Western Riverside Council of Governments
Public Works Committee

AGENDA

Thursday, February 14, 2019
2:00 p.m.

Western Riverside Council of Governments
Citrus Tower
3390 University Avenue, Suite 450
Riverside, CA 92501

In compliance with the Americans with Disabilities Act and Government Code Section 54954.2, if special assistance is needed to participate in the Public Works Committee meeting, please contact WRCOG at (951) 405-6703. Notification of at least 48 hours prior to meeting time will assist staff in assuring that reasonable arrangements can be made to provide accessibility at the meeting. In compliance with the Government Code Section 54957.5, agenda materials distributed within 72 hours prior to the meeting, which are public records relating to an open session agenda items, will be available for inspection by members of the public prior to the meeting at 3390 University Avenue, Suite 450, Riverside, CA, 92501.

The Public Works Committee may take any action on any item listed on the agenda, regardless of the Requested Action.

1. CALL TO ORDER (Patty Romo, Chair)

2. SELF INTRODUCTIONS

3. PLEDGE OF ALLEGIANCE

4. PUBLIC COMMENTS

At this time members of the public can address the Public Works Committee regarding any items with the subject matter jurisdiction of the Committee that are not separately listed on this agenda. Members of the public will have an opportunity to speak on agendized items at the time the item is called for discussion. No action may be taken on items not listed on the agenda unless authorized by law. Whenever possible, lengthy testimony should be presented to the Committee in writing and only pertinent points presented orally.

5. MINUTES

A. Summary Minutes from the December 13, 2018, Public Works Committee Meeting are Available for Consideration. **P. 1**

Requested Action: *1. Approve the Summary Minutes from the December 13, 2018, Public Works Committee meeting.*

6. CONSENT CALENDAR

All items listed under the Consent Calendar are considered to be routine and may be enacted by one motion. Prior to the motion to consider any action by the Committee, any public comments on any of the Consent Items will be heard. There will be no separate action unless members of the Committee request specific items be removed from the Consent Calendar.

A. WRCOG Committees and Agency Activities Update — ***Christopher Gray*** — **P. 5**

Requested Action: *1. Receive and file.*

B. TUMF Revenue and Expenditures Update — ***Andrew Ruiz*** — **P. 21**

Requested Action: *1. Receive and file.*

7. REPORTS / DISCUSSION

A. Riverside Transit Agency Activities Update — ***Rohan Kuruppu, Riverside Transit Agency*** — **P. 29**

Requested Action: *1. Receive and file.*

B. Fee Comparison Analysis Update — ***Christopher Tzeng, WRCOG*** — **P. 31**

Requested Action: *1. Receive and file.*

C. Fiscal Year 2019/2020 SB 821 - Bicycle and Pedestrian Facilities Program Call for Projects — ***Jenny Chan, Riverside County Transportation Commission*** — **P. 39**

Requested Action: *1. Receive and file.*

D. High-Cube Warehouse Calculation — ***Daniel Ramirez-Cornejo, WRCOG*** — **P. 41**

Requested Action: *1.* Recommend that the Executive Committee approve the adjustment to the High-Cube Warehouse component of the TUMF Calculation Handbook.

E. TUMF Calculation Handbook Revisions — ***Daniel Ramirez-Cornejo, WRCOG*** — **P. 77**

Requested Actions: *1. Recommend that the Executive Committee approve the proposed revisions to the TUMF Fee Calculation Handbook to include clarification language on the 3,000 square foot deduction policy for retail and service uses.*

2. Discuss and provide input on proposed clarification to the issuance of credit for existing uses for the exemption outlined in the TUMF Administrative Plan.

8. REPORT FROM THE DIRECTOR OF TRANSPORTATION & PLANNING — *Christopher Gray*

9. ITEMS FOR FUTURE AGENDAS ***Members***

Members are invited to suggest additional items to be brought forward for discussion at future Public Works Committee meetings.

10. GENERAL ANNOUCEMENTS ***Members***

Members are invited to announce items / activities which may be of general interest to the Public Works Committee.

11. NEXT MEETING: **The next Public Works Committee meeting will be held on Thursday, March 14, 2019, at 2:00 p.m., at WRCOG's office located at 3390 University Avenue, Suite 450, Riverside.**

12. ADJOURNMENT

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Public Works Committee **Item 5.A**
December 13, 2018
Summary Minutes

1. CALL TO ORDER

The meeting of the Public Works Committee was called to order at 2:02 p.m. by Chair Patty Romo at WRCOG's office, Citrus Conference Room.

2. ROLL CALL

Members present:

Lori Askew, City of Calimesa
Nelson Nelson, City of Corona
Craig Bradshaw, City of Eastvale & Wildomar
Kristen Jensen, City of Hemet
Mike Myers, City of Jurupa Valley
Remon Habib, City of Lake Elsinore
Eric Lewis, City of Moreno Valley
Bob Moehling, City of Murrieta
Brad Brophy, Cities of Perris & San Jacinto
Jeff Hart, City of Riverside
Patrick Thomas, City of Temecula (arrival 2:05 p.m.)
Patricia Romo, County of Riverside (Chair)
Shirley Medina, Riverside County Transportation Commission (arrival 2:04 p.m.)

