of the two sites. Below is a discussion of our analysis

Study Methodologies and Procedures

To compare the two potential parking lot sites, PHA first collected traffic data along Rockville Road to identify roadway geometrics, configuration, traffic volume, capacities, and crash records to establish a baseline. Then compare the two candidate parking sites based on their performances in terms traffic operational characteristics and safety aspects. Subsequently, we compared the two sites assuming a pedestrian crosswalk would be provided to accommodate hikers crossing from Rockville Hill Park to Rockville Trails.

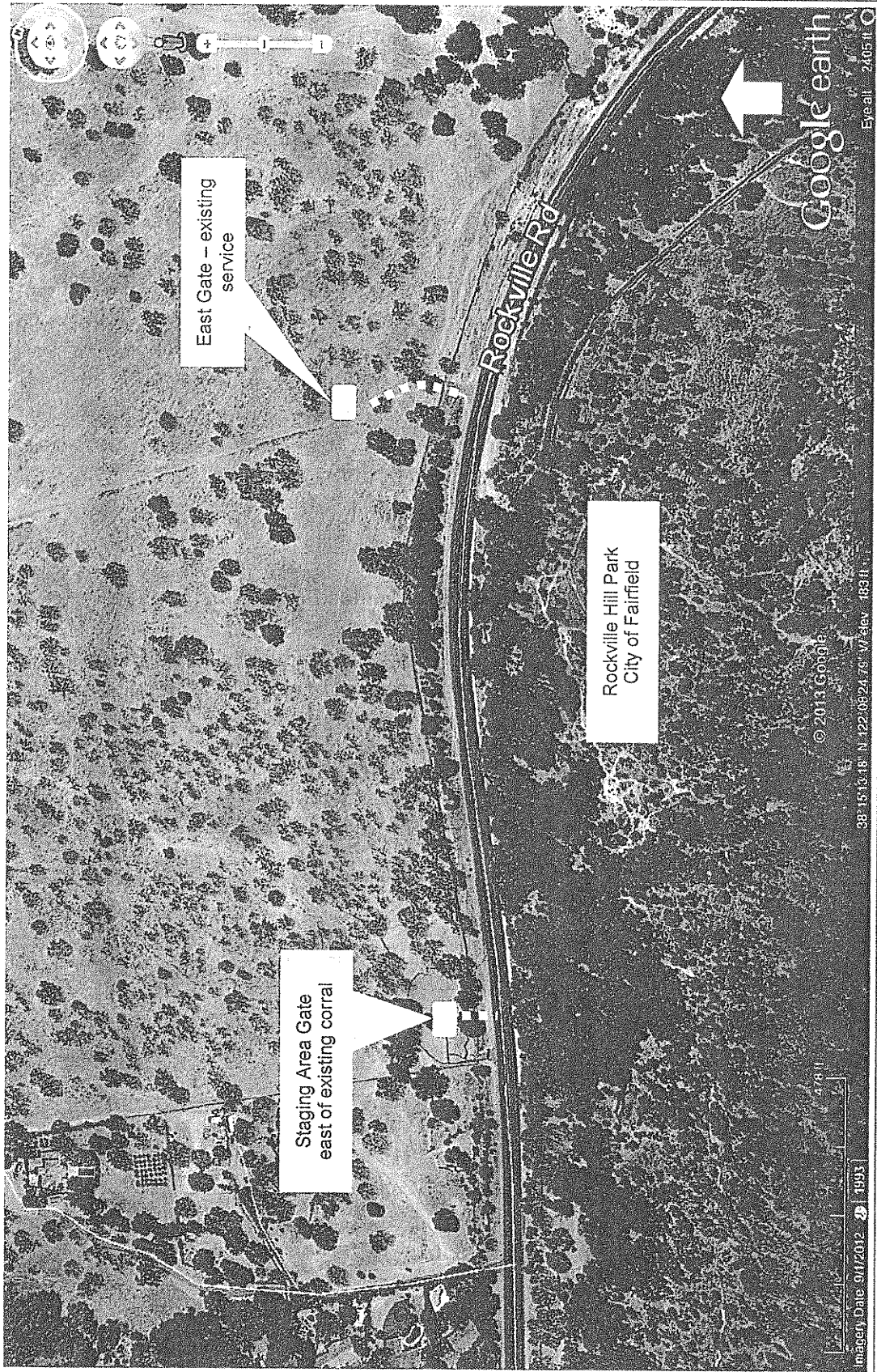


Figure 1 Rockville Trails and Vicinity – Potential Trail Access and Parking Lot
 Rockville Trails Traffic Study

Existing Conditions

Rockville Trails Preserve is located north of Rockville Hill Park on the north side of Rockville Road, between Suisun Valley Road to the east and Green Valley Road to the west. The site was previously approved for a residential development for about 300 homes in 2005.

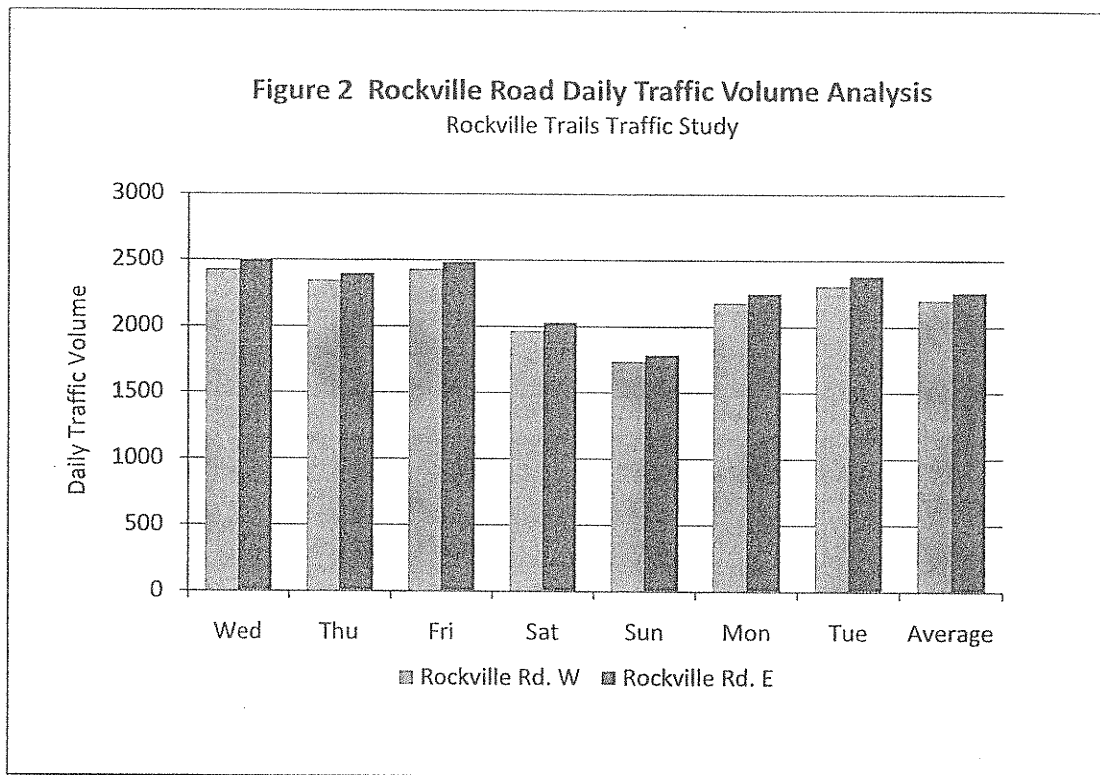
Roadway Description

Access to and from the preserve is via Rockville Road, a two-lane rural highway connecting Suisun Valley Road and Green Valley Road. The posted speed limit is 55 mph, but a section south of the bend in the southbound direction is striped for 50 mph. The section of Rockville Road between Suisun Valley Road and Green Valley Road measures about 2.6 mile long and has few intersections and driveways in between. The only traffic control devices along this section of roadway are the all-way stop signs at the intersection with Green Valley Road and the traffic light at the intersection with Suisun Valley Road. Sight distance is generally good along the roadway except near the bend where the sight distance is about 450 feet +/-.

Traffic Volume

PHA collected traffic data at two locations along Rockville Road in mid July 2013 between 7/17-7/23 for a week to evaluate traffic volumes, speed, vehicle classifications, and traffic gaps. Rockville Road currently carries about 2,500 vehicles daily during weekdays and about 1,800 vehicles during weekend. The morning peak hour generally occur around 10-11 a.m. while the p.m. peak hour generally occurs between 1 and 2 p.m. with about 200 vehicle trips. Table 1 and Figure 2 show daily traffic volumes along Rockville Road.

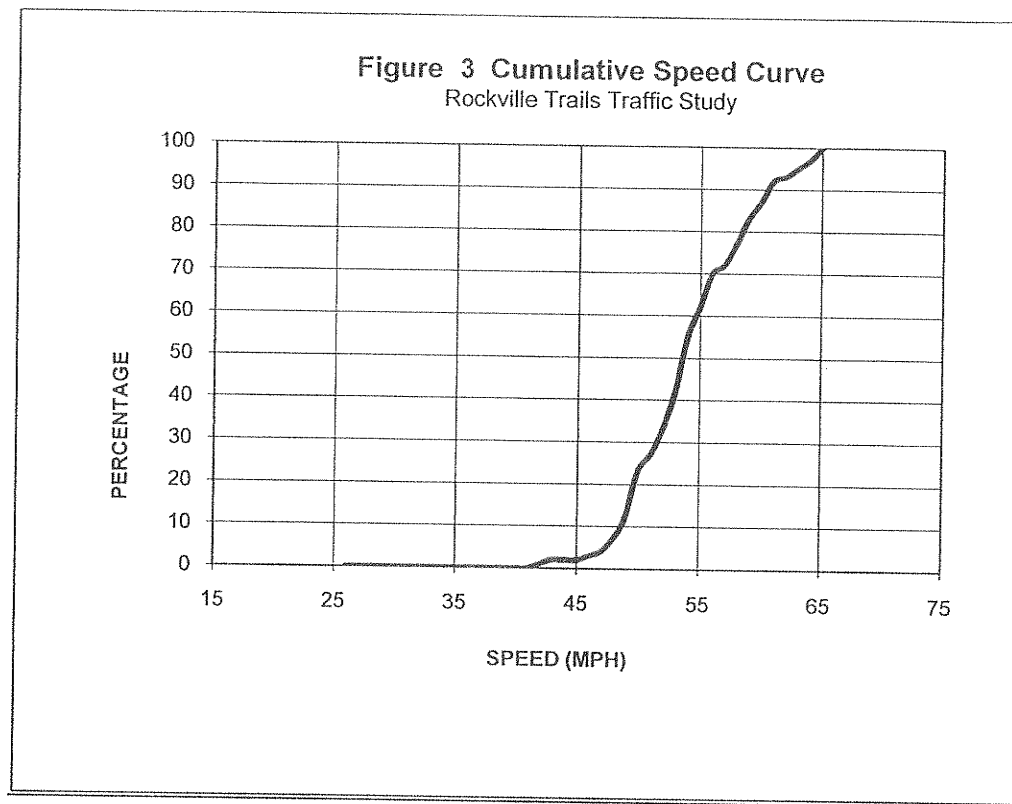
Table 1 Rockville Road Daily Traffic Volumes Analysis Rockville Trail Traffic study						
Survey Date	Rockville Road West ¹			Rockville Road East ²		
	Daily Volume	AM Peak	PM Peak	Daily Traffic	AM Peak	PM Peak
7/17/2013 (wed)	2434	179	210	2495	181	214
7/18/2013 (Thu)	2354	182	213	2402	185	216
7/19/2013 (Fri)	2436	202	202	2488	207	203
7/20/2013 (Sat)	1970	174	173	2031	178	176
7/21/2013 (Sun)	1743	159	156	1787	161	159
7/22/2013 (Mon)	2184	174	196	2253	176	199
7/23/2013 (Tue)	2314	193	188	2385	199	193
Average	2205.0	180.4	191.1	2263.0	183.9	194.3
Source: PHA traffic survey conducted in mid July 2013. Volumes are for both directions. Traffic count data are in the technical appendix.						
¹ Near the corral, ² about 1,000 feet south of the bend						



Generally speaking, a two-lane highway such as Rockville Road has a physical capacity to carry between 1,500 and 1,800 vehicles per hour per lane (depending on traffic speed) at a good level-of-service. From an environmental capacity standpoint, a street such as Rockville Road has the ability to carry between 12,000 and 15,000 vehicles per day at acceptable level-of-service. Environmental capacity is the capacity considered appropriate for the type of land use and development activities for the area. At any rate, this section of Rockville Road is operating well below its capacity.

Traffic Speed

As mentioned earlier, the posted speed limit along this section of Rockville Road is 55 mph. A speed survey conducted by PHA with a radar gun near the corral during the mid-day peak hour shows an average speed of 54 mph and an 85th percentile speed of 60 mph. The 85th percentile speed, also known as the critical speed, is the speed at which 85 percent of motorists consider safe to drive, and is the basis for setting speed limits. Figure 3 shows the cumulative speed profile recorded from Rockville Road near the corral.



Traffic Composition (Classification)

Traffic count data also revealed that of the 2,500 daily vehicle volume, passenger cars and trailers accounts for about 45%, 2-axle long wheel base type vehicles (pick-up trucks and vans) account for 13%, and 2-axle vehicles with six tires (single unit trucks) accounts for about 40%, while the remaining 2% are miscellaneous vehicle types. This traffic composition appears reflective of the rural nature of the area.

Collision Records

There were 6 reported collisions during the six - year period between 2006 and 2011 along Rockville Road between Suisun Valley Road and Green Valley Road according to crash records obtained from California Statewide Integrated Traffic Records System (SWITRS). This represents an annual average crash rate of 0.42 compared to the State average crash rate of 1.01 for a two-lane rural highway for 2008.

Crash rates can be an effective tool to evaluate the relative safety at a particular location. The combination of crash frequency (crashes per year) and vehicle exposure (traffic volumes and miles traveled) results in a crash rate. Crash rates are expressed as "crashes per Million Vehicle Miles Traveled" (MVMT) for roadway segments. Figure 4 shows the locations where these collisions occurred. Table 2 shows reported collisions for 2006-2011. Collision records for 2012 were not yet available at this time.

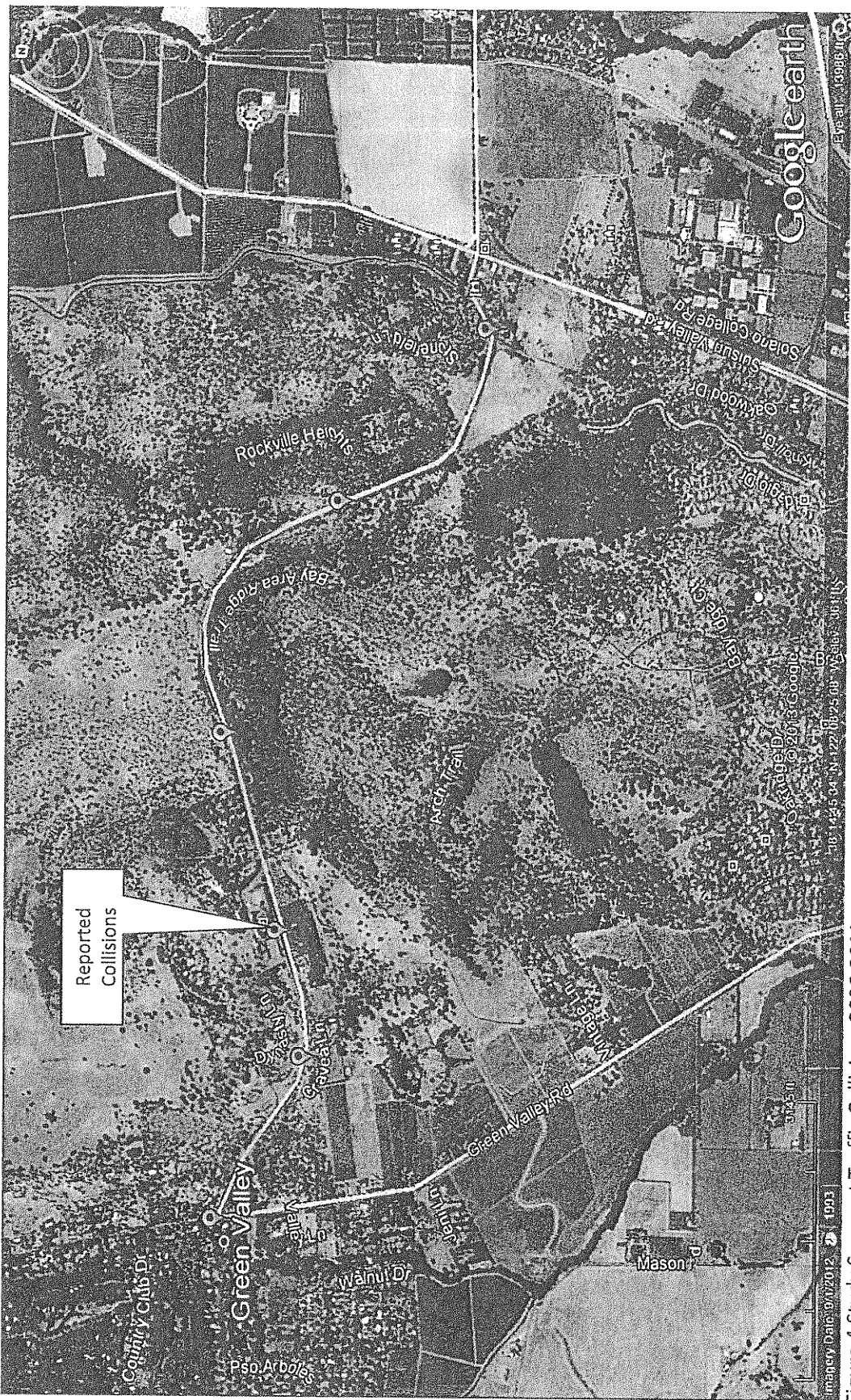


Figure 4 Study Segment Traffic Collisions 2006-2011
Rockville Trails Traffic Study

Table 2 Summary of Collisions – Rockville Road Rockville Trails Traffic Study							
Collision Type	2006	2007	2008	2009	2010	2011	Total
Head-On	1	0	0	1	0	0	2
Sideswipe	0	0	0	0	0	0	0
Read End	1	0	0	0	0	0	1
Broadside	0	0	0	0	0	0	0
Hit Object	1	1	0	0	0	0	2
Overturn	0	0	0	0	0	0	0
Hit Pedestrian	0	0	0	0	0	0	0
Others	0	0	0	0	1	0	1
Total	3	1	0	1	1	0	6
Source: SWITRS							

Traffic Gaps

Traffic gaps are spaces and times between vehicles on the street. A busy street with high traffic volume means more short gaps but fewer opportunities for side street traffic or pedestrians to cross the street, assuming a non-signalized intersection and/or a mid-block scenario with no traffic control. PHA collected gap data for Rockville Road near the corral to identify available opportunities for pedestrian crossing. Rockville Road measures approximately 40' wide (two 12' lanes plus two 8' bike lanes/paved shoulders). Assuming an average walking speed of 3.5'/second, it would take a gap of 11-12 seconds for an average pedestrian to cross the street. Gap analysis results indicated that there are sufficient long gaps available for pedestrians to cross Rockville Road at this location because of low traffic volume. No pedestrians were observed during field visits and observation however. A more detailed evaluation on traffic gaps is discussed later in the report.