Staff present:

Christopher Gray, Director of Transportation & Planning
Chris Tzeng, Program Manager
Daniel Ramirez-Cornejo, Program Manager
Jessica May, Staff Analyst
Suzy Nelson, Administrative Assistant
Darren Henderson, WRCOG Consultant

Guests present:

Amer Attar, City of Temecula
Paul Rodriguez, Rodriguez Consulting Group
Alvin Medina, County of Riverside
Jennifer Nguyen, Riverside Transit Agency
Robert Vestal, City of Hemet

3. PLEDGE OF ALLEGIANCE

Chair Patty Romo led the members and guests in the pledge of allegiance.

4. PUBLIC COMMENTS

There were no public comments.

5. MINUTES (*Murrieta / Corona) 13 yes; 0 no; 0 abstention. Item 5.A was approved. The Cities of Banning, Beaumont, Canyon Lake, Menifee, Norco, and Temecula, the March JPA, RCTC, and the Riverside Transit Agency were not present.*

A. Summary Minutes from the November 8, 2018, Public Works Committee Meeting are Available for Consideration.

Action: *1. Approved Summary Minutes from the November 8, 2018, Public Works Committee meeting.*

6. CONSENT CALENDAR (*Murrieta / Eastvale) 13 yes; 0 no; 0 abstention. Items 6.A and 6.B were approved. The Cities of Banning, Beaumont, Canyon Lake, Menifee, Norco, and Temecula, the March JPA, RCTC, and the Riverside Transit Agency were not present.*

A. WRCOG Committees and Agency Activities Update

Action: *1. Received and filed.*

B. TUMF Revenue and Expenditures Update

Action: *1. Received and filed.*

7. REPORTS / DISCUSSION

A. High-Cube Warehouse Trip Generation Study

Daniel Ramirez-Cornejo provided an update from the Subcommittee that was convened to undertake a trip generation study at several fulfillment centers throughout the Inland Empire to determine whether a new TUMF calculation methodology should be developed for these types of uses. Mr. Ramirez-Cornejo introduced Darren Henderson to discuss the results of the study.

Mr. Henderson shared that daily trip generation rates at fulfillment centers from this study are significantly less than the rates developed in a previous study conducted by ITE/NAIOP/SCAQMD, but that trip generation rates for fulfillment centers are slightly higher than the rate for conventional transload and short-term storage warehouses identified in the ITE Trip Generation Manual, in part due to increased passenger car trips at these sites compared to the conventional facilities.

Committee Member Mike Myers asked for clarification on the definition of a van versus truck for purposes of this study.

Mr. Henderson clarified that 2-axle, 4-tire vehicles would be considered vans or passenger vehicles, but 2-axle, 6-tire vehicles would be considered light trucks, such as a traditional UPS or FedEx delivery truck.

Christopher Gray added that people have observed a trend of online retailers increasingly using contracted drivers in passenger cars for rapid deliveries.

Committee member Eric Lewis asked if this study considered the impacts of pedestrian-vehicle interactions near warehouses and similar facilities and noted that this is an emerging problem within the City of Moreno Valley, particularly during peak hours and shift changes.

Mr. Henderson responded that this was not part of the WRCOG study; however, Mr. Gray noted that one of the conclusions that can be drawn from this study is that fulfillment centers have a number of unique characteristics, compared to traditional warehouse facilities, and suggested that it will become important for member agencies to have this information available to make informed planning decisions with regard to fulfillment centers.

Committee Member Patrick Thomas asked if this study relied on the same data as the RCTC study currently underway.

Mr. Henderson replied that the data used in this study was drawn from individual sites and that the RCTC study relied on other various data.

Mr. Ramirez-Cornejo explained that based on this information, WRCOG staff recommend an adjustment to the existing high cube warehouse calculation worksheet to account for these higher trip generation rates at fulfillment center warehouses.

Chair Patty Romo asked if the proposed adjustment would take into consideration the proportion of sites within this study.

Mr. Henderson explained that, due to the limited study size, there were inconclusive results for parcel hubs.

Committee member Mike Myers asked if staff have the specific proposed adjustment available at this time.

Mr. Gray noted that the adjusted high-cube warehouse component will be presented to the Committee at a future meeting, and that staff wanted to ensure this was something the Committee would be interested in pursuing based on the results of the study presented today.

Chair Romo asked whether the proposed adjustment would take into account existing facilities.

Mr. Henderson noted that the current fee calculation methodology is based on ITE information, and that the fee calculation multiplier would be updated to incorporate this new information, in addition to the ITE information. The results of this study will also be shared with ITE to improve their trip generation rates for these types of facilities.

Action: *1. Directed staff to adjust the High-Cube Warehouse component of the TUMF Calculation Handbook with the data from the Trip Generation Study.*

(Jurupa Valley / County) 15 yes; 0 no; 0 abstention. Item 7.A was approved. The Cities of Banning, Beaumont, Canyon Lake, Menifee, and Norco, the March JPA, and the Riverside Transit Agency were not present.

B. TUMF Project Cost Analysis

Daniel Ramirez-Cornejo presented an initial review of costs for recently completed TUMF projects that staff undertook in response to comments from member agencies and developers regarding rising project costs, and the resultant decrease in value for each TUMF dollar. Staff recommends that a working group of member agencies be convened to review this data in more detail and undertake a comprehensive study on reasons behind observed project cost increases.

Committee Member Craig Bradshaw asked how this would be different than the regular Construction Cost Index and what information is typically used for indexing.

Darren Henderson responded that the Construction Cost Index prepared annually uses a variety of indices to minimize volatility in the index and that this information is typically brought to the Committee for consideration early in each calendar year.

Chair Patty Romo asked what would be done with this information once gathered.

Christopher Gray responded that this would be a valuable exercise before the next Nexus Study update and would inform discussions over the future of the TUMF Program. For example, if project costs increase, member agencies may decide to fund a greater percentage of fewer projects or a lesser percentage of a greater number of projects. Member agencies were encouraged to devote time now because it takes time to accumulate this information and make informed decisions.

The Committee expressed concurrence and a number of member agencies volunteered to participate.

Action: *1. Appointed the Cities of Corona, Eastvale, Hemet, and Temecula, the County of Riverside, and RCTC to evaluate project costs in the Nexus Study against recent projects.*

C. TUMF Administrative Plan Revisions

Christopher Gray shared that staff annually reviews TUMF documents to identify any areas that require additional clarification and that the following additions or modifications to the TUMF Administrative Plan were made: annual reviews for TUMF member agencies, balance due for incorrectly calculated TUMF assessments, TUMF exemptions reporting, and remittance report review. Mr. Gray requested input from the Committee on the proposed revisions before they are forwarded to the Executive Committee for action in January.

Committee member Lori Askew asked about the need to send site plans for calculations, and whether this would impact the 48-hour turnaround for TUMF calculations.

Mr. Gray clarified that the 48-hour turnaround is a commitment that WRCOG staff will initiate communication with the member agency staff and/or developer within 48-hours, and that the majority of TUMF calculations will be straightforward and not require site plans.

Committee member Askew requested that the annual report from the Riverside Transit Agency (RTA) be forwarded to the Committee, in addition to WRCOG staff.

Mr. Gray noted that WRCOG staff can certainly share this information with the group and that it may also be possible to have RTA staff present on their recent TUMF activities.

Action: *1. Recommended that the Executive Committee approve the proposed revisions to the TUMF Administrative Plan.*

(Eastvale / Corona) 15 yes; 0 no; 0 abstention. Item 7.C was approved. The Cities of Banning, Beaumont, Canyon Lake, Menifee, and Norco, the March JPA, and the Riverside Transit Agency were not present.

8. REPORT FROM THE DIRECTOR OF TRANSPORTATION

Christopher Gray congratulated the City of Temecula on the recent ribbon cutting ceremony for the Temecula Parkway Interchange Project and shared a video from the event.

9. ITEMS FOR FUTURE AGENDAS

Committee members discussed bringing the High-Cube Warehouse component of the TUMF Calculation handbook back after staff has adjusted with the data from the Trip Generation Study.

10. GENERAL ANNOUNCEMENTS

Christopher Tzeng reminded member agencies that the RIVTAM model update is still underway and requested that member agencies share their traffic study data.

11. NEXT MEETING The next Public Works Committee meeting is scheduled for Thursday, February 14, 2018, at 2:00 p.m., at WRCOG's office located at 3390 University Avenue, Suite 450, Riverside.

12. ADJOURNMENT The meeting of the Public Works Committee adjourned at 2:56 p.m.

Western Riverside Council of Governments
Public Works Committee

Staff Report

Subject: **WRCOG Committees and Agency Activities Update**

Contact: **Christopher Gray, Director of Transportation & Planning, cgray@wrcog.us, (951) 405-6710**

Date: **February 14, 2019**

The purpose of this item *is to provide updates on noteworthy actions and discussions held in recent standing Committee meetings, and to provide general project updates.*

Requested Action:

1. Receive and file.

Attached are summary of actions and activities from recent WRCOG standing Committee meetings that have taken place for meetings which have occurred during the month of January.

Prior Action:

February 4, 2019: The Executive Committee received and filed.

Fiscal Impact:

This item is for informational purposes only; therefore, there is no fiscal impact.

Attachments:

1. WRCOG January Committees Activities Matrix (Action items only).
2. Summary recaps from January Committee meetings.

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Item 6.A

WRCOG Committees and Agency Activities Update

Attachment 1

WRCOG January Committees Activities Matrix (Action items only)