Project Conditions

SLT plans to add a parking lot to accommodate trail users. SLT board members and staff initially identified a list of seven sites for the proposed parking lot. After series of internal reviews and evaluations, only two remaining site accesses/parking lots were considered practical. The first is the proposed Staging Area Gate site, which is about 150 feet east of existing the corral gate and the second is the current East Gate site near the bend across from the emergency access to Rockville Hill Park operated by the City of Fairfield. Based on initial information provided by SLT staff, the parking lot would provide for 25 passenger vehicles initially and 50 passenger vehicles and 10 horse trailers when fully developed. In conducting the traffic analysis, PHA assumes 70 passenger vehicles (by converting the horse trailer to passenger cars equivalent at 1:2 ratio) entering the parking lot in the morning peak hour and the same amount of traffic would exit from the parking lot in the afternoon peak hour. This is a conservative assumption to evaluate a worst case scenario. Most likely, parking lot traffic would spread throughout the day.

In the study PHA compared the pros and cons of the two candidate parking lot sites in terms of key traffic operation and safety indicators such as traffic LOS (Levels-of-Service), the need for traffic control and turning lanes, traffic volume and speed, collision experience, sight distance, and available traffic gaps for pedestrian crossing.

Traffic Operations (LOS)

PHA conducted a traffic operation analysis to evaluate intersection/driveway LOS (Level-of-Service) for the two candidate parking lot accesses. LOS is a qualitative measurement of streets and highways performance with a scale of A- F. LOS A represents free flow conditions with very little delays and low volume-to-capacity (V/C) ratios; LOS F represents jammed conditions with excessive delays and high V/C ratios that usually exceed 1.0.

Intersection traffic operation analyses were evaluated with the latest methodology prescribed in the Highway Capacity Manual (HCM) for non-signalized intersections, which measures intersection performance based on delays and capacities for each traffic approach. For approaches with more than one lane, the methodology will evaluate LOS for each individual turning movement instead. Generally, most jurisdictions consider LOS A – D acceptable and LOS E and F unacceptable and would require mitigation.

Traffic operation analysis results indicated that both driveway accesses (East Gate and proposed Staging Area Gate) would operate at LOS A with little delays (less than 2 seconds for thru traffic on Rockville Road and 10 second for the driveway approach), low volume-to-capacity ratios, and no vehicle queues for all approaches for both a.m. and p.m. peak hour conditions. These LOS conditions means there would be sufficient gaps long enough for vehicles, including trailers, making left and right turns to and from the driveways.

PHA conducted additional LOS analyses to evaluate a five-year near-term scenario assuming an annual growth rate of 2% per year for five years. Results indicated that both candidate parking lot accesses would continue to operate at LOS A for all approaches for both a.m. and p.m. peak hour conditions. In summary, both parking lot sites would perform equally well from a traffic operation standpoint. Tables 3 and 4 show traffic LOS analysis results and ranking criteria. Figures 5 thru 8 show study location traffic turning movements.

Table 3 Access Driveway LOS Analysis – Rockville Road Rockville Trails Traffic Study							
East Gate-Existing Service		Exiting Condition		Project Condition		Near -Term Condition	
		Delay	LOS	Delay	LOS	Delay	LOS
Eastbound traffic	AM	N.A	N.A	1.9	A	1.9	A
Westbound traffic		N.A	N.A	0.0	A	0.0	A
Southbound traffic		N.A	N.A	9.7	A	9.8	A
Eastbound traffic	PM	N.A	N.A	0.3	A	0.3	A
Westbound traffic		N.A	N.A	0.0	A	0.0	A
Southbound traffic		N.A	N.A	9.8	A	9.9	A
Proposed Staging Area Gate							
Eastbound traffic	AM	N.A	N.A	1.9	A	1.9	A
Westbound traffic		N.A	N.A	0.0	A	0.0	A
Southbound traffic		N.A	N.A	9.7	A	9.8	A
Eastbound traffic	PM	N.A	N.A	0.3	A	0.3	A
Westbound traffic		N.A	N.A	0.0	A	0.0	A
Southbound traffic		N.A	N.A	9.8	A	9.9	A
Intersection LOS analyses were conducted with SYNCHRO traffic models based on HCM method for nonsignalized intersections. PHA used weekday peak hour volumes for Rockville Road and the estimated weekend peak hour volumes for the parking lot for LOS calculations. PHA collected current traffic count data in mid July 2013. Calculation sheets are in the technical appendix.							

Table 4 Traffic LOS Ranking Criteria Rockville Trails Traffic Study	
LOS	Control Delay per Vehicle ⁽¹⁾ (Seconds)
A	0.0-10.0
B	10.0-15.0
C	15.0-25.0
D	25.0-35.0
E	35.0-50.0
F	>50.0
Source: Highway Capacity Manual 2000 for non- signalized intersections).	

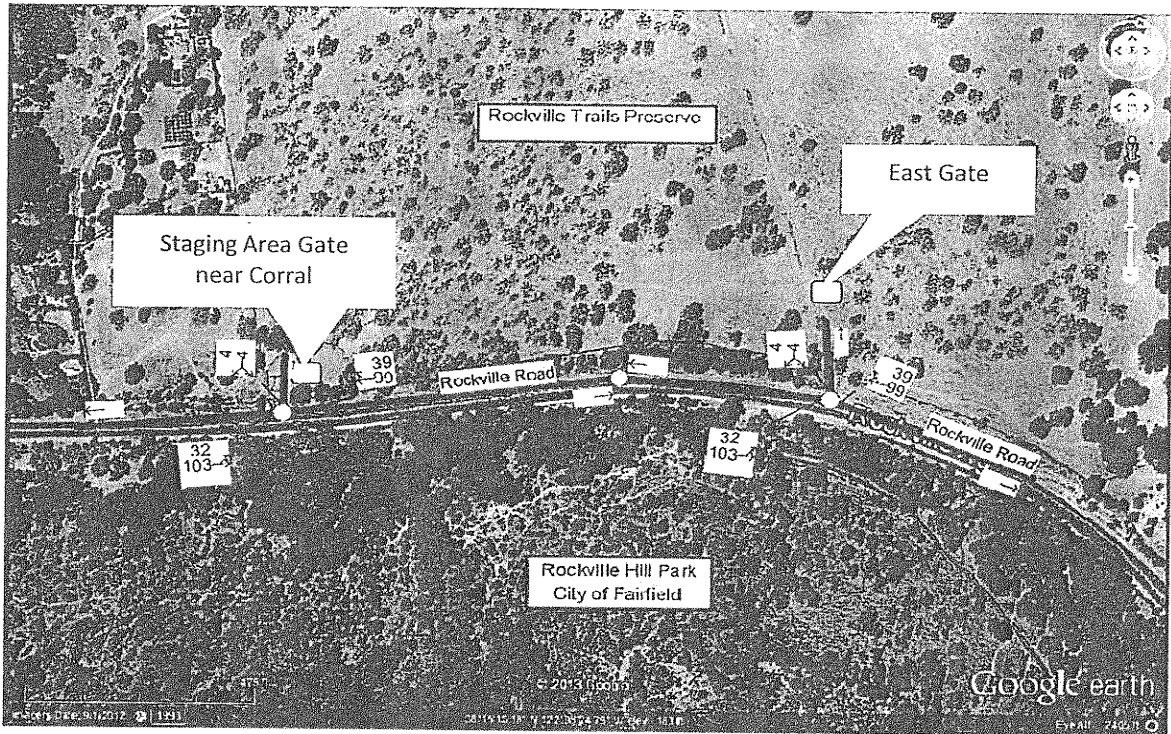


Figure 5 Project Conditions Turning Movements (AM Peak Hour)
 Rockville Trails Traffic Study

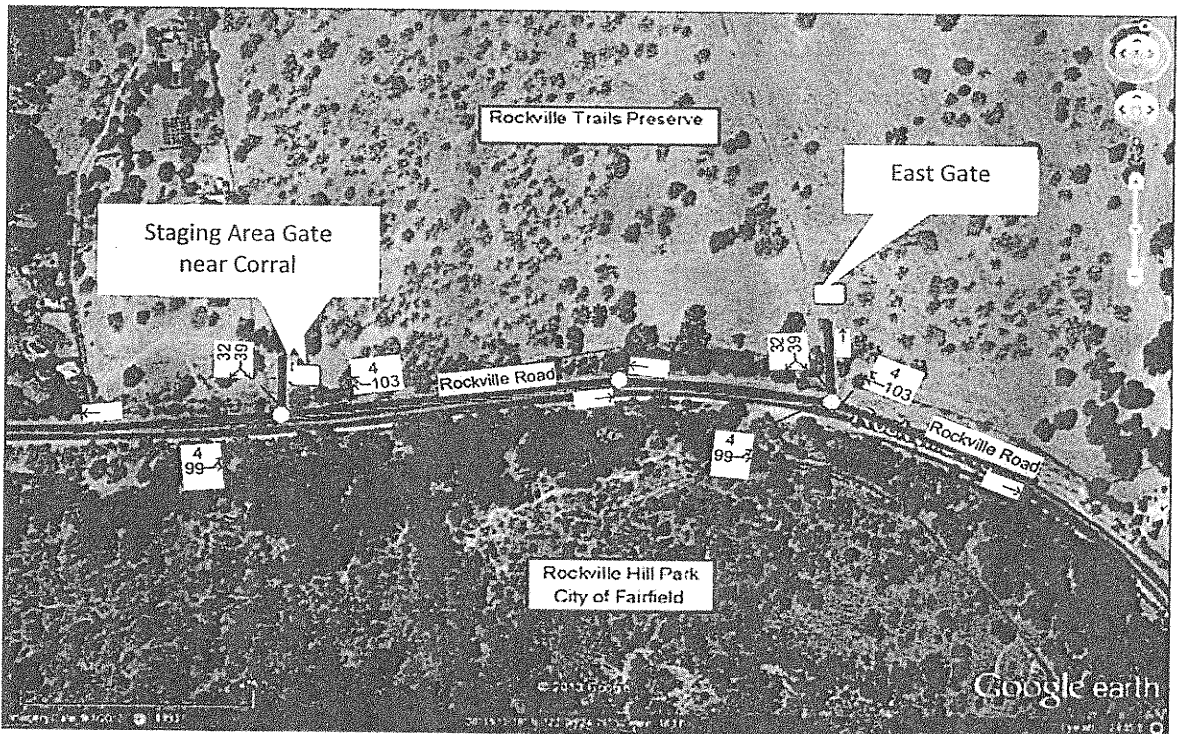


Figure 6 Project Conditions Turning Movements (PM Peak Hour)
 Rockville Road Traffic Study

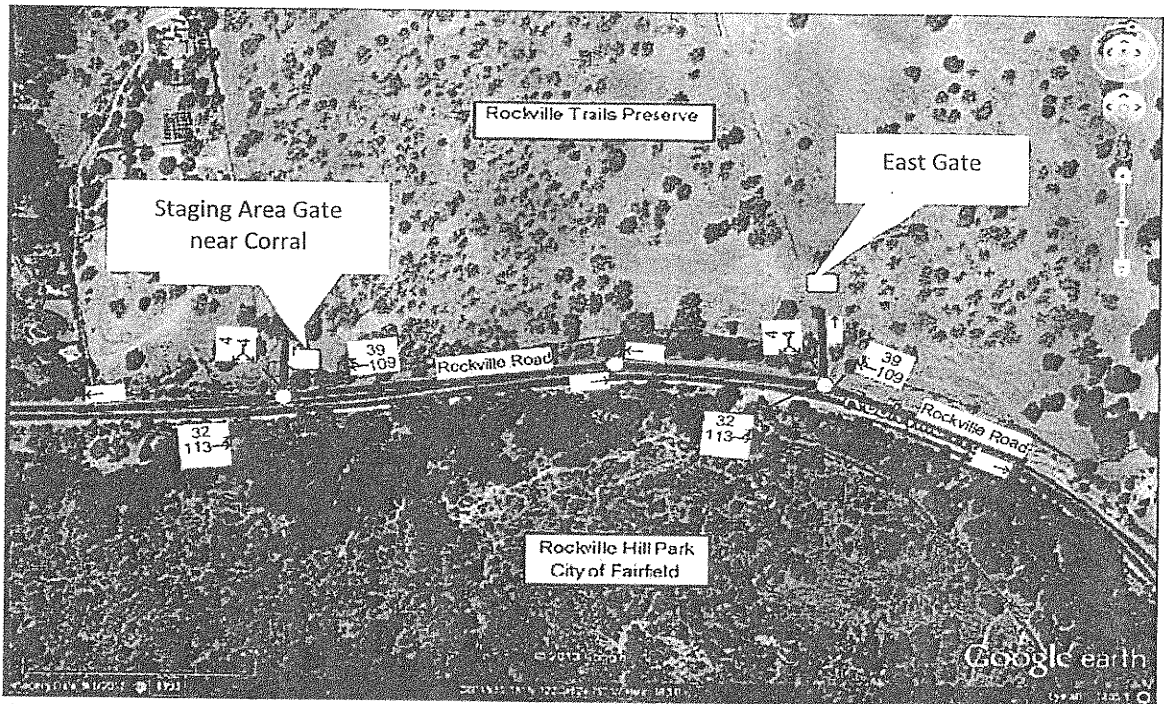


Figure 7 Near-Term + Project Conditions Turning Movements (AM Peak Hour)
Rockville Trails Traffic Study

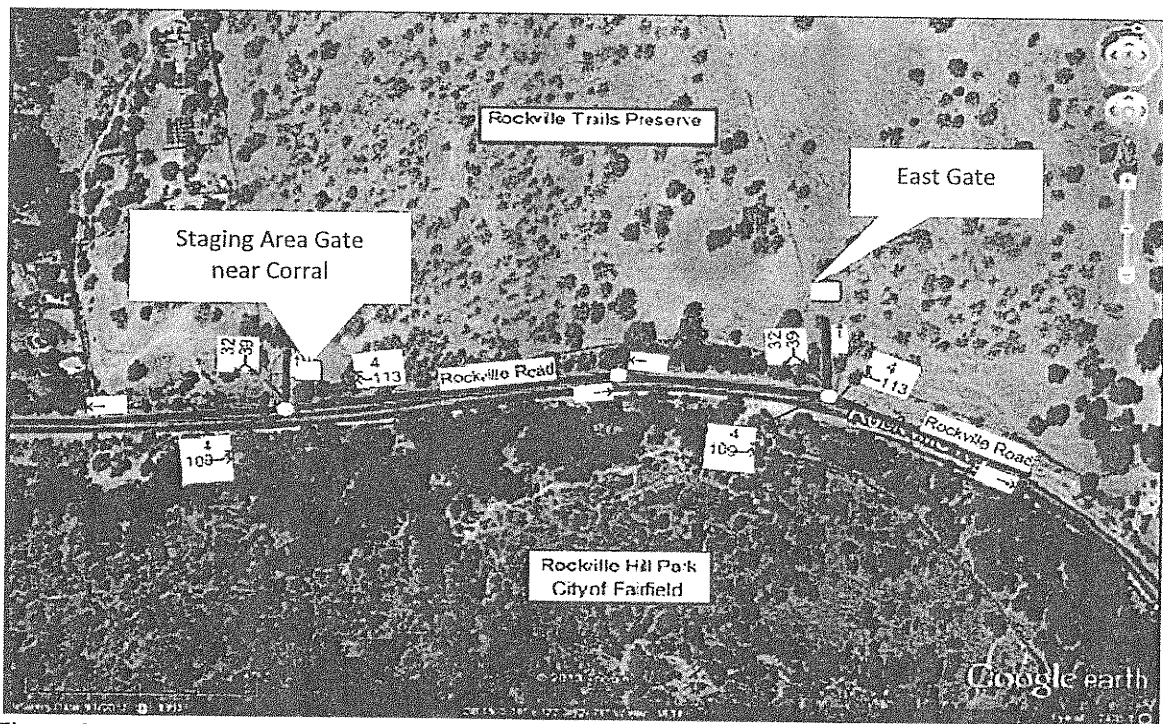


Figure 8 Near-Term + Project Conditions Turning Movements (PM Peak Hour)
Rockville Trails Traffic Study

Needs for Turning Lanes and Traffic Control Devices

Turning lanes generally improve safety and increase roadway capacities by reducing the speed differential between the through and the turning vehicles. A left-turn lane provides the left-turning vehicles with a waiting area until acceptable gaps in the opposing traffic allow them to complete the turn. Turning lanes are crucial particularly at locations with high traffic volumes and rear-end collisions experience.

PHA conducted a turning lane warrant evaluation based on AASHTO (American Association of State Highway and Transportation Officials) guidelines and general traffic engineering practice. The evaluation is based on traffic volumes (opposing volume and advancing volume, turning volume) and speed.

Results indicated that both parking lot access driveways would not meet the minimum volume guidelines for installing either a left or right turning lane. The analysis is consistent with the aforementioned traffic LOS analysis results, which indicated little delays and vehicle queues at all of the approaches. Figures 9 and 10 show results of turning lane warrant analyses. A data point on the right side of the curve means a turning lane is warranted. For the right-turn lane analysis in Figure 10, the data point (advancing traffic volume) is too low and is off the chart to the left.