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WRCOG Committees Activities Matrix (Action Items Only)	Executive Committee	Administration & Finance Committee	Technical Advisory Committee	Planning Directors Committee	Public Works Committee	Finance Directors Committee	Solid Waste Committee
Date of Meeting:	**1/7/19**	**1/9/19**	**1/17/19**	**Did not meet**	**Did not meet**	**1/24/19**	**Did not meet**
Current Programs / Initiatives:							
Regional Streetlights Program	Received and filed.	n/a	Received and filed.			n/a	
Property Assessed Clean Energy (PACE) Programs	Approved the proposed administrative changes to the WRCOG Energy Efficiency and Water Conservation Program Administrative Guidelines and Program Report.	1) Considered the recommendation from the PACE Ad Hoc Committee recommending that the Executive Committee authorize the Executive Director to enter into contract negotiations and execute any necessary documents to include Lord Capital under WRCOG's Commercial PACE umbrella; 2) Recommended that Executive Committee authorize up to $75,000 for legislative advocacy services;	Considered the recommendation from the PACE Ad Hoc Committee recommending that the Executive Committee authorize the Executive Director to enter into contract negotiations and execute any necessary documents to include Lord Capital under WRCOG's Commercial PACE umbrella.			n/a	
Community Choice Aggregation (CCA) / Western Community Energy	Received and filed.	n/a	Received and filed.			n/a	
TUMF	Recommended that the Executive Committee approve the proposed revisions to the TUMF Administrative Plan.	n/a	Authorized the Executive Director to execute a TUMF Reimbursement Agreement with the City of Eastvale; 2) Authorized the Executive Director to execute a TUMF Reimbursement Agreement with the City of Eastvale for the Right of Way and Construction Phases of the Hamner Avenue Widening; 3) Approved the Second Amendment to the Professional Services Agreement between the Western Riverside Council of Governments and WG Zimmerman Engineering to provide TUMF Program technical support in an amount not to exceed $50,000 for this Amendment and $200,000 in total;			Received and filed.	
Fellowship	n/a	n/a	Recommended that the Executive Committee direct staff to implement the following changes to the Fellowship Program: 1) recruit Fellows from additional universities, both within and outside of the subregion; 2) expand candidate eligibility to students and recent graduates who live, work, attend school in, or are from the region and meet other minimum qualifications, 3) establish a minimum 3.0 GPA threshold for all applicants; 4) alternate Fellow placements over two years so members receive a Fellow every-other year, and 5) admit Fellows to serve in either a part-time or full-time capacity.			n/a	
New Programs / Initiatives:							
EXPERIENCE	n/a	n/a	n/a			n/a	

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Item 6.A

WRCOG Committees and Agency Activities Update

Attachment 2

Summary recaps from January Committee meetings

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Western Riverside Council of Governments
Executive Committee
Meeting Recap
January 7, 2019

Following is a summary of key items discussed at the last Executive Committee meeting. To review the full agenda and staff reports for all items, click here. To review the meeting PowerPoint presentations, click here.

New Representatives Welcomed

- WRCOG's Executive Committee welcomed eight new representatives from member jurisdictions including: Jeff Hewitt (County of Riverside), Karen Spiegel (County of Riverside), Mike Lara (Beaumont), Jim Hyatt (Calimesa), Micheal Goodland (Jurupa Valley), Jason Scott (Corona), Joe Tessari (Eastvale) and Matt Liesemeyer (Menifee).

2018 Year in Review

- WRCOG's Executive Director, Rick Bishop, provided an overview of the agency and highlighted a selection of 2018 accomplishments, including the Grant Writing Assistance Program's 104:1 return on investment, garnering $13 million for the subregion to date; the continuation of the WRCOG Public Service Fellowship Program, which has provided invaluable learning opportunities and a career path into the public sector for 53 Fellows to date; and the complete consolidation of the Riverside County Habitat Conservation Agency into WRCOG.

TUMF Program Activities Update

- The Executive Committee approved revisions to the TUMF Administrative Plan in the following areas:
  - Annual reviews for TUMF member agencies, clarifying the role of WRCOG in reviewing TUMF records for member agencies maintaining the responsibility of TUMF collection versus the review process for agencies which have delegated collection responsibility to WRCOG;
  - Member agency requirements to be a TUMF Program participant;
  - Clarifying language regarding TUMF miscalculation repayments for member agencies maintaining TUMF collection responsibilities;
  - TUMF exemption reporting responsibility clarifications; and
  - A requirement to include non-residential project building permits or site plans in remittance reports submitted by agencies maintaining TUMF collection responsibilities.

PACE Programs Activities Update

- In February 2018, the Executive Committee adopted WRCOG PACE Consumer Protections Policy v2.0.
- In order to achieve consistency in underwriting standards across multiple residential PACE providers, in lieu of the changes made to the Consumer Protections Policy, the Executive Committee approved administrative changes to the WRCOG Energy Efficiency and Water Conservation Program Administrative Guidelines and Program Report.

Report from the South Coast Air Quality Management District (SCAQMD)

- SCAQMD staff provided a report on a legislative proposal to authorize a potential local sales tax increase ballot measure for the South Coast Air District.
- The measure would support SCAQMD's 2016 Air Quality Management Plan (AQMP) and the significant regional air pollution reductions needed to meet federal air quality attainment deadlines and reduce the existing public health risk from air pollution; currently the region's air quality is categorized in the "extreme non-attainment" for ozone.

- SCAQMD does not have regulatory authority over mobile source emissions, which are the primary source of the ozone pollutants; the proposed tax would be used to provide an incentive for mobile source fleets to update to more fuel efficient, lower polluting vehicles.

Next Meeting

The next Executive Committee meeting is scheduled for Monday, February 4, 2019, at 2:00 p.m., at the County of Riverside Administrative Center, 1st Floor Board Chambers.

Western Riverside Council of Governments
Administration & Finance Committee
Meeting Recap
January 9, 2019

Following is a summary of major items discussed at the January 9, 2019, Administration & Finance Committee meeting. To review the full agenda and staff reports, please click here. To review the meeting PowerPoint Presentation, please click here.

Nomination for 2nd Vice-Chair made

- The Committee recommended that Councilmember Kevin Bash (Norco) serve as the Executive Committee 2nd Vice-Chair for the remainder of the fiscal year. The position became vacant when Laura Roughton was unsuccessful in her re-election attempt. The recommendation will be considered by the Executive Committee in February.

New PACE Provider Coming Soon

- The Committee is recommending that Lord Capital be brought in under WRCOG's PACE umbrella. Lord Capital has experience in a wide range of asset classes with a broad expanse of banking and capital markets expertise and operates in 11 states; WRCOG's Statewide Program would be the only Issuer Lord Capital plans to work with in California.

Appointments to Various Committees

- WRCOG is responsible for a number of appointments to outside agencies. The Committee provided recommendations for appointments to SCAG, CALCOG, the Santa Ana Watershed Project Authority One Water One Watershed Steering Committee, and the Riverside County Waste Management Local Task Force, to be considered by the Executive Committee at its February meeting.

Economic Development and Sustainability Indicators Report is Being Refined

- An initial list of over 50 sustainability indicators was established in the 2012 Economic Development and Sustainability Framework document and WRCOG has found that regular tracking and updating of this list is difficult for a variety of reasons. The list is being refined from 50 indicators to 14, as recommended by the Planning Directors Committee.
- Once finalized, this information will be summarized by staff in a brief report and distributed via WRCOG's website and other distribution channels. Staff also anticipates that this information will be presented at upcoming events and conferences to document how the region is performing with regards to these key items.

Revised Purchasing and Procurement Policy approved

- In an effort to expand Environmental Program funding opportunities, WRCOG staff has been researching grants through CalRecycle, which required updating the Policy to incorporate certain environmentally friendly purchasing policies.

Next Meeting

The next Administration & Finance Committee meeting is scheduled for Wednesday, February 13, 2019, at 12:00 p.m. in WRCOG's office, located at 3390 University Avenue, Suite 450, Riverside.

Western Riverside Council of Governments
Technical Advisory Committee
Meeting Recap
January 17, 2019

Following is a summary of key items discussed at the last Technical Advisory Committee meeting. To review the full agenda and staff reports for all items, click here. To review the meeting PowerPoint presentations, click here.

League Update

- AB 11 (Chiu), Community Redevelopment Law of 2019, allows a city or county, or two or more cities acting jointly, to form an Affordable Housing and Infrastructure Agency to fund projects such as infrastructure and affordable housing projects. 30% of tax increment must be deposited into low/moderate income housing fund. Some of the key elements include: Annual unspecified state commitment at the discretion of the State Controller; Schools will be made whole, no impact to Prop 98; Extensive upfront planning and costs required before a city or county can form an agency and receive project funding from the state.
- SB 5 (Beall), Local-State Sustainable Investment Incentive Program, creates a local-state partnership to reduce poverty and advance other state priorities finance, in part, by property tax increment. 20% of the overall funding for the program shall be set aside for counties with populations of less than 200,000. Some of the pros include: up to $2 billion state investment in affordable housing and infrastructure; 50% of the funds are required to be spent on affordable housing; relies on post redevelopment tools; allows wide-range of agency participation; Some of the cons include: less flexibility than redevelopment agencies; less resources available for economic development;

Riverside County Flood Control

- Riverside County Flood Control and Water Conservation District provided their bi-annual update to the TAC members on MS4 permit compliance and other mandates for addressing stormwater management in the region.
- These permits, issued pursuant to the federal Clean Water Act, are designed to protect local lakes, rivers and streams from pollution (such as sediment, oils, grease, fertilizers, animal and human waste, trash and dissolved metals) associated with urban land use.
- The District has created a Public Education Strategic Plan for Riverside County Permittees to comply with the educational requirements of the NPDES MS4 permits and to foster a community wide commitment to clean water.
- The District is working to renew all three MS4 permits that fall within the WRCOG jurisdictions to the respective Regional Boards this next calendar year.
- WRCOG staff is working closely with Flood Control on alternative approaches to cost-effectively address stormwater management in Western Riverside County.

WRCOG Public Service Fellowship Round IV Preparations

- TAC members supported a series of recommended changes to the Fellowship program, largely focused on the financial sustainability of the Program and candidate recruitment, including:
    - Expending Program eligibility to students from additional Universities,
    - Alternating Fellow placements between member agencies on a bi-annual basis, and
    - Exploring opportunities to adjust Fellow work schedules in an effort to make the Program more attractive to the most talented applicants.
- Recruitment for the next round of the Program will begin in early February.

- Host agency interest forms will be released in late February or early March—placements will be prioritized for jurisdictions which did not receive a Fellow in the current round.

Economic Development and Sustainability Indicators Report

- WRCOG's 2012 Economic Development and Sustainability Framework established a list of over 50 sustainability indicators. WRCOG has found that regular tracking and updating of this list is difficult and have thus refined the list from 50 indicators to 14.
- Included among the 14 indicators are educational attainment, household median income, and job growth. Most of this data has been aggregated to the subregion level based on city-wide, zip-code, census-tract data, and is available to the member jurisdictions.
- This information will be summarized by staff in a brief report and distributed via WRCOG's website and other distribution channels. Staff also anticipate that this information will be presented at upcoming events and conferences to document how the region is performing with regards to these key items.
- Committee members discussed the need to utilize the data from the indicators update to assist the subregion's economic development activities and directed staff to form an Ad Hoc Committee to address this issue—staff will return to the Committee with additional details regarding the Ad Hoc Committee formation.