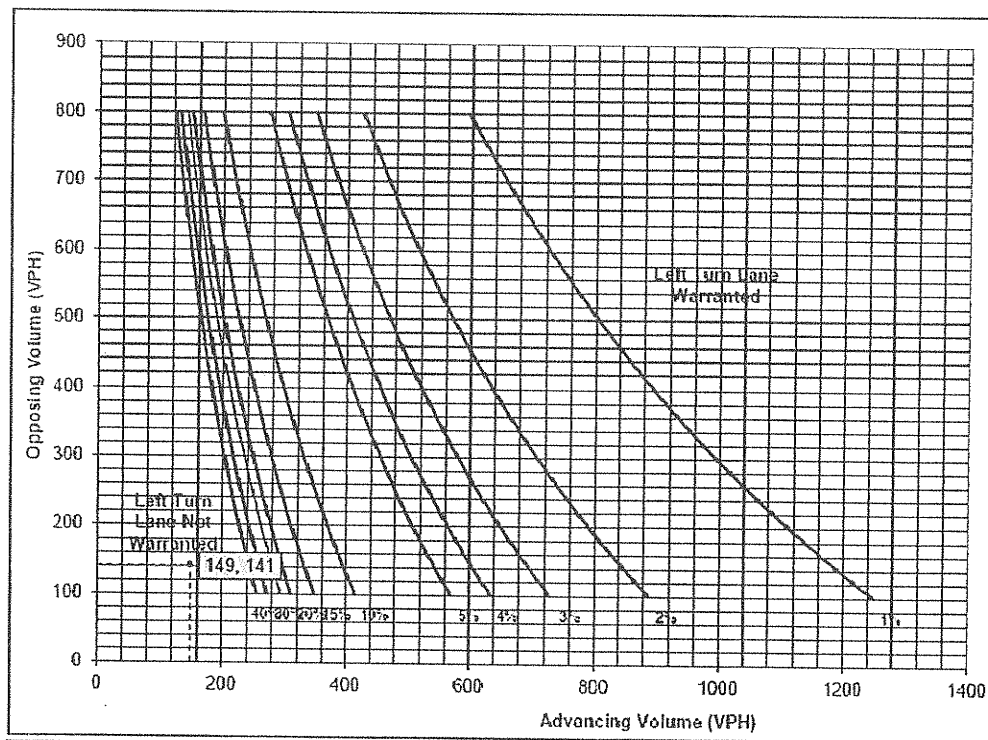


Figure 9 Left-turn Lane Needs Evaluation (based on near term + project AM conditions)
Rockville Trails Traffic Study

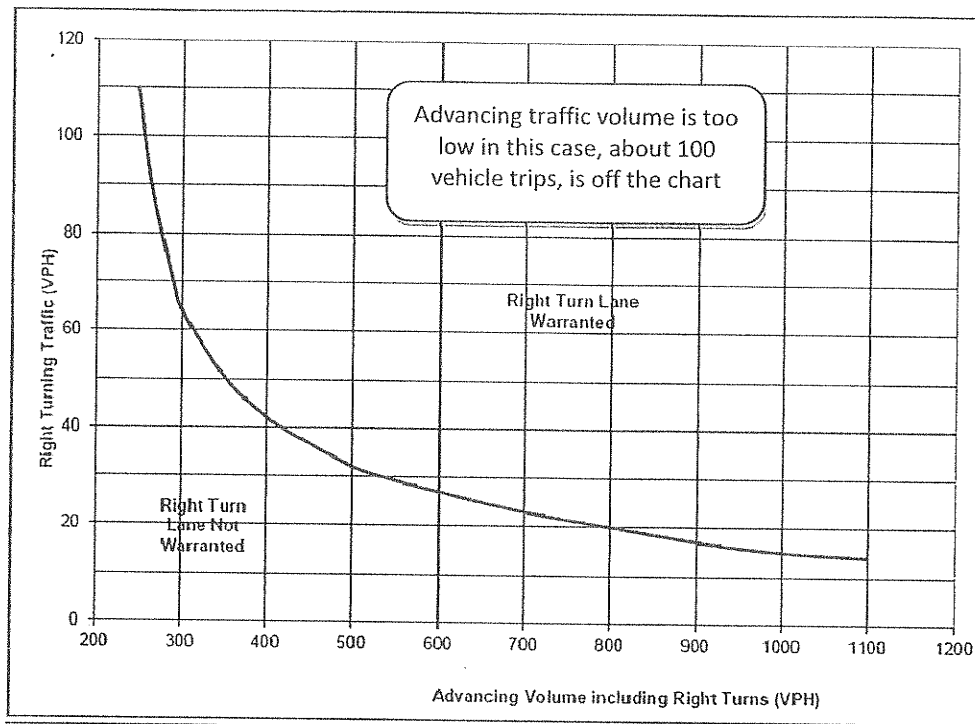


Figure 10 Right-turn Lane Need Analysis (based on near term + project AM conditions)
Rockville Trails Traffic Study

PHA evaluated the need for traffic control devices such as stop signs and/or traffic lights for both driveway locations. Results indicated that both driveway locations would not satisfy the minimum volume requirement for traffic lights or all-way stop control. PHA recommends installing a stop sign at the driveway exits for safety reason even though vehicles exiting driveways are required to stop by rule before entering a major street. In summary, both access driveways would again perform similarly, no need for turning lanes and other traffic control devices except a stop sign at the access driveway approach.

Traffic Volume and Speed

As discussed earlier in the report, Rockville Road currently carries about 2,500 vehicle trips daily, which is well below its carrying capacity. The average surveyed speed was 54 mph and the 85th percentile speed, or critical speed was 60 mph. The highest recorded speed was 66 mph during the mid-day survey period. The posted speed limit is 55 mph.

Since both candidate parking lot access driveways are more than 1,000 feet apart and with no side streets or driveways in between, both proposed accesses would experience similar conditions in terms of traffic volume and speed and would perform in similarly. The Staging Area Gate near the corral may experience a slightly higher traffic speed compared to the east access which is near the bend and has a more restrictive sight distance.

Collision Experience

As discussed earlier, there were six reported collisions along the section of Rockville Road between Green Valley Road and Suisun Valley Road during a six-year period between 2006 and 2011, or one collision per year on the average and an annual crash rate of 0.42. The State of California annual average crash rate for a two-lane rural highway was 1.01 for 2008.

Again, since both driveways are to be located along the same section of Rockville Road at a distance about 1,250 feet apart with no side streets or driveway in between. They are expected to expose to similar collision experience and would perform equally. Collision records revealed one reported collision near the west access driveway location and no reported collision near the east driveway near the curve during the six-year study period. In conclusion, the corral site access driveway would likely expose to a slightly higher speed but may have a better collision experience because of the less restrictive sight distance.

Traffic Gaps

Traffic gaps are spaces and times between moving vehicles on the street. Generally speaking, a busy street with high traffic volumes and more traffic lanes would yield more but shorter gaps; whereas a less busy street with low traffic volume and fewer traffic lanes produce longer but fewer gaps. Acceptable gaps in traffic are those gaps between vehicles which pedestrian feel are long enough for them to cross the street. For a two-lane road such as Rockville Road, it would take an average pedestrian 11-12 seconds to cross based on the existing 40' wide street (two 12' lanes plus two 8' bike lanes/paved shoulders) at a walking speed of 3.5 ft/second. Pedestrians with different age groups or abilities may have different gap requirements.

Based on traffic data collected in mid July 2013, there were 61 traffic gaps on Rockville Road near the corral shorter than 10-15 seconds during the peak hour (July 19th 12-1 p.m.) representing roughly 915 seconds or 25% of the hour that pedestrian would not feel comfortable crossing. In other words, during the peak hour traffic condition, pedestrian would find long enough gaps to cross 75% of the hour.

Both access driveways, the proposed Staging Area Gate and the existing East gate would experience similar traffic gap conditions and perform similarly in this aspect.

Sight Distance

Sight distance is the length of roadway ahead that is visible to the driver. The available sight distance on a roadway should be sufficiently long to enable a vehicle traveling at or near the design speed to stop before reaching a stationary object in its path. Although greater lengths of visible roadway are desirable, the sight distance at every point along a roadway should be at least that needed for a below-average driver or vehicle to stop.

Stopping sight distance is the sum of two distances: (1) the distance traversed by the vehicle from the instant the driver sights an object necessitating a stop to the instant the brakes are applied; and (2) the distance needed to stop the vehicle from the instant brake application begins. These are referred to as brake reaction distance and braking distance. Stopping sight distance is a key consideration for locating and designing access driveways.

According to AASHTO guidelines, the stopping sight distance should be 495 feet long for a streets with a design speed of 55 mph and 570 feet long for a design speed of 60 mph. Based on field review and measurements from "Google Earth", the proposed Staging Area Gate site access driveway has more than 1,000 feet long stopping sight distance in both directions; whereas the east driveway has about 480 to 500 feet of stopping sight distance in the east(westbound)direction and is barely adequate for a speed of 55 mph but not for speeds of 60 mph, which was the 85th percentile speed recorded. As such, from the sight distance perspective, the proposed Staging Area Gate near the corral is better than the East Gate site.

Pedestrian Crossing

SLT is considering a pedestrian connection between Rockville Hill Park and Rockville Trails Preserve to accommodate potential hikers and mountain bikers who would like to visit Rockville Trails from Rockville Hill Park. Rockville Hill Park currently has one site access via its parking lot located on Rockville Road about 2,000 feet south of the bend. According to Fairfield Public Works Department, the City is not expected to open other accesses across from the Rockville Trails in any foreseeable future. Its emergency access near the bend would remain closed at all time for park users except for emergency vehicles. Since there are few residential or commercial developments along this section of Rockville Road, the need for a pedestrian connection is low.

Assuming someday the City of Fairfield would open another access across from Rockville Trails as the need for a pedestrian crossing rises. SLT could consider installing a crosswalk with proper warning signs and a Rectangular Rapid Flashing Beacon (RRFB) pedestrian crossing warning device such as those shown in Figure 11. The RRFB is powered by solar panels and flashes in irregular patterns when activated by pedestrian push buttons. It is highly visible highly effective in focusing attention like those used by emergency vehicles. RRFB can be installed on existing or new posts at both sides of the roadway. The cost for these systems runs between \$10,000 and \$15,000 for two units including installation and signs. Many jurisdictions with RRFB installed reported high driver compliance yielding to pedestrians at the crosswalk. Current traffic volume and the near -term plus project traffic volume at either the east or the corral parking lot site would not meet the minimum volume criteria for traffic signal installation.

It is possible to place the crosswalk somewhere between the east parking site or the corral parking site. Bothe parking lot sites and any points in between would have similar traffic gaps. However, it would be better to place it at the entrance as it would be more convenient for pedestrians and hikers. A crosswalk at the intersection or at the entrance is

also safer as motorists generally would drive more focused near intersections and driveways.

SLT could also consider a no-crosswalk alternative. This would eliminate the false sense of security some pedestrians may have when crossing streets with designated pedestrian crosswalks. Hikers and mountain bikers in this case would have to be more careful when crossing Rockville Road.

PHA also briefly examined pedestrian bridges and tunnel concepts but did not pursue such further due to high costs, and the potential flooding and security issues with the tunnel. The number of pedestrians wanting to cross from Rockville Hill Park to Rockville Trails would be low even if the City of Fairfield would one day open its gate from across Rockville Trails and as such it would be difficult to justify the high costs and the potential flooding and security issues.

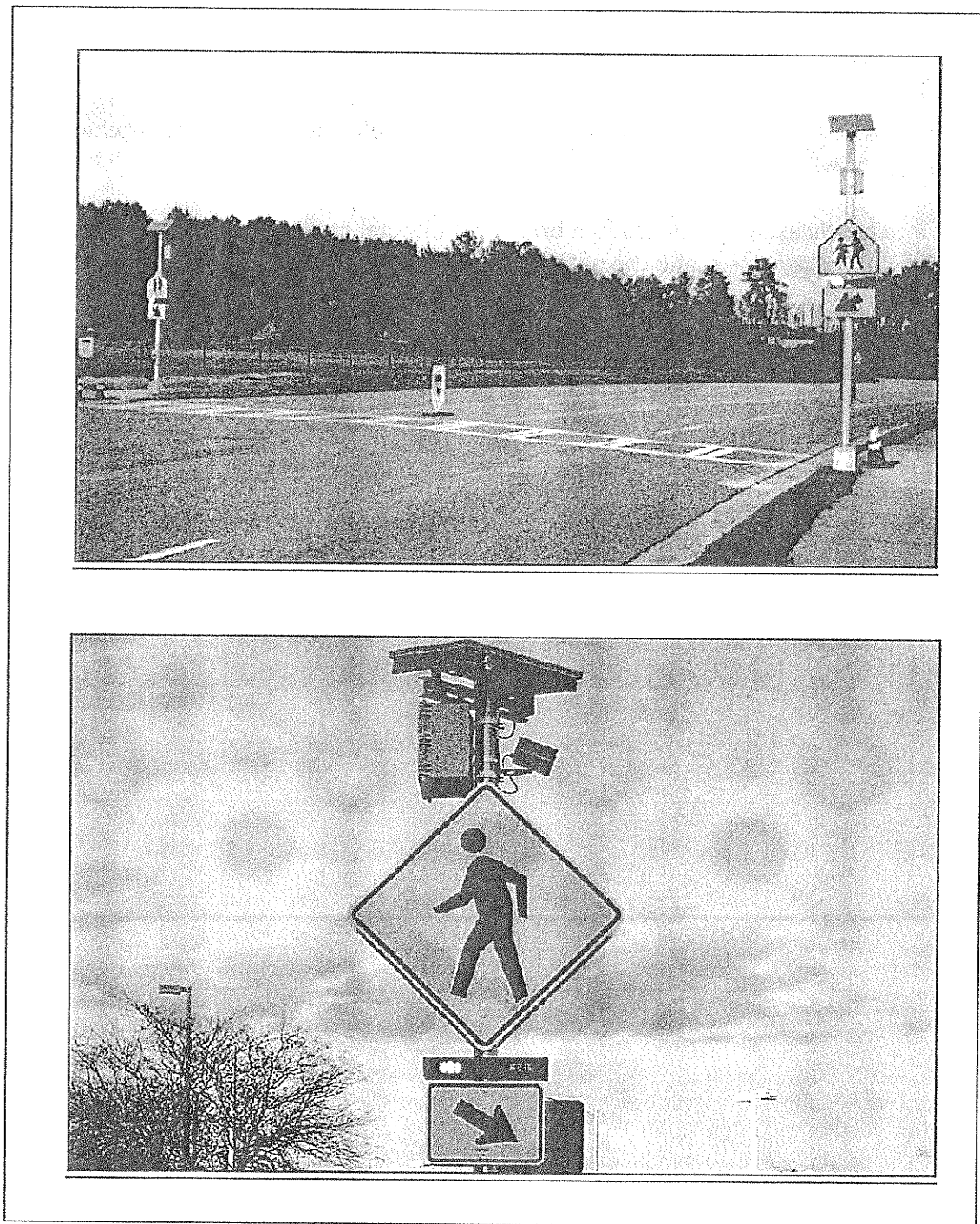


Figure 11 Sample RRFB (Rectangular Rapid Flashing Beacon)
Rockville Trails Traffic Study

Conclusions and Other Considerations

The above analysis indicated that from the traffic safety standpoint, the corral parking lot site is better than the east site near the bend. The deciding factors are sight distance and the potential for a pedestrian crossing should there be a need for such one day. Table 5 summarizes the comparison of the two potential parking lot sites and access.

Table 5 Parking Lot Site Comparison Rockville Trails Traffic Study				
Factors	Project Conditions		Near-Term+ Project	
	East Gate Existing Service	Staging Area Gate	East Gate Existing Service	Staging Area Gate
Traffic Operation -LOS	LOS A	LOS A	LOS A	LOS A
Turning Lane Needs	not needed	not needed	not needed	not needed
Traffic Control Device Needs	one-way stop sign @ drwy.	one-way stop sign @ drwy.	one-way stop sign @ drwy.	one-way stop sign @ drwy.
Traffic Volume	2,500 ADT	2,500 ADT	2,750 ADT	2,750 ADT
Traffic Speed-average/critical	54/60 mph	54/60 mph	54/60 mph	54/60 mph
Collision Experience-average rate	0.42	0.42	0.42	0.42
Traffic Gaps ¹	sufficient	sufficient	sufficient	sufficient
Sight Distance ²	inadequate	adequate	inadequate	adequate
Pedestrian Crossing	inadequate sight distance	Adequate sight distance	inadequate sight distance	adequate sight distance
PHA Transportation Consultants- August 2013. ¹ Gaps in traffic streams that are sufficient long for pedestrian to cross ² The minimum sight distance requirement is 500 feet based on a posted speed of 55 mph. Inadequate means < 500 feet. For a critical speed of 60 mph, the minimum sight distance is 570 feet.				

The proposed Staging Area Gate site appears better from the traffic safety standpoint; and from the cost and public security standpoints as the access road to the parking area would be shorter compared to the east site and would be visible from the street. The proposed Staging Area Gate site, however, may involve cutting down some trees.

For additional traffic safety, PHA recommends installing warning signs for hidden driveway plus advisory speed panel ahead of the driveway along Rockville Road in both directions of the corral site, assuming the corral site would be selected.

Installing additional devices warning of hidden driveways such as the transverse rumble strips (TRSSs) (also called in-lane rumble strips) would also help improving safety at and near the driveway. Many agencies have used TRS to warn drivers in rural areas that they are approaching stop signs and/or intersections. The strips typically consist of grooves crossing the roadway surface to provide a tactile and audible warning for drivers.

Adding double solid yellow center lines along Rockville Road near the corral area in both directions would help prevent motorists from passing and improve safety near the access

driveway. Currently the section of Rockville Road south of the bend is striped with solid double yellow lines but the section west of the bend is striped with a solid yellow line at the south side and a broken (dash) line at the north side.

SLT has not developed design drawings for the proposed parking lots but PHA has reviewed the preliminary parking lot layouts provided in the planning concept report prepared by board member Larry Burch, P.E. Both layouts appear reasonable and would provide adequate internal circulation. PHA concurs that the access road to the parking area should be about 25 feet wide if feasible but a minimum of 20 feet should be provided for two vehicles travelling in opposing directions side-by-side.

PHA is aware that the access road to the parking lot would be a gravel road but recommends providing a short paved section (50 feet long +/- apron) at the entrance/exit to prevent vehicles from dragging gravels onto Rockville Road. The approach should be wide enough to accommodate horse trailers making right-turns. Figure 12 shows the paved section (apron) at the east site access driveway.

Based on the traffic operation (LOS) analysis discussed earlier, all traffic approaches would operate at LOS A at either access road intersections with little delays and no vehicle queues. This means there are sufficient gaps in traffic to accommodate vehicles making left and right-turns to and from Rockville Road.

As recommended in the Larry Burch report, parking stalls should be about 9 foot wide by 22 foot long +/- to accommodate larger vehicles such as SUVs, trucks, and vehicles carrying bikes and bike rack behind their vehicles. Longer and wider stalls should also be provided for horse trailers. Drive aisles at the parking lot should be a minimum of 24 foot wide for right-angle parking stalls design, although wider would be better.

Since the parking lot would be a gravel lot and would not be striped, signs and parking directions need to be provided on the site to direct motorists where and how to park.

To make the east parking lot site work, the access road must provide a minimum of 570 feet of sight distance for a critical speed of 60 mph speed. This could be accomplished by shifting the access road further to the west to provide the required distance, along with the recommended warning signs for the corral site discussed earlier. PHA has evaluated the potential of installing traffic signals and/or all-way stop signs but neither is practical as traffic signals are too costly while the all-way stop signs would penalized through traffic.