Next Meeting

The next meeting of the Technical Advisory Committee is scheduled for Thursday, February 21, 2019, at 9:30 a.m. in WRCOG's office, located at 3390 University Avenue, Suite 450, Riverside.

Western Riverside Council of Governments
Finance Directors Committee
Meeting Recap
January 24, 2019

Following is a summary of major items discussed at the last Finance Directors Committee meeting. To review the full agenda and staff reports, please click here. To review the meeting PowerPoint Presentation, please click here.

Presentation by the Riverside County Auditor-Controller

- The Riverside County Auditor-Controller spoke about his background and his role as the Riverside County Auditor-Controller.

2nd Quarter Draft Budget Amendment for Fiscal Year 2018/2019

- The single largest amendment was to the Energy Department revenues. The HERO Program has continued to experience a decline in revenues and volumes and will be reduced by $850k.
- Overall, there was a net revenue increase of $238, as there were offsetting expenditures for the reduction in HERO revenue, and also an increase in revenue from other PACE providers.

Comprehensive Annual Financial Report (CAFR) Fiscal Year 2017/2018

- WRCOG received an unmodified opinion for their FY 2017/2018 audit. An unmodified opinion is the highest form of assurance an auditing firm can provide to its client and means that the audit and associated Agency financials are both in good form and the accounting practices are solid.
- Revenues are up 41%, mainly attributable to increased TUMF collections. Expenditures are down 44%, mainly attributable to decreased TUMF project reimbursements and less projects programmed on the TIP in FY 2017/2018.
- WRCOG's ending General Fund balance is down from $12.6 to $11.3 and TUMF fund balance is up from $9.4 to $38.1.

TUMF Calculation and Collection Process Update

- TUMF has collected $30M in the first six months of the fiscal year and is up $7M from the same time last year.
- Industrial is now the second-highest contributor to TUMF collections.
- WRCOG staff are continuing to work with member agencies in the transition to take over the TUMF calculation/collection process.

The Economy and Financial Markets

- Richard Babbe from Public Financial Management spoke on the economy and the general consensus is that the economy has strengthened over the past year, unemployment is at a 49-year low, and interest rates have risen sharply with no expectation for them to go down. Trade concerns, higher interest rates, and geo-political events could impact longer-term economic growth.

Items for Future Agenda

- The Finance Directors Committee expressed an interest in hearing from the Sheriff about upcoming rates and how they will effect each jurisdiction. The Committee also discussed hearing from Cal Fire. Terry Shea, City of Canyon Lake, offered to provide a GAAP update.

Next Meeting

The next meeting of the Finance Directors Committee is scheduled for Thursday, April 25, 2019, at 1:00 p.m., at WRCOG's office located at 3390 University Avenue, Suite 450, Riverside.

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Western Riverside Council of Governments
Public Works Committee

Staff Report

Subject: **TUMF Revenue and Expenditures Update**

Contact: **Andrew Ruiz, Interim Chief Financial Officer, aruiz@wrcog.us, (951) 405-6741**

Date: **February 14, 2019**

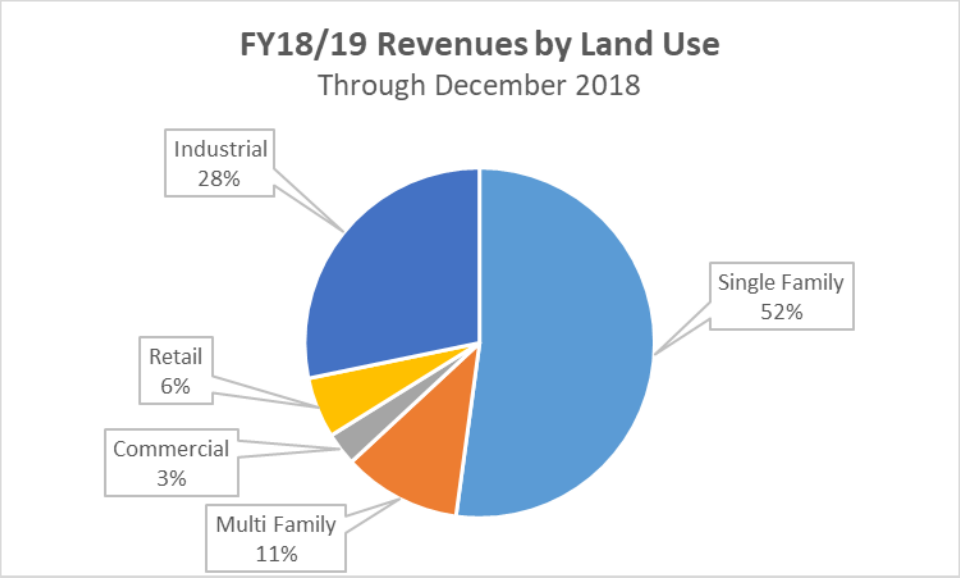
The purpose of this item is to *provide an update on the TUMF revenues, expenditures, and reimbursements for the current month and since Program inception.*

Requested Action:

1. Receive and file.

December 2018 Remittances

For the month of December 2018, the TUMF Program collected $2,015,407. As shown in the chart below, of the $30 million collected this fiscal year to date, approximately 52%, or $16 million, has been from single-family residential projects, followed by approximately 28%, or $8 million, from industrial projects.