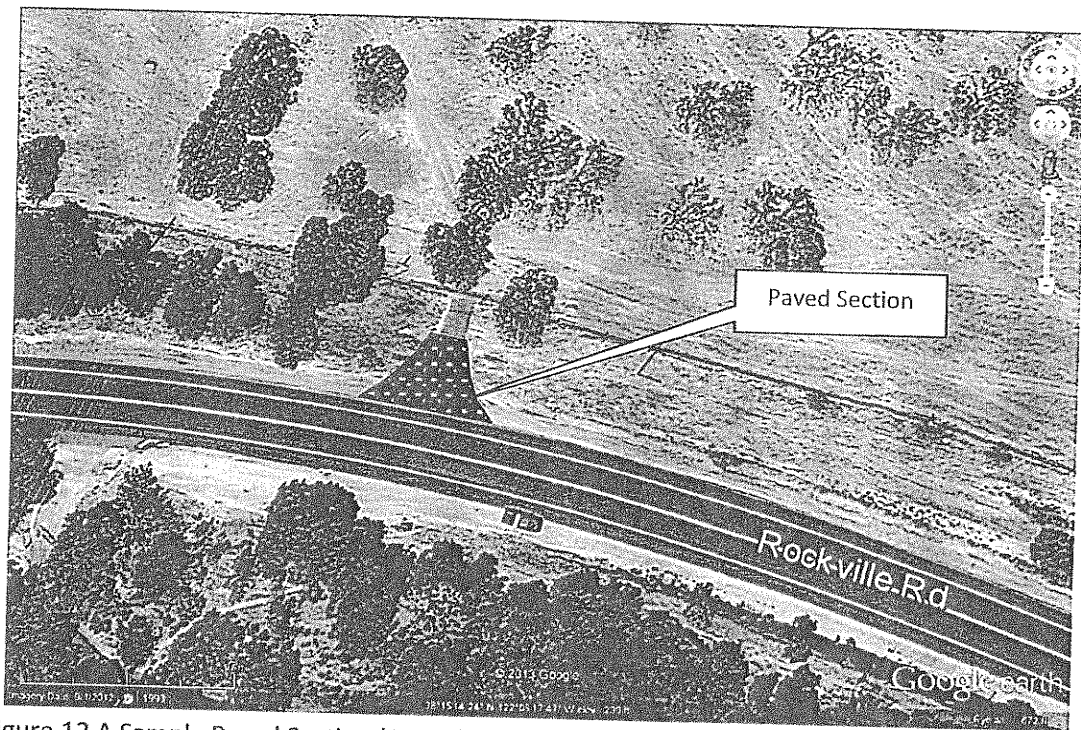


Figure 12 A Sample Paved Section (Apron) at Rockville Road
Rockville Trails Traffic Study

Appendix A

Traffic Count Data

PHA Transportation Consultants
510-848-9233

Description 1: Fairfield
Description 2: Rockville Rd East of Oak Ln
Description 3: 13-11-391

Site: 1
Date: 7/17/2013
Wednesday

24 Hour Volume									
Begin	EB	WB	Combined	Begin	EB	WB	Combined		
12:00 AM	2	3	4	12:00 PM	14	81	22	90	36
12:15 AM	1	2	3	12:15 PM	24	24	24	48	171
12:30 AM	0	0	0	12:30 PM	24	18	18	42	
12:45 AM	0	0	0	12:45 PM	19	26	26	45	
1:00 AM	0	0	1	1:00 PM	23	93	29	97	52
1:15 AM	0	0	0	1:15 PM	20	16	16	36	190
1:30 AM	0	0	0	1:30 PM	26	23	23	49	
1:45 AM	0	0	0	1:45 PM	24	29	29	53	
2:00 AM	0	2	1	2:00 PM	24	96	29	105	201
2:15 AM	0	0	0	2:15 PM	18	41	23	41	
2:30 AM	0	0	0	2:30 PM	29	34	34	63	
2:45 AM	2	0	2	2:45 PM	25	19	19	44	
3:00 AM	0	2	0	3:00 PM	25	93	31	87	56
3:15 AM	1	1	2	3:15 PM	29	18	18	47	180
3:30 AM	1	0	1	3:30 PM	17	20	20	37	
3:45 AM	0	0	0	3:45 PM	22	18	18	40	
4:00 AM	0	2	0	4:00 PM	22	101	19	78	41
4:15 AM	0	0	0	4:15 PM	26	24	24	50	179
4:30 AM	1	1	2	4:30 PM	25	19	19	44	
4:45 AM	1	1	2	4:45 PM	28	16	16	44	
5:00 AM	3	9	13	5:00 PM	33	105	28	79	61
5:15 AM	3	2	5	5:15 PM	25	16	16	41	184
5:30 AM	0	5	5	5:30 PM	30	14	14	44	
5:45 AM	3	4	7	5:45 PM	17	21	21	38	
6:00 AM	6	26	30	6:00 PM	16	56	20	55	36
6:15 AM	6	9	15	6:15 PM	13	12	12	25	111
6:30 AM	8	7	15	6:30 PM	9	11	11	21	
6:45 AM	6	10	16	6:45 PM	18	11	11	29	
7:00 AM	3	42	45	7:00 PM	19	71	16	60	35
7:15 AM	10	14	24	7:15 PM	21	16	16	37	131
7:30 AM	15	21	36	7:30 PM	14	10	10	24	
7:45 AM	14	28	42	7:45 PM	17	18	18	35	
8:00 AM	18	69	87	8:00 PM	12	50	9	32	21
8:15 AM	20	19	39	8:15 PM	13	15	15	28	82
8:30 AM	13	29	42	8:30 PM	9	6	6	15	
8:45 AM	18	26	44	8:45 PM	16	2	2	18	
9:00 AM	21	79	100	9:00 PM	7	23	10	27	50
9:15 AM	21	20	41	9:15 PM	5	6	6	11	
9:30 AM	12	32	44	9:30 PM	5	5	5	10	
9:45 AM	25	17	42	9:45 PM	6	6	6	12	
10:00 AM	17	80	97	10:00 PM	10	16	6	21	16
10:15 AM	17	26	43	10:15 PM	2	5	5	7	37
10:30 AM	29	16	45	10:30 PM	2	3	3	5	
10:45 AM	17	21	38	10:45 PM	2	7	7	9	
11:00 AM	28	90	118	11:00 PM	3	9	1	3	4
11:15 AM	24	27	51	11:15 PM	2	1	1	3	12
11:30 AM	19	23	42	11:30 PM	3	1	1	4	
11:45 AM	19	23	42	11:45 PM	1	0	0	1	
24 Hour Volume				Combined					
				EB					
				WB					
				Combined					
				1198 (49.2%)					
				1236 (50.8%)					
				2434					

Count		EB	WB	Combined
		404	502	906
Peak Hour		44.6 %	55.4 %	
Volume		10:30 AM	9:30 AM	11:00 AM
Factor		98	105	179
		0.84	0.82	0.88
		12:00 PM - 12:00 AM		
		EB	WB	Combined
		794	734	1528
		52.0 %	48.0 %	
		4:45 PM	1:45 PM	1:45 PM
		116	115	210
		0.88	0.85	0.83

PHA Transportation Consultants
510-848-9233

Description 1: Fairfield
Description 2: Rockville Rd East of Oak Ln
Description 3: 13-11-391

Site:
Date:

7/18/2013
Thursday

24 Hour Volume

	EB	WB	Combined	Begin	EB	WB	Combined
12:00 AM	0	1	2	12:00 PM	28	89	117
12:15 AM	0	0	0	12:15 PM	23	99	122
12:30 AM	1	0	1	12:30 PM	25	24	49
12:45 AM	0	0	0	12:45 PM	24	27	51
1:00 AM	0	2	2	1:00 PM	20	81	101
1:15 AM	0	1	1	1:15 PM	21	75	96
1:30 AM	1	0	1	1:30 PM	14	18	32
1:45 AM	1	0	1	1:45 PM	26	19	45
2:00 AM	1	0	1	2:00 PM	17	22	39
2:15 AM	0	0	0	2:15 PM	18	96	114
2:30 AM	0	1	1	2:30 PM	19	23	42
2:45 AM	0	0	0	2:45 PM	22	33	55
3:00 AM	0	0	0	3:00 PM	25	96	121
3:15 AM	0	0	0	3:15 PM	33	26	59
3:30 AM	0	0	0	3:30 PM	22	24	46
3:45 AM	0	0	0	3:45 PM	16	23	39
4:00 AM	0	2	2	4:00 PM	25	101	126
4:15 AM	1	0	1	4:15 PM	27	89	116
4:30 AM	0	1	1	4:30 PM	14	41	55
4:45 AM	1	0	1	4:45 PM	24	28	52
5:00 AM	2	8	10	5:00 PM	25	20	45
5:15 AM	1	1	2	5:15 PM	24	74	98
5:30 AM	3	5	8	5:30 PM	25	12	37
5:45 AM	2	6	8	5:45 PM	20	14	34
6:00 AM	5	18	23	6:00 PM	15	26	41
6:15 AM	3	4	7	6:15 PM	22	72	94
6:30 AM	6	9	15	6:30 PM	18	15	33
6:45 AM	4	12	16	6:45 PM	17	16	33
7:00 AM	8	52	60	7:00 PM	12	45	57
7:15 AM	15	10	25	7:15 PM	11	10	21
7:30 AM	21	23	44	7:30 PM	7	15	22
7:45 AM	14	15	29	7:45 PM	15	9	24
8:00 AM	19	17	36	8:00 PM	11	37	48
8:15 AM	18	33	51	8:15 PM	7	14	21
8:30 AM	17	27	44	8:30 PM	9	9	18
8:45 AM	12	19	31	8:45 PM	10	9	19
9:00 AM	24	22	46	9:00 PM	10	37	47
9:15 AM	16	29	45	9:15 PM	9	5	14
9:30 AM	22	25	47	9:30 PM	12	6	18
9:45 AM	21	23	44	9:45 PM	6	2	8
10:00 AM	21	23	44	10:00 PM	6	22	28
10:15 AM	13	26	39	10:15 PM	7	4	11
10:30 AM	17	30	47	10:30 PM	5	3	8
10:45 AM	15	19	34	10:45 PM	4	1	5
11:00 AM	14	29	43	11:00 PM	0	3	3
11:15 AM	23	13	36	11:15 PM	0	0	0
11:30 AM	25	30	55	11:30 PM	0	2	2
11:45 AM	23	17	40	11:45 PM	3	1	4
24 Hour Volume				Combined			
				2354			

Count		EB	WB	Combined
		377	493	870
Peak Hour		43.3 %	56.7 %	
Volume		85	104	
Factor		0.85	0.87	
		12:00 AM - 12:00 PM		
		EB	WB	Combined
		756	728	1484
		50.9 %	49.1 %	
		2:45 PM	2:45 PM	
		102	111	
		0.77	0.84	
		12:00 PM - 12:00 AM		
		EB	WB	Combined
		756	728	1484
		50.9 %	49.1 %	
		2:45 PM	2:45 PM	
		102	111	
		0.77	0.84	

PHA Transportation Consultants
510-848-9233

Description 1: Fairfield
Description 2: Rockville Rd East of Oak Ln
Description 3: 13-11-391

Site: 1
Date: 7/19/2013
Friday

24 Hour Volume

Begin	EB	WB	Combined	Begin	EB	WB	Combined
12:00 AM	0	2	1	12:00 PM	27	99	28
12:15 AM	1	0	1	12:15 PM	26	29	55
12:30 AM	1	0	1	12:30 PM	26	23	49
12:45 AM	0	0	0	12:45 PM	20	23	43
1:00 AM	1	2	1	1:00 PM	22	94	36
1:15 AM	1	0	1	1:15 PM	28	14	75
1:30 AM	0	1	1	1:30 PM	16	28	56
1:45 AM	0	2	2	1:45 PM	28	13	29
2:00 AM	0	0	0	2:00 PM	15	55	48
2:15 AM	1	0	1	2:15 PM	13	17	32
2:30 AM	0	0	0	2:30 PM	14	24	37
2:45 AM	1	0	1	2:45 PM	13	23	36
3:00 AM	0	1	0	3:00 PM	24	23	47
3:15 AM	0	1	1	3:15 PM	25	84	181
3:30 AM	1	0	1	3:30 PM	34	14	39
3:45 AM	0	2	2	3:45 PM	34	30	64
4:00 AM	2	6	4	4:00 PM	26	17	31
4:15 AM	1	0	1	4:15 PM	24	93	49
4:30 AM	1	0	1	4:30 PM	18	21	45
4:45 AM	2	0	2	4:45 PM	22	26	41
5:00 AM	0	13	1	5:00 PM	32	83	75
5:15 AM	2	1	3	5:15 PM	18	17	43
5:30 AM	5	5	10	5:30 PM	15	14	29
5:45 AM	6	4	10	5:45 PM	18	19	37
6:00 AM	4	16	11	6:00 PM	20	62	85
6:15 AM	5	4	9	6:15 PM	18	23	43
6:30 AM	5	12	17	6:30 PM	12	18	36
6:45 AM	2	7	9	6:45 PM	12	19	31
7:00 AM	4	47	11	7:00 PM	20	25	37
7:15 AM	13	5	18	7:15 PM	9	20	40
7:30 AM	15	17	32	7:30 PM	12	9	18
7:45 AM	15	27	42	7:45 PM	14	12	24
8:00 AM	18	20	38	8:00 PM	13	13	27
8:15 AM	19	21	40	8:15 PM	7	26	20
8:30 AM	17	28	45	8:30 PM	8	5	13
8:45 AM	14	25	39	8:45 PM	9	5	14
9:00 AM	19	16	35	9:00 PM	13	9	22
9:15 AM	28	16	44	9:15 PM	13	35	26
9:30 AM	19	31	50	9:30 PM	10	13	20
9:45 AM	17	27	44	9:45 PM	7	10	14
10:00 AM	39	25	64	10:00 PM	11	7	12
10:15 AM	22	22	34	10:15 PM	39	25	18
10:30 AM	17	27	44	10:30 PM	10	5	15
10:45 AM	23	30	53	10:45 PM	8	8	16
11:00 AM	20	28	48	11:00 PM	10	5	15
11:15 AM	19	24	43	11:15 PM	3	11	8
11:30 AM	22	27	49	11:30 PM	3	13	4
11:45 AM	22	29	51	11:45 PM	4	2	6
24 Hour Volume	EB	WB	Combined	24 Hour Volume	EB	WB	Combined
	1178	1258	2436		763	1519	2282

Count	EB	WB	Combined
45.3 %	415	502	917
Peak Hour	9:15 AM	10:30 AM	9:15 AM
Volume	103	109	202
Factor	0.66	0.91	0.79
12:00 PM - 12:00 AM	EB	WB	Combined
	763	756	1519
50.2 %	49.8 %		
12:00 PM	12:00 PM		
99	103		
0.92	0.89		

PHA Transportation Consultants
510-848-9233

Description 1: Fairfield
Description 2: Rockville Rd East of Oak Ln
Description 3: 13-11-391

Site: 1
Date: 7/20/2013
Saturday

24 Hour Volume										Saturday
Begin	EB	WB	Combined	Begin	EB	WB	Combined			
12:00 AM	1	5	4	12:00 PM	25	89	22	84	47	
12:15 AM	2	1	3	12:15 PM	17	22	22	39	173	
12:30 AM	2	2	4	12:30 PM	25	24	24	49		
12:45 AM	0	1	1	12:45 PM	22	16	38			
1:00 AM	2	7	3	1:00 PM	25	86	14	77	39	
1:15 AM	1	2	3	1:15 PM	15	22	37		163	
1:30 AM	3	0	3	1:30 PM	24	18	42			
1:45 AM	1	1	2	1:45 PM	22	23	45			
2:00 AM	2	3	0	2:00 PM	23	83	20	56	43	
2:15 AM	0	0	0	2:15 PM	24	13	37		139	
2:30 AM	1	0	1	2:30 PM	22	9	31			
2:45 AM	0	1	1	2:45 PM	14	14	28			
3:00 AM	0	1	0	3:00 PM	24	73	21	70	45	
3:15 AM	0	0	0	3:15 PM	10	20	30		143	
3:30 AM	0	0	0	3:30 PM	20	17	37			
3:45 AM	1	1	2	3:45 PM	19	12	31			
4:00 AM	2	8	3	4:00 PM	12	64	14	77	26	
4:15 AM	2	1	3	4:15 PM	9	25	34		141	
4:30 AM	3	1	4	4:30 PM	20	28	48			
4:45 AM	1	0	1	4:45 PM	23	10	33			
5:00 AM	1	8	1	5:00 PM	16	64	14	48	30	
5:15 AM	4	0	4	5:15 PM	22	18	40		112	
5:30 AM	2	1	3	5:30 PM	15	8	23			
5:45 AM	1	1	2	5:45 PM	11	8	19			
6:00 AM	4	12	5	6:00 PM	15	49	11	64	26	
6:15 AM	1	5	6	6:15 PM	17	21	38		113	
6:30 AM	3	8	11	6:30 PM	8	19	27			
6:45 AM	4	5	9	6:45 PM	9	13	22			
7:00 AM	1	28	2	7:00 PM	18	54	10	45	28	
7:15 AM	4	10	14	7:15 PM	11	15	26		99	
7:30 AM	7	5	12	7:30 PM	6	10	16			
7:45 AM	16	7	23	7:45 PM	19	10	29			
8:00 AM	10	8	18	8:00 PM	12	40	11	31	23	
8:15 AM	13	22	35	8:15 PM	16	10	26		71	
8:30 AM	14	19	33	8:30 PM	7	6	13			
8:45 AM	14	15	29	8:45 PM	5	4	9			
9:00 AM	9	48	32	9:00 PM	5	26	5	28	10	
9:15 AM	15	14	29	9:15 PM	10	3	13		54	
9:30 AM	14	25	39	9:30 PM	4	7	11			
9:45 AM	10	21	31	9:45 PM	7	13	20			
10:00 AM	17	75	38	10:00 PM	6	17	17	17	13	
10:15 AM	15	24	39	10:15 PM	8	2	10		34	
10:30 AM	21	20	41	10:30 PM	2	4	6			
10:45 AM	22	22	44	10:45 PM	1	4	5			
11:00 AM	21	69	47	11:00 PM	4	9	2	10	6	
11:15 AM	17	25	42	11:15 PM	1	4	5		19	
11:30 AM	17	19	36	11:30 PM	1	1	2			
11:45 AM	14	33	47	11:45 PM	3	3	6			
24 Hour Volume				EB	WB	Combined				
				969	1001	1970				
				49.2%	50.8%					

Count
Peak Hour
Volume
Factor

12:00 AM - 12:00 PM

Combined
709

1970

Combined

EB
654

51.9 %
1:30 PM

WB
607

48.1 %
12:00 PM

12:00 PM - 12:00 AM

Combined
1261

PHA Transportation Consultants
510-848-9233

Description 1: Fairfield
Description 2: Rockville Rd East of Oak Ln
Description 3: 13-11-391

Site:
Date:

7/21/2013
Sunday

24 Hour Volume

	EB	WB	Combined	Begin	EB	WB	Combined
12:00 AM	0	4	4	12:00 PM	22	82	104
12:15 AM	2	1	3	12:15 PM	23	74	97
12:30 AM	1	0	1	12:30 PM	19	17	36
12:45 AM	1	0	1	12:45 PM	18	19	37
1:00 AM	2	5	7	1:00 PM	16	69	85
1:15 AM	1	0	1	1:15 PM	21	74	95
1:30 AM	0	0	0	1:30 PM	15	16	31
1:45 AM	2	0	2	1:45 PM	17	22	39
2:00 AM	1	3	4	2:00 PM	15	79	94
2:15 AM	2	0	2	2:15 PM	22	67	89
2:30 AM	0	0	0	2:30 PM	28	14	42
2:45 AM	0	0	0	2:45 PM	14	17	31
3:00 AM	1	1	2	3:00 PM	21	60	81
3:15 AM	0	1	1	3:15 PM	16	34	50
3:30 AM	0	0	0	3:30 PM	18	17	35
3:45 AM	0	0	0	3:45 PM	9	13	22
4:00 AM	2	4	6	4:00 PM	15	80	95
4:15 AM	0	1	1	4:15 PM	23	76	99
4:30 AM	2	0	2	4:30 PM	18	23	41
4:45 AM	0	0	0	4:45 PM	24	15	39
5:00 AM	2	7	9	5:00 PM	12	56	68
5:15 AM	4	0	4	5:15 PM	12	16	28
5:30 AM	1	2	3	5:30 PM	17	13	30
5:45 AM	0	0	0	5:45 PM	15	18	33
6:00 AM	3	9	12	6:00 PM	12	10	22
6:15 AM	2	5	7	6:15 PM	20	44	64
6:30 AM	1	4	5	6:30 PM	7	8	15
6:45 AM	3	2	5	6:45 PM	15	7	22
7:00 AM	3	10	13	7:00 PM	14	38	52
7:15 AM	3	5	8	7:15 PM	10	13	23
7:30 AM	3	2	5	7:30 PM	7	12	19
7:45 AM	1	10	11	7:45 PM	7	8	15
8:00 AM	3	28	31	8:00 PM	5	21	26
8:15 AM	3	7	10	8:15 PM	12	2	14
8:30 AM	11	18	29	8:30 PM	6	6	12
8:45 AM	11	21	32	8:45 PM	5	4	9
9:00 AM	12	40	52	9:00 PM	7	28	35
9:15 AM	12	15	27	9:15 PM	7	8	15
9:30 AM	6	12	18	9:30 PM	9	7	16
9:45 AM	10	31	41	9:45 PM	5	4	9
10:00 AM	13	20	33	10:00 PM	3	18	21
10:15 AM	22	17	39	10:15 PM	8	4	12
10:30 AM	18	24	42	10:30 PM	4	11	15
10:45 AM	13	17	30	10:45 PM	3	1	4
11:00 AM	23	16	39	11:00 PM	0	5	5
11:15 AM	19	18	37	11:15 PM	2	0	2
11:30 AM	20	24	44	11:30 PM	2	0	2
11:45 AM	23	16	39	11:45 PM	1	1	2
24 Hour Volume	EB 863 (49.5%)	WB 880 (50.5%)	Combined 1743				

12:00 AM - 12:00 PM

Count	EB 262	WB 331	Combined 593
Peak Hour	44.2 %	55.8 %	
Volume	11:00 AM 85	9:30 AM 92	11:00 AM 159
Factor	0.92	0.74	0.90

12:00 PM - 12:00 AM

EB 601	WB 549	Combined 1150
52.3 %	47.7 %	
2:15 PM 85	1:15 PM 79	12:00 PM 156
0.76	0.90	0.91

PHA Transportation Consultants
510-848-9233

Description 1: Fairfield
Description 2: Rockville Rd East of Oak Ln
Description 3: 13-11-391

Site:
Date:

1
7/22/2013
Monday

24 Hour Volume									
Begin	EB	WB	Combined	Begin	EB	WB	Combined		
12:00 AM	2	4	0	12:00 PM	23	91	30	98	53
12:15 AM	1	2	2	12:15 PM	28	19	47	189	189
12:30 AM	1	1	2	12:30 PM	26	23	49		
12:45 AM	0	0	0	12:45 PM	14	26	40		
1:00 AM	1	2	1	1:00 PM	21	103	31	93	52
1:15 AM	0	0	0	1:15 PM	23	14	37		196
1:30 AM	1	0	1	1:30 PM	31	23	54		
1:45 AM	0	1	1	1:45 PM	28	25	53		
2:00 AM	0	0	0	2:00 PM	16	81	26	85	42
2:15 AM	0	0	0	2:15 PM	21	42	21		166
2:30 AM	0	1	1	2:30 PM	22	19	41		
2:45 AM	1	0	1	2:45 PM	22	19	41		
3:00 AM	3	3	1	3:00 PM	14	73	17	93	31
3:15 AM	0	1	1	3:15 PM	21	18	39		166
3:30 AM	0	0	0	3:30 PM	17	32	49		
3:45 AM	0	0	0	3:45 PM	21	26	47		
4:00 AM	0	3	5	4:00 PM	19	79	22	76	41
4:15 AM	0	2	2	4:15 PM	10	24	24		155
4:30 AM	0	0	0	4:30 PM	30	26	56		
4:45 AM	3	2	5	4:45 PM	20	14	34		
5:00 AM	3	9	13	5:00 PM	31	78	26	70	57
5:15 AM	4	4	8	5:15 PM	16	15	31		148
5:30 AM	1	4	5	5:30 PM	21	15	36		
5:45 AM	1	4	5	5:45 PM	10	14	24		
6:00 AM	3	16	10	6:00 PM	21	79	16	50	37
6:15 AM	4	2	6	6:15 PM	24	10	34		129
6:30 AM	4	9	13	6:30 PM	13	14	27		
6:45 AM	5	7	12	6:45 PM	21	10	31		
7:00 AM	10	50	17	7:00 PM	12	42	6	33	18
7:15 AM	8	20	28	7:15 PM	10	7	17		75
7:30 AM	9	17	26	7:30 PM	6	11	17		
7:45 AM	23	23	46	7:45 PM	14	9	23		
8:00 AM	15	58	41	8:00 PM	12	46	10	39	22
8:15 AM	17	29	46	8:15 PM	12	9	21		85
8:30 AM	14	27	41	8:30 PM	12	8	20		
8:45 AM	12	25	37	8:45 PM	10	12	22		
9:00 AM	8	53	39	9:00 PM	5	23	6	18	41
9:15 AM	17	21	38	9:15 PM	9	8	17		
9:30 AM	11	19	30	9:30 PM	9	3	12		
9:45 AM	17	21	38	9:45 PM	0	1	1		
10:00 AM	18	18	36	10:00 PM	2	4	1	4	3
10:15 AM	9	21	30	10:15 PM	0	2	2		8
10:30 AM	11	28	39	10:30 PM	2	1	3		
10:45 AM	20	24	44	10:45 PM	0	0	0		
11:00 AM	14	62	38	11:00 PM	1	5	1	4	2
11:15 AM	12	22	34	11:15 PM	2	1	2		9
11:30 AM	18	19	37	11:30 PM	2	2	4		
11:45 AM	18	27	45	11:45 PM	0	0	0		
24 Hour Volume				Combined				2184	
				WB				1161 (53.2%)	
				EB				1023 (46.8%)	

PHA Transportation Consultants
510-848-9233

Description 1: Fairfield
Description 2: Rockville Rd East of Oak Ln
Description 3: 13-11-391

Site:
Date:

1
7/23/2013
Tuesday

24 Hour Volume

Begin	EB	WB	Combined	Begin	EB	WB	Combined
12:00 AM	1	1	2	12:00 PM	23	80	103
12:15 AM	0	1	1	12:15 PM	24	17	41
12:30 AM	0	1	1	12:30 PM	17	27	44
12:45 AM	0	0	0	12:45 PM	16	22	38
1:00 AM	1	2	3	1:00 PM	18	78	96
1:15 AM	1	0	1	1:15 PM	20	14	34
1:30 AM	0	0	0	1:30 PM	20	25	45
1:45 AM	0	1	1	1:45 PM	20	25	45
2:00 AM	0	0	0	2:00 PM	14	71	85
2:15 AM	0	0	0	2:15 PM	15	39	54
2:30 AM	2	0	2	2:30 PM	20	27	47
2:45 AM	0	0	0	2:45 PM	22	25	47
3:00 AM	1	3	4	3:00 PM	19	84	103
3:15 AM	1	0	1	3:15 PM	23	21	44
3:30 AM	1	1	2	3:30 PM	22	24	46
3:45 AM	0	1	1	3:45 PM	20	33	53
4:00 AM	0	0	0	4:00 PM	8	68	76
4:15 AM	0	1	1	4:15 PM	21	20	41
4:30 AM	0	0	0	4:30 PM	16	23	39
4:45 AM	0	0	0	4:45 PM	23	11	34
5:00 AM	3	18	21	5:00 PM	38	93	131
5:15 AM	2	1	3	5:15 PM	18	20	38
5:30 AM	6	5	11	5:30 PM	17	16	33
5:45 AM	7	1	8	5:45 PM	20	24	44
6:00 AM	3	15	18	6:00 PM	17	68	85
6:15 AM	5	5	10	6:15 PM	24	12	36
6:30 AM	2	11	13	6:30 PM	14	19	33
6:45 AM	5	7	12	6:45 PM	13	10	23
7:00 AM	7	55	62	7:00 PM	14	57	71
7:15 AM	16	8	24	7:15 PM	18	21	39
7:30 AM	13	18	31	7:30 PM	9	7	16
7:45 AM	19	20	39	7:45 PM	14	10	24
8:00 AM	11	55	66	8:00 PM	6	48	54
8:15 AM	18	22	40	8:15 PM	14	7	21
8:30 AM	13	37	50	8:30 PM	13	14	27
8:45 AM	13	28	41	8:45 PM	15	12	27
9:00 AM	25	17	42	9:00 PM	12	6	18
9:15 AM	16	21	37	9:15 PM	10	26	36
9:30 AM	20	25	45	9:30 PM	6	4	10
9:45 AM	19	26	45	9:45 PM	10	7	17
10:00 AM	19	15	34	10:00 PM	11	5	16
10:15 AM	11	25	36	10:15 PM	6	13	19
10:30 AM	18	18	36	10:30 PM	3	2	5
10:45 AM	21	31	52	10:45 PM	2	2	4
11:00 AM	18	93	111	11:00 PM	4	9	13
11:15 AM	34	22	56	11:15 PM	2	5	7
11:30 AM	25	23	48	11:30 PM	2	1	3
11:45 AM	16	22	38	11:45 PM	1	0	1
24 Hour Volume	EB	WB	Combined	24 Hour Volume	EB	WB	Combined
	1106	1106	2212		713	727	1440

Count
Peak Hour
Volume
Factor

EB
393
45.0 %
10:45 AM
98
0.72

WB
481
55.0 %
8:00 AM
109
0.74

Combined
874
10:45 AM
193
0.86

EB
713
49.5 %
4:15 PM
98
0.64

WB
727
50.5 %
2:15 PM
112
0.72

Combined
1440
2:15 PM
188
0.87

Description 1: Fairfield
 Description 2: Rockville Rd East of Oak Ln
 Description 3: 13-11-391

PHA Transportation Consultants
 510-848-9233

Site:
 Date:

1
 7/17/2013
 Wednesday

24 Hour Vehicle Classification
 Combined Channels

Time	Total	Bike	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi
12:00 AM	7	0	3	1	0	3	0	0	0	0	0	0	0	0
1:00 AM	1	0	1	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	3	0	0	2	0	1	0	0	0	0	0	0	0	0
3:00 AM	3	0	0	1	0	1	0	0	0	0	0	0	0	0
4:00 AM	4	0	3	0	0	1	0	0	0	0	0	0	0	0
5:00 AM	22	0	11	5	0	6	0	0	0	0	0	0	0	0
6:00 AM	56	0	24	9	1	17	1	0	4	0	0	0	0	0
7:00 AM	116	0	66	13	2	32	0	0	3	0	0	0	0	0
8:00 AM	168	0	92	15	4	51	0	0	6	0	0	0	0	0
9:00 AM	174	1	81	24	2	64	1	0	1	0	0	0	0	0
10:00 AM	173	1	79	25	1	64	1	0	2	0	0	0	0	0
11:00 AM	179	0	81	18	3	73	1	0	3	0	0	0	0	0
12:00 PM	171	0	82	22	3	63	0	0	1	0	0	0	0	0
1:00 PM	190	0	78	33	4	73	1	0	1	0	0	0	0	0
2:00 PM	201	1	94	26	2	77	0	0	1	0	0	0	0	0
3:00 PM	180	0	75	25	3	74	0	0	3	0	0	0	0	0
4:00 PM	179	0	67	29	2	78	0	0	3	0	0	0	0	0
5:00 PM	184	0	73	18	0	91	0	0	2	0	0	0	0	0
6:00 PM	111	0	51	10	0	49	0	0	1	0	0	0	0	0
7:00 PM	131	0	54	11	4	62	0	0	0	0	0	0	0	0
8:00 PM	82	0	28	9	0	45	0	0	0	0	0	0	0	0
9:00 PM	50	0	26	4	0	20	0	0	0	0	0	0	0	0
10:00 PM	37	0	21	2	0	14	0	0	0	0	0	0	0	0
11:00 PM	12	0	4	2	0	6	0	0	0	0	0	0	0	0
Total	2434	3	1095	304	31	965	5	0	31	0	0	0	0	0
%		0.1	45.0	12.5	1.3	39.6	0.2	0.0	1.3	0.0	0.0	0.0	0.0	0.0

Description 1: Fairfield
 Description 2: Rockville Rd East of Oak Ln
 Description 3: 13-11-391

PHA Transportation Consultants
 510-848-9233

Site:
 Date:

1
 7/18/2013
 Thursday

24 Hour Vehicle Classification
 Combined Channels

Time	Total	Bike	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi
12:00 AM	3	0	2	0	0	1	0	0	0	0	0	0	0	0
1:00 AM	4	0	2	0	0	2	0	0	0	0	0	0	0	0
2:00 AM	2	0	1	0	0	1	0	0	0	0	0	0	0	0
3:00 AM	1	0	1	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	3	0	1	0	0	2	0	0	0	0	0	0	0	0
5:00 AM	21	0	11	5	0	4	1	0	0	0	0	0	0	0
6:00 AM	49	0	25	8	3	11	0	0	2	0	0	0	0	0
7:00 AM	120	0	66	10	3	39	0	0	2	0	0	0	0	0
8:00 AM	160	0	87	12	4	54	0	0	3	0	0	0	0	0
9:00 AM	169	0	81	21	4	58	0	0	5	0	0	0	0	0
10:00 AM	164	0	90	15	1	56	2	0	0	0	0	0	0	0
11:00 AM	174	0	71	29	3	68	0	0	3	0	0	0	0	0
12:00 PM	188	0	92	13	1	81	0	0	1	0	0	0	0	0
1:00 PM	156	0	63	28	0	64	0	0	1	0	0	0	0	0
2:00 PM	181	0	82	25	1	70	0	0	3	0	0	0	0	0
3:00 PM	197	0	83	32	2	79	0	0	1	0	0	0	0	0
4:00 PM	190	0	85	26	1	78	0	0	1	0	0	0	0	0
5:00 PM	158	0	60	25	2	70	0	0	1	0	0	0	0	0
6:00 PM	148	0	59	17	0	72	0	0	0	0	0	0	0	0
7:00 PM	96	0	44	12	1	39	0	0	0	0	0	0	0	0
8:00 PM	74	0	35	4	3	31	0	0	1	0	0	0	0	0
9:00 PM	54	1	17	4	0	31	0	0	1	0	0	0	0	0
10:00 PM	32	0	10	2	0	20	0	0	0	0	0	0	0	0
11:00 PM	10	0	7	1	0	2	0	0	0	0	0	0	0	0
Total	2354	1	1075	289	29	933	3	0	24	0	0	0	0	0
%		0.0	45.7	12.3	1.2	39.6	0.1	0.0	1.0	0.0	0.0	0.0	0.0	0.0

PHA Transportation Consultants
510-848-9233

Description 1: Fairfield
Description 2: Rockville Rd East of Oak Ln
Description 3: 13-11-391

Site:
Date:

1
7/19/2013
Friday

24 Hour Vehicle Classification
Combined Channels

Time	Total	Bike	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi
12:00 AM	3	0	1	0	0	2	0	0	0	0	0	0	0	0
1:00 AM	5	0	2	2	0	1	0	0	0	0	0	0	0	0
2:00 AM	3	0	0	0	0	3	0	0	0	0	0	0	0	0
3:00 AM	4	0	3	0	0	1	0	0	0	0	0	0	0	0
4:00 AM	8	0	2	1	1	4	0	0	0	0	0	0	0	0
5:00 AM	24	0	6	10	0	7	1	0	0	0	0	0	0	0
6:00 AM	46	0	21	10	1	10	1	0	0	0	0	0	0	0
7:00 AM	103	0	48	11	1	40	0	0	3	0	0	0	0	0
8:00 AM	162	0	88	18	4	49	0	0	2	1	0	0	0	0
9:00 AM	173	0	78	24	5	61	1	0	2	1	0	0	0	0
10:00 AM	195	0	91	27	1	73	1	0	3	1	0	0	0	0
11:00 AM	191	1	90	29	1	70	0	0	2	0	0	0	0	0
12:00 PM	202	0	80	43	4	74	0	0	0	0	0	0	0	0
1:00 PM	169	0	61	36	3	69	0	0	1	0	0	0	0	0
2:00 PM	141	0	76	17	1	43	0	0	1	0	0	0	0	0
3:00 PM	181	0	72	26	1	80	0	0	2	3	0	0	0	0
4:00 PM	183	0	86	18	4	75	0	0	0	0	0	0	0	0
5:00 PM	158	0	69	20	1	68	0	0	0	0	0	0	0	0
6:00 PM	147	0	76	16	2	52	0	0	1	0	0	0	0	0
7:00 PM	109	0	51	8	1	49	0	0	0	0	0	0	0	0
8:00 PM	69	0	26	7	0	36	0	0	0	0	0	0	0	0
9:00 PM	72	0	34	10	0	28	0	0	0	0	0	0	0	0
10:00 PM	64	0	24	7	0	33	0	0	0	0	0	0	0	0
11:00 PM	24	0	13	2	0	9	0	0	0	0	0	0	0	0
Total	2436	1	1098	342	31	937	4	0	17	6	0	0	0	0
%		0.0	45.1	14.0	1.3	38.5	0.2	0.0	0.7	0.2	0.0	0.0	0.0	0.0

PHA Transportation Consultants
510-848-9233

Description 1: Fairfield
Description 2: Rockville Rd East of Oak Ln
Description 3: 13-11-391

Site:
Date:

1
7/20/2013
Saturday

24 Hour Vehicle Classification
Combined Channels

Time	Total	Bike	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi
12:00 AM	9	0	4	1	0	4	0	0	0	0	0	0	0	0
1:00 AM	11	0	4	1	0	6	0	0	0	0	0	0	0	0
2:00 AM	4	0	1	0	0	3	0	0	0	0	0	0	0	0
3:00 AM	2	0	0	1	0	1	0	0	0	0	0	0	0	0
4:00 AM	11	0	5	3	0	3	0	0	0	0	0	0	0	0
5:00 AM	10	0	1	2	0	5	0	0	2	0	0	0	0	0
6:00 AM	31	0	18	2	0	11	0	0	0	0	0	0	0	0
7:00 AM	51	0	22	7	0	20	0	0	1	1	0	0	0	0
8:00 AM	115	1	61	14	3	34	0	0	2	0	0	0	0	0
9:00 AM	131	0	74	23	1	33	0	0	0	0	0	0	0	0
10:00 AM	162	0	74	20	3	61	0	0	3	0	0	1	0	0
11:00 AM	172	0	97	21	1	53	0	0	0	0	0	0	0	0
12:00 PM	173	0	75	26	1	70	0	0	1	0	0	0	0	0
1:00 PM	163	0	62	30	2	69	0	0	0	0	0	0	0	0
2:00 PM	139	0	49	30	0	59	0	0	1	0	0	0	0	0
3:00 PM	143	1	61	16	0	65	0	0	0	0	0	0	0	0
4:00 PM	141	1	67	14	0	57	0	0	2	0	0	0	0	0
5:00 PM	112	0	43	15	1	52	0	0	1	0	0	0	0	0
6:00 PM	113	0	62	5	0	46	0	0	0	0	0	0	0	0
7:00 PM	99	1	40	14	0	42	0	0	2	0	0	0	0	0
8:00 PM	71	0	32	7	0	29	0	0	3	0	0	0	0	0
9:00 PM	54	0	25	9	0	20	0	0	0	0	0	0	0	0
10:00 PM	34	0	17	3	1	13	0	0	0	0	0	0	0	0
11:00 PM	19	0	9	3	0	7	0	0	0	0	0	0	0	0
Total	1970	4	903	267	13	763	0	0	18	1	0	1	0	0
%		0.2	45.8	13.6	0.7	38.7	0.0	0.0	0.9	0.1	0.0	0.1	0.0	0.0

Description 1: Fairfield
Description 2: Rockville Rd East of Oak Ln
Description 3: 13-11-391

PHA Transportation Consultants
510-848-9233

Site:
Date:

1
7/21/2013
Sunday

24 Hour Vehicle Classification
Combined Channels

Time	Total	Bike	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi
12:00 AM	8	0	4	1	0	3	0	0	0	0	0	0	0	0
1:00 AM	8	0	3	2	0	3	0	0	0	0	0	0	0	0
2:00 AM	3	0	0	0	0	3	0	0	0	0	0	0	0	0
3:00 AM	2	0	1	0	1	0	0	0	0	0	0	0	0	0
4:00 AM	5	0	1	2	0	2	0	0	0	0	0	0	0	0
5:00 AM	9	0	1	2	1	4	1	0	0	0	0	0	0	0
6:00 AM	23	0	13	3	0	7	0	0	0	0	0	0	0	0
7:00 AM	33	1	20	6	0	6	0	0	0	0	0	0	0	0
8:00 AM	80	0	48	9	1	22	0	0	0	0	0	0	0	0
9:00 AM	118	0	72	10	0	36	0	0	0	0	0	0	0	0
10:00 AM	145	0	70	26	1	45	0	0	3	0	0	0	0	0
11:00 AM	159	1	68	19	1	70	0	0	0	0	0	0	0	0
12:00 PM	156	1	67	17	2	68	0	0	1	0	0	0	0	0
1:00 PM	143	0	66	21	0	55	0	0	1	0	0	0	0	0
2:00 PM	146	0	61	19	1	64	0	0	1	0	0	0	0	0
3:00 PM	124	0	55	19	1	48	0	0	1	0	0	0	0	0
4:00 PM	156	0	73	19	1	63	0	0	0	0	0	0	0	0
5:00 PM	113	0	50	16	1	46	0	0	0	0	0	0	0	0
6:00 PM	98	0	39	11	2	46	0	0	0	0	0	0	0	0
7:00 PM	80	0	40	9	1	30	0	0	0	0	0	0	0	0
8:00 PM	49	1	19	11	0	18	0	0	0	0	0	0	0	0
9:00 PM	50	0	20	5	0	25	0	0	0	0	0	0	0	0
10:00 PM	29	0	10	6	0	13	0	0	0	0	0	0	0	0
11:00 PM	6	0	1	1	0	4	0	0	0	0	0	0	0	0
Total	1743	4	802	234	14	681	1	0	7	0	0	0	0	0
%		0.2	46.0	13.4	0.8	39.1	0.1	0.0	0.4	0.0	0.0	0.0	0.0	0.0

PHA Transportation Consultants
510-848-9233

Description 1: Fairfield
Description 2: Rockville Rd East of Oak Ln
Description 3: 13-11-391

Site: 1
Date: 7/22/2013
Monday

24 Hour Vehicle Classification
Combined Channels

Time	Total	Bike	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi
12:00 AM	7	0	2	2	0	3	0	0	0	0	0	0	0	0
1:00 AM	3	0	1	0	0	2	0	0	0	0	0	0	0	0
2:00 AM	2	0	1	1	0	0	0	0	0	0	0	0	0	0
3:00 AM	4	0	1	1	0	2	0	0	0	0	0	0	0	0
4:00 AM	8	0	4	2	0	2	0	0	0	0	0	0	0	0
5:00 AM	22	0	11	3	0	8	0	0	0	0	0	0	0	0
6:00 AM	41	0	23	6	1	11	0	0	0	0	0	0	0	0
7:00 AM	117	0	57	12	2	44	1	0	1	0	0	0	0	0
8:00 AM	165	0	97	16	2	48	0	0	1	1	0	0	0	0
9:00 AM	145	1	81	18	3	40	0	0	1	1	0	0	0	0
10:00 AM	149	0	78	21	1	45	2	0	2	0	0	0	0	0
11:00 AM	154	0	76	24	1	53	0	0	0	0	0	0	0	0
12:00 PM	189	0	85	20	3	79	1	0	0	0	0	0	0	0
1:00 PM	196	0	83	20	4	82	2	0	1	0	0	0	0	0
2:00 PM	166	0	68	25	3	66	0	0	2	1	0	0	0	0
3:00 PM	166	0	81	25	3	57	0	0	0	0	0	0	0	0
4:00 PM	155	0	66	17	0	70	0	0	0	2	0	0	0	0
5:00 PM	148	0	61	13	1	73	0	0	0	0	0	0	0	0
6:00 PM	129	0	43	18	3	65	0	0	0	0	0	0	0	0
7:00 PM	75	0	31	8	0	34	0	0	2	0	0	0	0	0
8:00 PM	85	0	35	10	0	40	0	0	0	0	0	0	0	0
9:00 PM	41	0	16	4	0	21	0	0	0	0	0	0	0	0
10:00 PM	8	0	3	1	0	4	0	0	0	0	0	0	0	0
11:00 PM	9	0	4	1	0	4	0	0	0	0	0	0	0	0
Total	2184	1	1008	269	27	853	6	0	15	5	0	0	0	0
%		0.0	46.2	12.3	1.2	39.1	0.3	0.0	0.7	0.2	0.0	0.0	0.0	0.0

PHA Transportation Consultants
510-848-9233

Description 1: Fairfield
Description 2: Rockville Rd East of Oak Ln
Description 3: 13-11-391

Site:
Date:

1
7/23/2013
Tuesday

24 Hour Vehicle Classification
Combined Channels

Time	Total	Bike	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi
12:00 AM	4	0	3	0	0	1	0	0	0	0	0	0	0	0
1:00 AM	3	0	1	0	0	2	0	0	0	0	0	0	0	0
2:00 AM	2	0	0	1	0	1	0	0	0	0	0	0	0	0
3:00 AM	5	0	2	1	0	2	0	0	0	0	0	0	0	0
4:00 AM	2	0	2	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	26	0	7	6	0	13	0	0	0	0	0	0	0	0
6:00 AM	46	0	26	8	0	12	0	0	0	0	0	0	0	0
7:00 AM	116	0	53	11	1	50	0	0	1	0	0	0	0	0
8:00 AM	164	0	96	16	2	49	0	0	1	0	0	0	0	0
9:00 AM	169	0	74	19	3	69	0	0	2	0	0	0	0	0
10:00 AM	158	0	83	13	1	60	0	0	1	0	0	0	0	0
11:00 AM	179	0	74	25	2	78	0	0	2	0	0	0	0	0
12:00 PM	167	0	78	25	2	58	0	0	4	0	0	0	0	0
1:00 PM	161	0	75	22	3	60	0	0	0	1	0	0	0	0
2:00 PM	179	0	96	22	1	57	0	0	3	0	0	0	0	0
3:00 PM	183	1	79	31	1	71	0	0	0	0	0	0	0	0
4:00 PM	149	0	71	16	1	60	0	0	0	0	0	0	0	0
5:00 PM	175	2	71	18	1	83	0	0	1	0	0	0	0	0
6:00 PM	125	0	49	15	0	61	0	0	0	0	0	0	0	0
7:00 PM	104	0	44	9	1	50	0	0	0	0	0	0	0	0
8:00 PM	87	1	32	9	3	42	0	0	0	0	0	0	0	0
9:00 PM	61	0	24	8	1	28	0	0	0	0	0	0	0	0
10:00 PM	35	0	10	8	0	17	0	0	0	0	0	0	0	0
11:00 PM	14	0	4	2	0	8	0	0	0	0	0	0	0	0
Total	2314	4	1054	285	21	932	0	0	15	3	0	0	0	0
%		0.2	45.5	12.3	0.9	40.3	0.0	0.0	0.6	0.1	0.0	0.0	0.0	0.0

PHA Transportation Consultants
510-848-9233

Description 1: Fairfield
Description 2: Rockville Rd West of Rockville Height (Near by Bay area Ridge Trail)
Description 3: 13-11-391

Site:
Date:

2
7/17/2013
Wednesday

24 Hour Volume

Begin	EB	WB	Combined	Begin	EB	WB	Combined
12:00 AM	2	3	4	12:00 PM	15	84	90
12:15 AM	1	2	3	12:15 PM	24	24	37
12:30 AM	0	0	0	12:30 PM	25	18	48
12:45 AM	0	0	0	12:45 PM	20	26	43
1:00 AM	0	0	0	1:00 PM	24	29	46
1:15 AM	0	0	0	1:15 PM	20	16	33
1:30 AM	0	0	0	1:30 PM	26	23	36
1:45 AM	0	0	0	1:45 PM	24	29	49
2:00 AM	0	2	1	2:00 PM	24	29	53
2:15 AM	0	0	0	2:15 PM	18	23	53
2:30 AM	0	0	0	2:30 PM	30	34	64
2:45 AM	2	0	2	2:45 PM	27	19	46
3:00 AM	0	3	0	3:00 PM	25	31	56
3:15 AM	2	0	1	3:15 PM	30	18	48
3:30 AM	1	0	1	3:30 PM	17	20	37
3:45 AM	0	0	0	3:45 PM	23	18	41
4:00 AM	0	3	0	4:00 PM	23	19	42
4:15 AM	0	0	0	4:15 PM	27	24	51
4:30 AM	1	1	2	4:30 PM	27	20	47
4:45 AM	2	1	3	4:45 PM	29	16	45
5:00 AM	3	12	5	5:00 PM	35	28	63
5:15 AM	6	2	8	5:15 PM	25	16	41
5:30 AM	0	5	5	5:30 PM	32	14	46
5:45 AM	3	4	7	5:45 PM	19	21	40
6:00 AM	6	26	30	6:00 PM	16	20	36
6:15 AM	6	4	10	6:15 PM	14	12	26
6:30 AM	8	9	15	6:30 PM	11	12	23
6:45 AM	6	10	16	6:45 PM	22	11	33
7:00 AM	3	45	14	7:00 PM	20	16	36
7:15 AM	10	14	24	7:15 PM	23	16	39
7:30 AM	17	21	38	7:30 PM	14	10	24
7:45 AM	15	28	43	7:45 PM	19	18	37
8:00 AM	18	73	43	8:00 PM	13	9	22
8:15 AM	23	25	41	8:15 PM	15	15	30
8:30 AM	14	29	43	8:30 PM	10	6	16
8:45 AM	18	26	44	8:45 PM	17	2	19
9:00 AM	22	81	48	9:00 PM	8	10	18
9:15 AM	22	20	42	9:15 PM	7	6	13
9:30 AM	12	32	44	9:30 PM	5	5	10
9:45 AM	25	17	42	9:45 PM	7	6	13
10:00 AM	17	80	47	10:00 PM	11	6	17
10:15 AM	17	26	43	10:15 PM	2	5	7
10:30 AM	29	16	45	10:30 PM	2	3	5
10:45 AM	17	21	38	10:45 PM	2	7	9
11:00 AM	28	93	44	11:00 PM	3	1	4
11:15 AM	24	16	51	11:15 PM	2	1	3
11:30 AM	21	22	43	11:30 PM	3	1	4
11:45 AM	20	23	43	11:45 PM	4	0	4
24 Hour Volume	EB	WB	Combined	24 Hour Volume	EB	WB	Combined
	1260	1235 (49.5%)	2495		2495		

Count
Peak Hour
Volume
Factor

EB
421
45.7 %
10:30 AM
98
0.84

WB
500
54.3 %
9:30 AM
105
0.82

Combined
921
11:00 AM
181
0.89

EB
839
53.3 %
4:45 PM
121
0.86

WB
735
46.7 %
1:45 PM
115
0.85

Combined
1574
2:30 PM
214
0.84

PHA Transportation Consultants
510-848-9233

Description 1: Fairfield
Description 2: Rockville Rd West of Rockville Height (Near by Bay area Ridge Trail)
Description 3: 13-11-391

Site:
Date:

2
7/18/2013
Thursday

24 Hour Volume										Thursday
Begin	EB	WB	Combined	Begin	EB	WB	Combined			
12:00 AM	0	1	2	12:00 PM	29	90	23	99	52	
12:15 AM	0	0	0	12:15 PM	25	24	24	49	189	
12:30 AM	1	0	1	12:30 PM	24	27	27	51		
12:45 AM	0	0	0	12:45 PM	12	25	25	37		
1:00 AM	0	3	1	1:00 PM	22	87	18	75	40	
1:15 AM	0	1	1	1:15 PM	21	20	20	41	162	
1:30 AM	2	0	2	1:30 PM	18	18	18	36		
1:45 AM	1	0	1	1:45 PM	26	19	19	45		
2:00 AM	1	1	1	2:00 PM	17	86	22	96	182	
2:15 AM	0	0	0	2:15 PM	27	18	22	39	45	
2:30 AM	0	1	1	2:30 PM	20	23	23	43		
2:45 AM	0	0	0	2:45 PM	22	33	33	55		
3:00 AM	0	0	1	3:00 PM	25	99	28	101	200	
3:15 AM	0	0	0	3:15 PM	35	26	26	61		
3:30 AM	0	0	0	3:30 PM	23	24	24	47		
3:45 AM	0	0	0	3:45 PM	16	23	23	39		
4:00 AM	0	3	1	4:00 PM	25	104	27	89	193	
4:15 AM	1	0	1	4:15 PM	28	14	14	42		
4:30 AM	0	1	1	4:30 PM	26	28	28	54		
4:45 AM	2	0	2	4:45 PM	25	20	20	45		
5:00 AM	2	10	13	5:00 PM	25	91	22	74	165	
5:15 AM	2	1	3	5:15 PM	26	12	12	38		
5:30 AM	3	5	8	5:30 PM	24	14	14	38		
5:45 AM	3	6	9	5:45 PM	16	26	26	42		
6:00 AM	5	19	31	6:00 PM	24	78	22	72	150	
6:15 AM	3	4	7	6:15 PM	18	15	15	33		
6:30 AM	7	9	16	6:30 PM	18	19	19	37		
6:45 AM	4	12	16	6:45 PM	18	16	16	34		
7:00 AM	9	53	68	7:00 PM	12	52	10	51	103	
7:15 AM	8	14	23	7:15 PM	12	15	15	27		
7:30 AM	16	21	37	7:30 PM	10	9	9	19		
7:45 AM	20	23	43	7:45 PM	18	17	17	35		
8:00 AM	14	15	29	8:00 PM	11	38	5	37	75	
8:15 AM	19	17	36	8:15 PM	8	14	14	22		
8:30 AM	18	33	51	8:30 PM	9	9	9	18		
8:45 AM	17	27	44	8:45 PM	10	9	9	19		
9:00 AM	12	76	95	9:00 PM	11	40	5	17	57	
9:15 AM	24	22	46	9:15 PM	9	6	6	15		
9:30 AM	17	29	46	9:30 PM	13	4	4	17		
9:45 AM	23	25	48	9:45 PM	7	2	2	9		
10:00 AM	22	68	98	10:00 PM	8	25	4	10	35	
10:15 AM	13	26	39	10:15 PM	8	3	3	11		
10:30 AM	18	30	48	10:30 PM	5	2	2	7		
10:45 AM	15	19	34	10:45 PM	4	1	1	5		
11:00 AM	14	86	89	11:00 PM	0	3	4	7	10	
11:15 AM	23	13	36	11:15 PM	0	0	0	0		
11:30 AM	25	30	55	11:30 PM	0	2	2	2		
11:45 AM	24	17	41	11:45 PM	3	1	1	4		
24 Hour Volume				Combined				2402		
				EB				WB		
				1181 (49.2%)				1221 (50.8%)		

Site: 2
Date: 7/19/2013
Friday

[illegible]

PHA Transportation Consultants
510-848-9233

Description 1: Fairfield
Description 2: Rockville Rd West of Rockville Height (Near by Bay area Ridge Trail)
Description 3: 13-11-391

Site:
Date:

7/20/2013
Saturday

24 Hour Volume										Saturday
Begin	EB	WB	Combined	Begin	EB	WB	Combined			
12:00 AM	1	6	0	12:00 PM	25	92	22	84	47	
12:15 AM	2	1	3	12:15 PM	18	22	40		176	
12:30 AM	2	2	4	12:30 PM	27	24	51			
12:45 AM	1	1	2	12:45 PM	22	16	38			
1:00 AM	2	8	3	1:00 PM	27	91	14	77	41	
1:15 AM	1	2	3	1:15 PM	16	22	38		168	
1:30 AM	3	0	3	1:30 PM	25	18	43			
1:45 AM	2	1	3	1:45 PM	23	23	46			
2:00 AM	2	0	2	2:00 PM	23	85	20	56	43	
2:15 AM	0	0	0	2:15 PM	24	13	37		141	
2:30 AM	1	0	1	2:30 PM	23	9	32			
2:45 AM	1	1	2	2:45 PM	15	14	29			
3:00 AM	0	2	0	3:00 PM	24	74	21	70	45	
3:15 AM	0	0	0	3:15 PM	10	20	30		144	
3:30 AM	0	0	0	3:30 PM	21	17	38			
3:45 AM	2	1	3	3:45 PM	19	12	31			
4:00 AM	2	8	3	4:00 PM	13	69	14	77	27	
4:15 AM	2	1	3	4:15 PM	11	25	36		146	
4:30 AM	3	1	4	4:30 PM	20	28	48			
4:45 AM	1	0	1	4:45 PM	25	10	35			
5:00 AM	1	9	1	5:00 PM	17	69	14	48	31	
5:15 AM	4	0	4	5:15 PM	24	18	42		117	
5:30 AM	2	1	3	5:30 PM	16	8	24			
5:45 AM	2	1	3	5:45 PM	12	8	20			
6:00 AM	4	13	5	6:00 PM	15	51	11	64	26	
6:15 AM	2	5	7	6:15 PM	19	21	40		115	
6:30 AM	3	8	11	6:30 PM	8	19	27			
6:45 AM	4	5	9	6:45 PM	9	13	22			
7:00 AM	2	30	3	7:00 PM	18	58	10	45	28	
7:15 AM	5	10	15	7:15 PM	13	15	28		103	
7:30 AM	7	5	12	7:30 PM	7	10	17			
7:45 AM	16	8	24	7:45 PM	20	10	30			
8:00 AM	11	55	19	8:00 PM	12	41	11	31	23	
8:15 AM	14	22	36	8:15 PM	17	10	27		72	
8:30 AM	14	19	33	8:30 PM	7	6	13			
8:45 AM	16	15	31	8:45 PM	5	4	9			
9:00 AM	9	51	32	9:00 PM	5	29	5	28	10	
9:15 AM	16	14	30	9:15 PM	10	3	13		57	
9:30 AM	15	25	40	9:30 PM	4	7	11			
9:45 AM	11	21	32	9:45 PM	10	13	23			
10:00 AM	17	77	38	10:00 PM	6	20	7	17	13	
10:15 AM	16	24	40	10:15 PM	9	2	11		37	
10:30 AM	22	20	42	10:30 PM	4	4	8			
10:45 AM	22	22	44	10:45 PM	1	4	5			
11:00 AM	21	74	47	11:00 PM	5	13	2	10	7	
11:15 AM	20	25	45	11:15 PM	1	4	5		23	
11:30 AM	19	19	38	11:30 PM	3	1	4			
11:45 AM	14	33	47	11:45 PM	4	3	7			
24 Hour Volume				EB				WB		
				1029 (50.7%)				1002 (49.3%)		
				Combined				2031		

PHA Transportation Consultants
510-848-9233

Description 1: Fairfield
Description 2: Rockville Rd West of Rockville Height (Near by Bay area Ridge Trail)
Description 3: 13-11-391

Site:
Date:

7/21/2013
Sunday

24 Hour Volume

	EB	WB	Combined	Begin	EB	WB	Combined
12:00 AM	0	4	4	12:00 PM	22	85	107
12:15 AM	2	1	3	12:15 PM	23	20	43
12:30 AM	1	1	2	12:30 PM	20	17	37
12:45 AM	1	0	1	12:45 PM	20	19	39
1:00 AM	2	5	7	1:00 PM	16	71	87
1:15 AM	1	0	1	1:15 PM	21	22	43
1:30 AM	0	0	0	1:30 PM	15	16	31
1:45 AM	2	2	4	1:45 PM	19	22	41
2:00 AM	1	3	4	2:00 PM	17	83	100
2:15 AM	2	0	2	2:15 PM	22	17	39
2:30 AM	0	0	0	2:30 PM	29	14	43
2:45 AM	0	0	0	2:45 PM	15	17	32
3:00 AM	1	1	2	3:00 PM	23	67	90
3:15 AM	0	1	1	3:15 PM	16	18	34
3:30 AM	0	0	0	3:30 PM	18	17	35
3:45 AM	0	0	0	3:45 PM	10	13	23
4:00 AM	2	4	6	4:00 PM	15	81	96
4:15 AM	0	1	1	4:15 PM	23	23	46
4:30 AM	2	0	2	4:30 PM	19	23	42
4:45 AM	0	0	0	4:45 PM	24	15	39
5:00 AM	3	8	11	5:00 PM	13	59	72
5:15 AM	4	0	4	5:15 PM	12	13	25
5:30 AM	1	2	3	5:30 PM	17	18	35
5:45 AM	0	0	0	5:45 PM	17	10	27
6:00 AM	3	9	12	6:00 PM	14	60	74
6:15 AM	2	5	7	6:15 PM	21	19	40
6:30 AM	1	4	5	6:30 PM	8	8	16
6:45 AM	3	2	5	6:45 PM	17	7	24
7:00 AM	3	13	16	7:00 PM	14	42	56
7:15 AM	4	5	9	7:15 PM	12	12	24
7:30 AM	4	2	6	7:30 PM	8	8	16
7:45 AM	2	10	12	7:45 PM	8	9	17
8:00 AM	3	28	31	8:00 PM	6	31	37
8:15 AM	3	7	10	8:15 PM	12	6	18
8:30 AM	11	18	29	8:30 PM	8	9	17
8:45 AM	11	21	32	8:45 PM	5	4	9
9:00 AM	12	44	56	9:00 PM	8	31	39
9:15 AM	12	15	27	9:15 PM	8	7	15
9:30 AM	8	31	39	9:30 PM	9	3	12
9:45 AM	12	20	32	9:45 PM	6	4	10
10:00 AM	13	67	80	10:00 PM	3	19	22
10:15 AM	22	24	46	10:15 PM	9	5	14
10:30 AM	19	21	40	10:30 PM	4	1	5
10:45 AM	13	17	30	10:45 PM	3	1	4
11:00 AM	23	88	111	11:00 PM	0	5	5
11:15 AM	20	18	38	11:15 PM	2	0	2
11:30 AM	22	23	45	11:30 PM	2	0	2
11:45 AM	23	16	39	11:45 PM	1	1	2
24 Hour Volume	EB 908	WB 908	Combined 1816	EB 634	WB 549	Combined 1183	

Count	EB	WB	Combined
45.4 %	274	330	604
11:00 AM	88	92	180
Volume	88	92	180
Factor	0.96	0.74	0.85
Peak Hour	11:00 AM	9:30 AM	11:00 AM
Volume	88	92	180
Factor	0.96	0.74	0.85
12:00 PM - 12:00 AM	EB	WB	Combined
53.6 %	634	549	1183
2:15 PM	89	79	168
Volume	89	79	168
Factor	0.77	0.90	0.83
12:00 PM	89	79	168
Volume	89	79	168
Factor	0.77	0.90	0.83

PHA Transportation Consultants
510-848-9233

Description 1: Fairfield
Description 2: Rockville Rd West of Rockville Height (Near by Bay area Ridge Trail)
Description 3: 13-11-391

Site: 2
Date: 7/22/2013
Monday

24 Hour Volume										Monday	
Begin	EB	WB	Combined	Begin	EB	WB	Combined				
12:00 AM	2	4	2	12:00 PM	24	94	98	54	192		
12:15 AM	1	2	3	12:15 PM	29	19	48				
12:30 AM	1	1	2	12:30 PM	27	23	50				
12:45 AM	0	0	0	12:45 PM	14	26	40				
1:00 AM	1	2	1	1:00 PM	21	106	93	52	199		
1:15 AM	0	0	0	1:15 PM	24	31	38	32	135		
1:30 AM	1	0	1	1:30 PM	33	23	56	21	84		
1:45 AM	0	1	1	1:45 PM	28	25	53	19	19		
2:00 AM	0	0	0	2:00 PM	16	82	86	42	168		
2:15 AM	1	0	1	2:15 PM	21	21	42	42	168		
2:30 AM	0	1	1	2:30 PM	23	20	43	43	168		
2:45 AM	1	0	1	2:45 PM	22	19	41	41	168		
3:00 AM	4	5	4	3:00 PM	16	77	93	33	170		
3:15 AM	0	1	1	3:15 PM	22	18	40	40	170		
3:30 AM	1	0	1	3:30 PM	18	32	50	50	170		
3:45 AM	0	0	0	3:45 PM	21	26	47	47	170		
4:00 AM	0	5	1	4:00 PM	21	83	77	43	160		
4:15 AM	0	2	2	4:15 PM	10	14	24	24	160		
4:30 AM	0	0	0	4:30 PM	31	27	58	58	160		
4:45 AM	5	2	7	4:45 PM	21	14	35	35	160		
5:00 AM	3	11	4	5:00 PM	31	83	70	57	153		
5:15 AM	5	4	9	5:15 PM	17	15	32	32	153		
5:30 AM	2	4	6	5:30 PM	24	15	39	39	153		
5:45 AM	1	4	5	5:45 PM	11	14	25	25	153		
6:00 AM	3	16	10	6:00 PM	22	85	50	38	135		
6:15 AM	4	2	6	6:15 PM	25	10	35	35	135		
6:30 AM	4	9	13	6:30 PM	15	14	29	29	135		
6:45 AM	5	7	12	6:45 PM	23	10	33	33	135		
7:00 AM	10	51	17	7:00 PM	14	51	33	20	84		
7:15 AM	8	20	28	7:15 PM	12	7	19	19	84		
7:30 AM	9	17	26	7:30 PM	8	11	19	19	84		
7:45 AM	24	23	47	7:45 PM	17	9	26	26	84		
8:00 AM	15	26	41	8:00 PM	12	46	39	22	85		
8:15 AM	18	29	47	8:15 PM	12	9	21	21	85		
8:30 AM	14	27	41	8:30 PM	12	8	20	20	85		
8:45 AM	12	26	38	8:45 PM	10	12	22	22	85		
9:00 AM	10	63	42	9:00 PM	6	27	18	12	45		
9:15 AM	18	32	39	9:15 PM	9	6	17	17	45		
9:30 AM	13	19	32	9:30 PM	10	8	13	13	45		
9:45 AM	22	18	40	9:45 PM	2	3	3	3	45		
10:00 AM	18	18	36	10:00 PM	2	5	4	3	9		
10:15 AM	9	21	30	10:15 PM	1	2	3	3	9		
10:30 AM	11	28	39	10:30 PM	2	1	3	3	9		
10:45 AM	21	24	45	10:45 PM	0	0	0	0	9		
11:00 AM	16	70	40	11:00 PM	1	5	4	2	9		
11:15 AM	14	22	36	11:15 PM	2	1	3	3	9		
11:30 AM	21	19	40	11:30 PM	2	2	4	4	9		
11:45 AM	19	27	46	11:45 PM	0	0	0	0	9		
24 Hour Volume				Combined				2253			
				EB				WB			
				1091 (48.4%)				1162 (51.6%)			

Count		EB	WB	Combined
		347	497	844
Peak Hour		41.1 %	58.9 %	
Volume		10:45 AM	8:15 AM	7:45 AM
Factor		72	114	176
		0.86	0.89	0.94
		12:00 PM - 12:00 AM		
		EB	WB	Combined
		744	665	1409
		52.8 %	47.2 %	
		1:00 PM	12:15 PM	1:00 PM
		106	99	199
		0.80	0.80	0.89

PHA Transportation Consultants
510-848-9233

Description 1: Fairfield
Description 2: Rockville Rd West of Rockville Height (Near by Bay area Ridge Trail)
Description 3: 13-11-391

Site: 2
Date: 7/23/2013
Tuesday

24 Hour Volume

24 Hour Volume									
Begin	EB	WB	Combined	Begin	EB	WB	Combined		
12:00 AM	1	1	2	12:00 PM	23	85	108	21	87
12:15 AM	0	1	1	12:15 PM	27			44	172
12:30 AM	0	1	1	12:30 PM	19			27	44
12:45 AM	0	0	0	12:45 PM	16			22	46
1:00 AM	1	3	4	1:00 PM	20	88	84	34	38
1:15 AM	1	0	1	1:15 PM	21			26	172
1:30 AM	0	1	1	1:30 PM	24			25	47
1:45 AM	1	0	1	1:45 PM	23			19	49
2:00 AM	0	0	0	2:00 PM	14	74	108	31	42
2:15 AM	0	0	0	2:15 PM	17			39	182
2:30 AM	2	0	2	2:30 PM	21			27	56
2:45 AM	0	0	0	2:45 PM	22			25	48
3:00 AM	2	4	6	3:00 PM	21	88	99	25	47
3:15 AM	1	0	1	3:15 PM	24			21	42
3:30 AM	1	1	2	3:30 PM	22			24	45
3:45 AM	0	1	1	3:45 PM	21			33	46
4:00 AM	0	0	0	4:00 PM	10	74	81	20	54
4:15 AM	0	1	1	4:15 PM	23			27	30
4:30 AM	0	0	0	4:30 PM	16			23	50
4:45 AM	0	0	0	4:45 PM	25			11	39
5:00 AM	3	20	23	5:00 PM	38	95	82	22	36
5:15 AM	2	1	3	5:15 PM	19			20	60
5:30 AM	6	5	11	5:30 PM	18			16	39
5:45 AM	9	1	10	5:45 PM	20			24	34
6:00 AM	3	17	20	6:00 PM	18	74	57	12	44
6:15 AM	5	5	10	6:15 PM	25			19	30
6:30 AM	3	11	14	6:30 PM	14			16	44
6:45 AM	6	7	13	6:45 PM	17			10	30
7:00 AM	7	57	64	7:00 PM	16	61	47	21	27
7:15 AM	17	15	32	7:15 PM	19			9	37
7:30 AM	13	18	31	7:30 PM	12			7	28
7:45 AM	20	20	40	7:45 PM	14			10	19
8:00 AM	12	57	69	8:00 PM	6	49	39	7	24
8:15 AM	19	22	41	8:15 PM	14			14	13
8:30 AM	13	37	50	8:30 PM	14			12	28
8:45 AM	13	27	40	8:45 PM	15			6	26
9:00 AM	25	82	107	9:00 PM	14	39	26	10	21
9:15 AM	18	22	40	9:15 PM	7			4	24
9:30 AM	20	25	45	9:30 PM	8			7	11
9:45 AM	19	26	45	9:45 PM	10			5	15
10:00 AM	20	78	98	10:00 PM	12	25	13	5	15
10:15 AM	16	25	41	10:15 PM	8			2	17
10:30 AM	18	18	36	10:30 PM	3			2	10
10:45 AM	24	31	55	10:45 PM	2			4	5
11:00 AM	19	96	115	11:00 PM	4	9	5	2	6
11:15 AM	34	22	56	11:15 PM	2			1	6
11:30 AM	27	23	50	11:30 PM	2			0	3
11:45 AM	16	22	38	11:45 PM	1			2	2
24 Hour Volume				24 Hour Volume				Combined	
								2385	

Description 1: Fairfield
Description 2: Rockville Rd West of Rockville Height (Near by Bay area Ridge Trail)
Description 3: 13-11-391

PHA Transportation Consultants
510-848-9233

Site:
Date:

2
7/17/2013
Wednesday

24 Hour Vehicle Classification
Combined Channels

Time	Total	Bike	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi
12:00 AM	7	0	4	1	0	2	0	0	0	0	0	0	0	0
1:00 AM	1	0	1	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	3	0	1	2	0	0	0	0	0	0	0	0	0	0
3:00 AM	4	0	1	2	0	1	0	0	0	0	0	0	0	0
4:00 AM	5	1	2	1	0	1	0	0	0	0	0	0	0	0
5:00 AM	25	0	11	12	0	2	0	0	0	0	0	0	0	0
6:00 AM	56	1	29	14	1	7	1	0	3	0	0	0	0	0
7:00 AM	119	4	69	28	1	15	0	0	2	0	0	0	0	0
8:00 AM	171	7	88	36	2	32	0	0	6	0	0	0	0	0
9:00 AM	176	5	84	55	2	29	0	0	1	0	0	0	0	0
10:00 AM	173	3	87	55	0	26	0	0	2	0	0	0	0	0
11:00 AM	181	2	86	55	2	31	2	0	3	0	0	0	0	0
12:00 PM	174	1	89	53	1	29	0	0	1	0	0	0	0	0
1:00 PM	191	2	86	63	0	39	0	0	1	0	0	0	0	0
2:00 PM	204	6	95	70	0	32	0	0	1	0	0	0	0	0
3:00 PM	182	1	84	62	1	31	0	0	3	0	0	0	0	0
4:00 PM	185	4	68	64	2	44	0	0	3	0	0	0	0	0
5:00 PM	190	0	79	54	0	55	0	0	2	0	0	0	0	0
6:00 PM	118	3	52	40	0	22	0	0	1	0	0	0	0	0
7:00 PM	136	3	56	44	2	31	0	0	0	0	0	0	0	0
8:00 PM	87	4	27	29	0	27	0	0	0	0	0	0	0	0
9:00 PM	54	2	25	17	0	10	0	0	0	0	0	0	0	0
10:00 PM	38	1	21	10	0	6	0	0	0	0	0	0	0	0
11:00 PM	15	0	4	8	0	3	0	0	0	0	0	0	0	0
Total	2495	50	1149	775	14	475	3	0	29	0	0	0	0	0
%		2.0	46.1	31.1	0.6	19.0	0.1	0.0	1.2	0.0	0.0	0.0	0.0	0.0

Description 1:
Description 2:
Description 3:

Fairfield
Rockville Rd West of Rockville Height (Near by Bay area Ridge Trail)
13-11-391

PHA Transportation Consultants
510-848-9233

Site:
Date:

2
7/18/2013
Thursday

24 Hour Vehicle Classification
Combined Channels

Time	Total	Bike	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi
12:00 AM	3	0	2	1	0	0	0	0	0	0	0	0	0	0
1:00 AM	5	1	1	3	0	0	0	0	0	0	0	0	0	0
2:00 AM	2	0	1	1	0	0	0	0	0	0	0	0	0	0
3:00 AM	1	0	1	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	4	0	1	1	0	2	0	0	0	0	0	0	0	0
5:00 AM	23	0	13	6	0	3	1	0	0	0	0	0	0	0
6:00 AM	50	1	28	12	0	8	0	0	1	0	0	0	0	0
7:00 AM	121	2	67	29	0	21	0	0	2	0	0	0	0	0
8:00 AM	160	7	83	43	2	24	0	0	1	0	0	0	0	0
9:00 AM	171	2	88	35	3	38	1	0	4	0	0	0	0	0
10:00 AM	166	5	89	38	0	33	1	0	0	0	0	0	0	0
11:00 AM	175	3	80	56	0	33	0	0	3	0	0	0	0	0
12:00 PM	189	3	90	56	1	38	0	0	1	0	0	0	0	0
1:00 PM	162	1	74	55	0	31	0	0	1	0	0	0	0	0
2:00 PM	182	2	91	57	0	29	0	0	3	0	0	0	0	0
3:00 PM	200	1	94	62	1	41	0	0	1	0	0	0	0	0
4:00 PM	193	2	87	71	1	32	0	0	0	0	0	0	0	0
5:00 PM	165	1	70	63	2	28	0	0	1	0	0	0	0	0
6:00 PM	150	3	67	40	0	40	0	0	0	0	0	0	0	0
7:00 PM	103	2	46	32	0	23	0	0	0	0	0	0	0	0
8:00 PM	75	1	34	24	2	14	0	0	0	0	0	0	0	0
9:00 PM	57	1	17	19	0	20	0	0	0	0	0	0	0	0
10:00 PM	35	0	10	18	0	7	0	0	0	0	0	0	0	0
11:00 PM	10	1	6	2	0	1	0	0	0	0	0	0	0	0
Total	2402	39	1140	724	12	466	3	0	18	0	0	0	0	0
%		1.6	47.5	30.1	0.5	19.4	0.1	0.0	0.7	0.0	0.0	0.0	0.0	0.0

24 Hour Vehicle Classification
Combined Channels

Time	Total	Bike	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi
12:00 AM	3	0	1	2	0	0	0	0	0	0	0	0	0	0
1:00 AM	6	0	3	3	0	0	0	0	0	0	0	0	0	0
2:00 AM	3	0	0	2	0	0	0	0	0	0	0	0	0	0
3:00 AM	4	0	3	0	0	1	0	0	0	0	0	0	0	0
4:00 AM	9	0	3	3	0	3	0	0	0	0	0	0	0	0
5:00 AM	26	0	9	12	0	4	1	0	0	0	0	0	0	0
6:00 AM	46	0	30	5	1	8	0	0	2	0	0	0	0	0
7:00 AM	104	3	51	25	0	22	0	0	2	0	0	0	0	0
8:00 AM	164	6	86	46	4	20	0	0	2	1	0	0	0	0
9:00 AM	177	7	81	51	3	30	0	0	5	0	0	0	0	0
10:00 AM	197	0	102	50	0	43	0	0	2	0	0	0	0	0
11:00 AM	193	2	101	56	1	33	0	0	0	0	0	0	0	0
12:00 PM	203	1	93	75	1	31	0	0	2	0	0	0	0	0
1:00 PM	172	1	68	66	2	35	0	0	0	0	0	0	0	0
2:00 PM	145	3	80	38	2	20	0	0	1	0	0	0	0	0
3:00 PM	183	2	77	63	0	40	0	0	1	0	0	0	0	0
4:00 PM	187	1	88	59	0	39	0	0	0	0	0	0	0	0
5:00 PM	164	5	69	63	0	27	0	0	0	0	0	0	0	0
6:00 PM	154	5	79	40	1	28	0	0	1	0	0	0	0	0
7:00 PM	114	4	49	36	0	25	0	0	0	0	0	0	0	0
8:00 PM	71	0	28	29	0	14	0	0	0	0	0	0	0	0
9:00 PM	74	1	35	25	0	13	0	0	0	0	0	0	0	0
10:00 PM	65	0	25	30	0	10	0	0	0	0	0	0	0	0
11:00 PM	24	1	13	9	0	1	0	0	0	0	0	0	0	0
Total	2488	42	1174	788	15	448	1	0	18	2	0	0	0	0
%		1.7	47.2	31.7	0.6	18.0	0.0	0.0	0.7	0.1	0.0	0.0	0.0	0.0

Description 1:
Description 2:
Description 3:

Fairfield
Rockville Rd West of Rockville Height (Near by Bay area Ridge Trail)
13-11-391

PHA Transportation Consultants
510-848-9233

Site:
Date:

2
7/20/2013
Saturday

24 Hour Vehicle Classification
Combined Channels

Time	Total	Bike	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi
12:00 AM	10	0	5	3	0	2	0	0	0	0	0	0	0	0
1:00 AM	12	0	5	3	0	4	0	0	0	0	0	0	0	0
2:00 AM	5	0	1	3	0	1	0	0	0	0	0	0	0	0
3:00 AM	3	0	1	0	0	2	0	0	0	0	0	0	0	0
4:00 AM	11	0	5	4	0	2	0	0	0	0	0	0	0	0
5:00 AM	11	0	1	7	0	2	0	0	0	0	0	0	0	0
6:00 AM	32	0	19	7	0	6	0	0	0	0	0	0	0	0
7:00 AM	54	2	22	19	1	10	0	0	0	0	0	0	0	0
8:00 AM	119	7	58	31	1	20	0	0	0	0	0	0	0	0
9:00 AM	134	3	79	36	0	16	0	0	0	0	0	0	0	0
10:00 AM	164	3	80	53	2	23	0	0	0	0	0	0	0	0
11:00 AM	177	2	97	48	0	30	0	0	0	0	0	0	0	0
12:00 PM	176	2	84	57	0	32	0	0	0	0	0	0	0	0
1:00 PM	168	3	70	66	1	28	0	0	0	0	0	0	0	0
2:00 PM	141	1	58	54	0	26	0	0	0	0	0	0	0	0
3:00 PM	144	5	63	40	0	36	0	0	0	0	0	0	0	0
4:00 PM	146	4	71	35	0	34	0	0	0	0	0	0	0	0
5:00 PM	117	1	47	41	1	25	0	0	0	0	0	0	0	0
6:00 PM	115	3	61	33	0	18	0	0	0	0	0	0	0	0
7:00 PM	103	3	41	37	0	20	0	0	0	0	0	0	0	0
8:00 PM	72	0	33	22	0	14	0	0	0	0	0	0	0	0
9:00 PM	57	4	24	23	0	6	0	0	0	0	0	0	0	0
10:00 PM	37	1	16	10	0	10	0	0	0	0	0	0	0	0
11:00 PM	23	1	9	8	0	4	0	0	0	0	0	0	0	0
Total	2031	45	950	640	6	371	0	0	17	0	0	2	0	0
%		2.2	46.8	31.5	0.3	18.3	0.0	0.0	0.8	0.0	0.0	0.1	0.0	0.0

Description 1:
Description 2:
Description 3:

Fairfield
Rockville Rd West of Rockville Height (Near by Bay area Ridge Trail)
13-11-391

PHA Transportation Consultants
510-848-9233

Site:
Date:

2
7/21/2013
Sunday

24 Hour Vehicle Classification
Combined Channels

Time	Total	Bike	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi
12:00 AM	8	0	4	4	0	0	0	0	0	0	0	0	0	0
1:00 AM	8	0	3	4	0	1	0	0	0	0	0	0	0	0
2:00 AM	3	0	0	2	0	1	0	0	0	0	0	0	0	0
3:00 AM	2	1	0	0	0	1	0	0	0	0	0	0	0	0
4:00 AM	5	0	1	4	0	0	0	0	0	0	0	0	0	0
5:00 AM	10	0	1	3	1	5	0	0	0	0	0	0	0	0
6:00 AM	23	1	12	6	0	4	0	0	0	0	0	0	0	0
7:00 AM	36	2	23	7	0	4	0	0	0	0	0	0	0	0
8:00 AM	80	2	49	18	1	10	0	0	0	0	0	0	0	0
9:00 AM	122	4	76	24	0	18	0	0	0	0	0	0	0	0
10:00 AM	146	2	76	45	0	21	0	0	2	0	0	0	0	0
11:00 AM	161	1	72	56	0	32	0	0	0	0	0	0	0	0
12:00 PM	159	2	71	52	0	33	0	0	1	0	0	0	0	0
1:00 PM	145	6	68	44	0	26	0	0	1	0	0	0	0	0
2:00 PM	150	1	65	61	0	21	0	0	2	0	0	0	0	0
3:00 PM	127	3	57	46	0	21	0	0	0	0	0	0	0	0
4:00 PM	157	3	75	60	0	19	0	0	0	0	0	0	0	0
5:00 PM	116	0	54	35	0	26	0	0	1	0	0	0	0	0
6:00 PM	104	1	43	34	0	25	0	0	1	0	0	0	0	0
7:00 PM	84	1	42	29	0	12	0	0	0	0	0	0	0	0
8:00 PM	52	2	19	21	0	10	0	0	0	0	0	0	0	0
9:00 PM	53	0	21	21	0	11	0	0	0	0	0	0	0	0
10:00 PM	30	1	11	11	0	7	0	0	0	0	0	0	0	0
11:00 PM	6	0	1	3	0	2	0	0	0	0	0	0	0	0
Total	1787	33	844	590	2	310	0	0	8	0	0	0	0	0
%		1.8	47.2	33.0	0.1	17.3	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0

PHA Transportation Consultants
510-848-9233

Description 1: Fairfield
Description 2: Rockville Rd West of Rockville Height (Near by Bay area Ridge Trail)
Description 3: 13-11-391

Site:
Date:

7/22/2013
Monday

24 Hour Vehicle Classification
Combined Channels

Time	Total	Bike	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi
12:00 AM	7	0	3	1	0	3	0	0	0	0	0	0	0	0
1:00 AM	3	0	1	0	0	2	0	0	0	0	0	0	0	0
2:00 AM	3	0	1	1	0	1	0	0	0	0	0	0	0	0
3:00 AM	6	0	1	2	0	3	0	0	0	0	0	0	0	0
4:00 AM	10	0	5	3	0	2	0	0	0	0	0	0	0	0
5:00 AM	24	0	13	8	0	3	0	0	0	0	0	0	0	0
6:00 AM	41	0	27	8	0	6	0	0	0	0	0	0	0	0
7:00 AM	118	2	61	27	1	26	0	0	1	0	0	0	0	0
8:00 AM	167	7	97	35	1	26	0	0	1	0	0	0	0	0
9:00 AM	153	3	81	32	4	33	0	0	0	0	0	0	0	0
10:00 AM	150	1	86	34	0	26	1	0	2	0	0	0	0	0
11:00 AM	162	2	85	43	0	32	0	0	0	0	0	0	0	0
12:00 PM	192	3	91	59	1	36	1	0	1	0	0	0	0	0
1:00 PM	199	2	87	63	2	41	0	0	3	1	0	0	0	0
2:00 PM	168	1	78	53	1	34	0	0	1	0	0	0	0	0
3:00 PM	170	7	80	46	0	37	0	0	0	0	0	0	0	0
4:00 PM	160	4	67	62	1	25	0	0	0	1	0	0	0	0
5:00 PM	153	4	66	52	0	31	0	0	0	0	0	0	0	0
6:00 PM	135	0	48	54	1	32	0	0	0	0	0	0	0	0
7:00 PM	84	0	33	26	0	23	0	0	2	0	0	0	0	0
8:00 PM	85	2	35	31	0	17	0	0	0	0	0	0	0	0
9:00 PM	45	1	17	15	0	12	0	0	0	0	0	0	0	0
10:00 PM	9	1	3	3	0	2	0	0	0	0	0	0	0	0
11:00 PM	9	0	4	3	0	2	0	0	0	0	0	0	0	0
Total	2253	40	1070	661	12	455	2	0	11	2	0	0	0	0
%		1.8	47.5	29.3	0.5	20.2	0.1	0.0	0.5	0.1	0.0	0.0	0.0	0.0

PHA Transportation Consultants
510-848-9233

Description 1: Fairfield
Description 2: Rockville Rd West of Rockville Height (Near by Bay area Ridge Trail)
Description 3: 13-11-391

Site:
Date:

7/23/2013
Tuesday

24 Hour Vehicle Classification
Combined Channels

Time	Total	Bike	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi
12:00 AM	4	0	3	0	0	1	0	0	0	0	0	0	0	0
1:00 AM	4	0	1	1	0	2	0	0	0	0	0	0	0	0
2:00 AM	2	0	0	2	0	0	0	0	0	0	0	0	0	0
3:00 AM	6	0	2	2	0	2	0	0	0	0	0	0	0	0
4:00 AM	2	0	2	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	28	0	8	16	0	4	0	0	0	0	0	0	0	0
6:00 AM	48	0	31	9	0	8	0	0	0	0	0	0	0	0
7:00 AM	118	1	59	28	0	29	0	0	1	0	0	0	0	0
8:00 AM	165	4	98	31	1	30	0	0	1	0	0	0	0	0
9:00 AM	172	2	80	44	1	42	0	0	3	0	0	0	0	0
10:00 AM	165	4	80	42	0	37	0	0	2	0	0	0	0	0
11:00 AM	182	2	80	71	0	27	0	0	2	0	0	0	0	0
12:00 PM	172	6	80	50	2	30	0	0	4	0	0	0	0	0
1:00 PM	172	3	79	56	2	32	0	0	0	0	0	0	0	0
2:00 PM	182	6	101	50	0	23	0	0	2	0	0	0	0	0
3:00 PM	187	2	89	60	0	36	0	0	0	0	0	0	0	0
4:00 PM	155	2	79	41	0	32	0	0	1	0	0	0	0	0
5:00 PM	177	7	74	57	0	39	0	0	0	0	0	0	0	0
6:00 PM	131	2	53	48	1	27	0	0	0	0	0	0	0	0
7:00 PM	108	0	47	35	0	26	0	0	0	0	0	0	0	0
8:00 PM	88	3	34	29	0	21	0	0	1	0	0	0	0	0
9:00 PM	65	2	25	22	0	16	0	0	0	0	0	0	0	0
10:00 PM	38	0	13	20	0	5	0	0	0	0	0	0	0	0
11:00 PM	14	1	4	4	0	5	0	0	0	0	0	0	0	0
Total	2385	47	1122	718	7	474	0	0	17	0	0	0	0	0
%		2.0	47.0	30.1	0.3	19.9	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0

PHA Transportation Consultants

RADAR SURVEY SHEET

STREET:	Rockville Rd	DIRECTION:	Both
FROM:	Near Coral		
TO:	0		
DATE:	06/01/07		
TIME: BEGIN:	12:20 PM	END:	1:00 AM
WEATHER:	Dry	RECORDER:	PH










MPH	TOTAL VEHICLES	CUMULATIVE VEHICLES	CUMULATIVE %
65	3	100	100
64	2	97	97
63	2	95	95
62	1	93	93
61	5	92	92
60	4	87	87
59	6	83	83
58	5	77	77
57	2	72	72
56	8	70	70
55	7	62	62
54	13	55	55
53	9	42	42
52	6	33	33
51	4	27	27
50	11	23	23
49	5	12	12
48	3	7	7
47	1	4	4
46	1	3	3
45	0	2	2
44	0	2	2
43	1	2	2
42	1	1	1
41	0	0	0
40	0	0	0
39	0	0	0
38	0	0	0
37	0	0	0
36	0	0	0
35	0	0	0
34	0	0	0
33	0	0	0
32	0	0	0
31	0	0	0
30	0	0	0
29	0	0	0
28	0	0	0
27	0	0	0
26	0	0	0
TOTAL:	100	85% SPEED:	60
		AVERAGE SPEED:	54
		10 MPH PACE:	50-59
		PERCENT IN PACE:	71.00
		POSTED SPEED LIMIT:	55

Appendix B

LOS Calculation Sheets










Project Condition AM
1: Rockville Road &

8/20/2013

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	32	103	99	39	4	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	35	112	108	42	4	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
vC, conflicting volume	150				310	129
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				99	100
cM capacity (veh/h)	1431				666	921
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	147	150	9			
Volume Left	35	0	4			
Volume Right	0	42	4			
cSH	1431	1700	773			
Volume to Capacity	0.02	0.09	0.01			
Queue Length (ft)	2	0	1			
Control Delay (s)	1.9	0.0	9.7			
Lane LOS	A		A			
Approach Delay (s)	1.9	0.0	9.7			
Approach LOS			A			
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization		24.0%		ICU Level of Service		A










Project Condition AM
2: Rockville Road &

8/20/2013

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	32	103	99	39	4	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	35	112	108	42	4	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
vC, conflicting volume	150				310	129
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				99	100
cM capacity (veh/h)	1431				666	921
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	147	150	9			
Volume Left	35	0	4			
Volume Right	0	42	4			
cSH	1431	1700	773			
Volume to Capacity	0.02	0.09	0.01			
Queue Length (ft)	2	0	1			
Control Delay (s)	1.9	0.0	9.7			
Lane LOS	A		A			
Approach Delay (s)	1.9	0.0	9.7			
Approach LOS			A			
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization		24.0%		ICU Level of Service		A











Project Condition PM
1: Rockville Road &

8/20/2013

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	4	99	103	4	39	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	4	108	112	4	42	35
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
vC, conflicting volume	116				230	114
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				94	96
cM capacity (veh/h)	1472				755	938
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	112	116	77			
Volume Left	4	0	42			
Volume Right	0	4	35			
cSH	1472	1700	828			
Volume to Capacity	0.00	0.07	0.09			
Queue Length (ft)	0	0	8			
Control Delay (s)	0.3	0.0	9.8			
Lane LOS	A		A			
Approach Delay (s)	0.3	0.0	9.8			
Approach LOS			A			
Intersection Summary						
Average Delay			2.6			
Intersection Capacity Utilization		17.3%		ICU Level of Service		A










Project Condition PM
2: Rockville Road &

8/20/2013

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	4	99	103	4	39	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	4	108	112	4	42	35
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
vC, conflicting volume	116				230	114
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				94	96
cM capacity (veh/h)	1472				755	938
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	112	116	77			
Volume Left	4	0	42			
Volume Right	0	4	35			
cSH	1472	1700	828			
Volume to Capacity	0.00	0.07	0.09			
Queue Length (ft)	0	0	8			
Control Delay (s)	0.3	0.0	9.8			
Lane LOS	A		A			
Approach Delay (s)	0.3	0.0	9.8			
Approach LOS			A			
Intersection Summary						
Average Delay			2.6			
Intersection Capacity Utilization		17.3%		ICU Level of Service		A










Project Condition Near -Term AM
1: Rockville Road &

8/20/2013

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	32	113	109	39	4	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	35	123	118	42	4	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
vC, conflicting volume	161				332	140
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				99	100
cM capacity (veh/h)	1418				647	908
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	158	161	9			
Volume Left	35	0	4			
Volume Right	0	42	4			
cSH	1418	1700	755			
Volume to Capacity	0.02	0.09	0.01			
Queue Length (ft)	2	0	1			
Control Delay (s)	1.8	0.0	9.8			
Lane LOS	A		A			
Approach Delay (s)	1.8	0.0	9.8			
Approach LOS			A			
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization		25.4%		ICU Level of Service		A










Project Condition Near -Term AM
2: Rockville Road &

8/20/2013

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	32	113	109	39	4	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	35	123	118	42	4	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
vC, conflicting volume	161				332	140
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				99	100
cM capacity (veh/h)	1418				647	908
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	158	161	9			
Volume Left	35	0	4			
Volume Right	0	42	4			
cSH	1418	1700	755			
Volume to Capacity	0.02	0.09	0.01			
Queue Length (ft)	2	0	1			
Control Delay (s)	1.8	0.0	9.8			
Lane LOS	A		A			
Approach Delay (s)	1.8	0.0	9.8			
Approach LOS			A			
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization		25.4%		ICU Level of Service		A










Project Conditions Near-Term PM
1: Rockville Road &

8/20/2013

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	4	109	113	4	39	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	4	118	123	4	42	35
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage (veh)						
vC, conflicting volume	127				252	125
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				94	96
cM capacity (veh/h)	1459				734	926
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	123	127	77			
Volume Left	4	0	42			
Volume Right	0	4	35			
cSH	1459	1700	810			
Volume to Capacity	0.00	0.07	0.10			
Queue Length (ft)	0	0	8			
Control Delay (s)	0.3	0.0	9.9			
Lane LOS	A		A			
Approach Delay (s)	0.3	0.0	9.9			
Approach LOS			A			
Intersection Summary						
Average Delay			2.4			
Intersection Capacity Utilization		17.9%		ICU Level of Service		A

Project Conditions Near-Term PM
2: Rockville Road &

8/20/2013

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	4	109	113	4	39	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (veh/h)	4	118	123	4	42	35
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
vC, conflicting volume	127				252	125
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				94	96
cM capacity (veh/h)	1459				734	926
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	123	127	77			
Volume Left	4	0	42			
Volume Right	0	4	35			
cSH	1459	1700	810			
Volume to Capacity	0.00	0.07	0.10			
Queue Length (ft)	0	0	8			
Control Delay (s)	0.3	0.0	9.9			
Lane LOS	A		A			
Approach Delay (s)	0.3	0.0	9.9			
Approach LOS			A			
Intersection Summary						
Average Delay			2.4			
Intersection Capacity Utilization		17.9%		ICU Level of Service		A