January 2019 Reimbursements

TUMF reimbursements were made for the following projects during January 2019:

- Northwest Zone: Limonite Avenue (Bain to Homestead); Van Buren Boulevard (Limonite Avenue to Santa Ana River)

- Southwest Zone: Scott Road / I-215 Interchange; Clinton Keith Road (I-215 to SR-79); Clinton Keith Road (I-15 to Copper Craft Drive)

Member agencies are encouraged to submit reimbursement requests as project costs are incurred for projects that have available funding on the appropriate, approved Transportation Improvement Program (TIP) for the current fiscal year. Staff recommends that reimbursement requests generally be submitted in increments of no less than $10,000.

Historic Payments and Collections

To date, revenues received into the TUMF Program total $810,513,775. Interest amounts to $33,618,427, for a total collection of $844,132,202.

WRCOG has dispersed a total of $391,456,082 primarily through project reimbursements and refunds, and $24,965,244 in administrative expenses.

The Riverside County Transportation Commission share payments have totaled $366,108,260 through January 31, 2019.

Prior Action:

None.

Fiscal Impact:

This item is informational purposes only; therefore, there is no fiscal impact.

Attachment:

1. Summary TUMF Program revenues.

Item 6.B

TUMF Revenue and Expenditures Update

Attachment 1

Summary TUMF Program revenues

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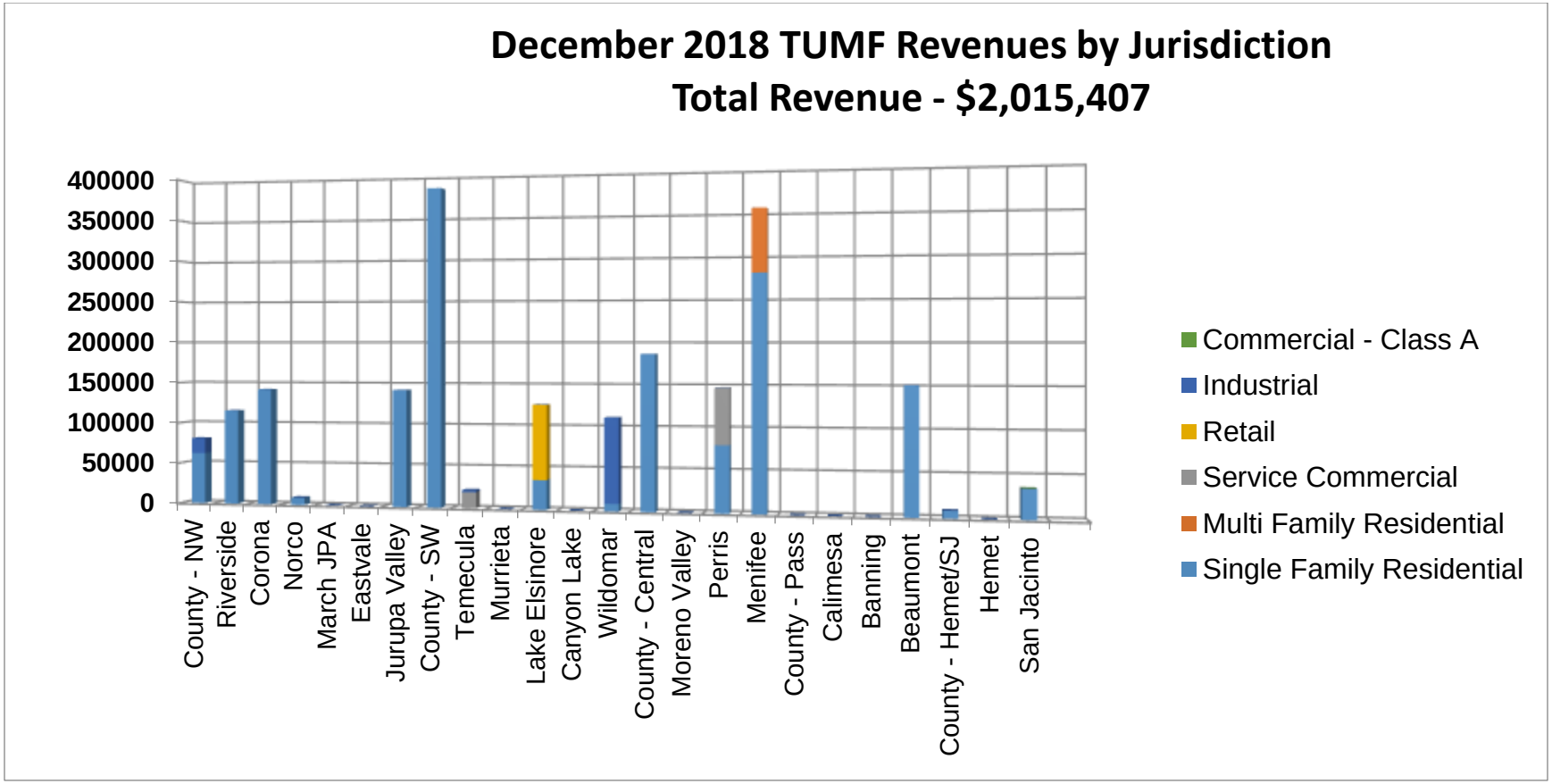
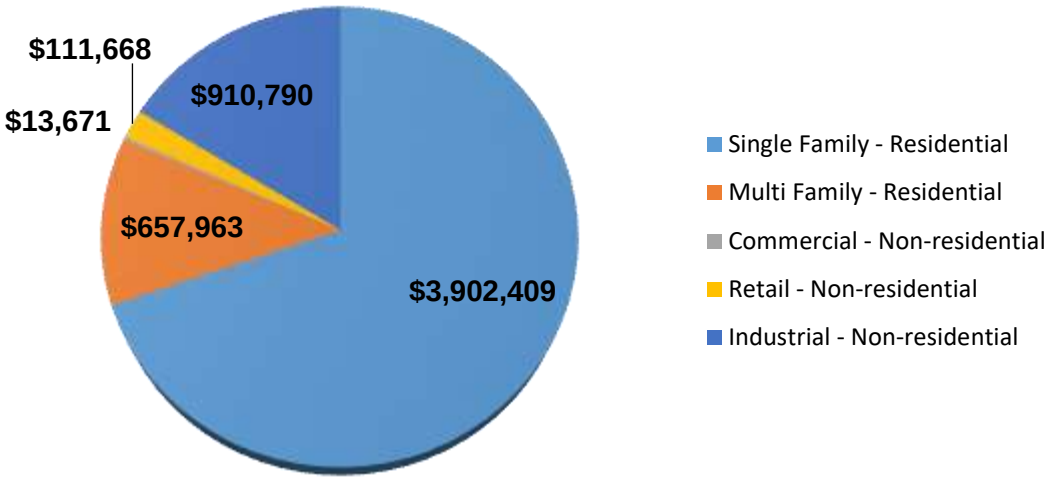
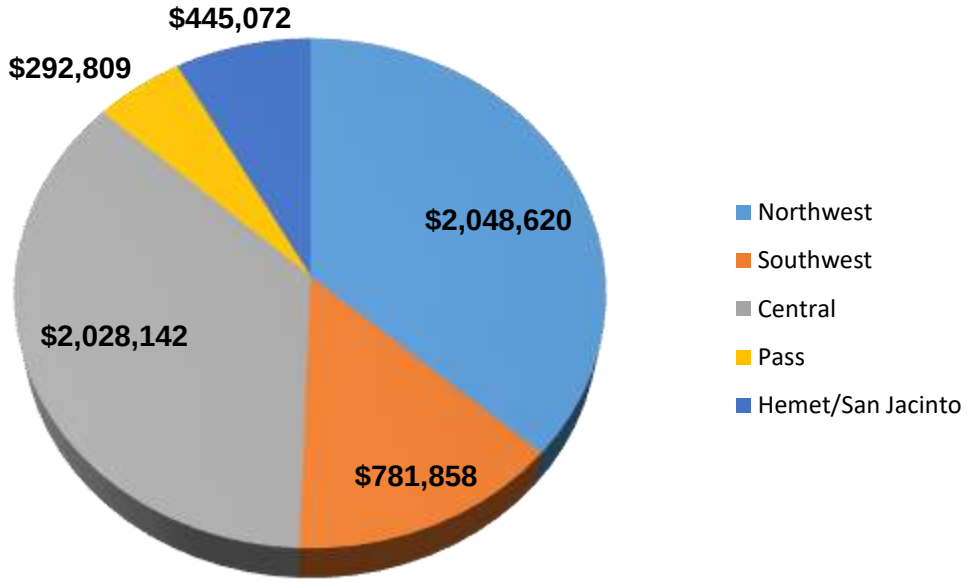

December 2018 TUMF Revenues by Jurisdiction
Total Revenue - $2,015,407
400000
350000
300000
250000
200000
150000
100000
50000
0
County - NW
Riverside
Corona
Norco
March JPA
Eastvale
Jurupa Valley
County - SW
Temecula
Murrieta
Lake Elsinore
Canyon Lake
Wildomar
County - Central
Moreno Valley
Perris
Menifee
County - Pass
Calimesa
Banning
Beaumont
County - Hemet/SJ
Hemet
San Jacinto
Commercial - Class A
Industrial
Retail
Service Commercial
Multi Family Residential
Single Family Residential

December 2018 TUMF revenues by land-use type



December 2018 TUMF Revenues by Zone



Jurisdiction	Fiscal Year 17-18	2018 July	August	September	October	November	December	Fiscal Year 18-19
Banning	$34,831	$0	$0	$0	$0	$8,873	$0	$8,873
Beaumont	$1,122,229	$266,190	$177,460	$640,153	$0	$204,079	$150,841	$1,438,723
Calimesa	$17,782	$8,873	$0	$8,873	$8,873	$0	$0	$26,619
Canyon Lake	$84,301	$17,746	$0	$8,873	$0	$8,873	$0	$35,492
Corona	$1,789,431	$133,095	$62,111	$86,141	$754,985	$797,314	$141,968	$2,328,385
Eastvale	$4,234,019	$0	$62,111	$88,010	$0	$246,082	$0	$396,203
Hemet	$655,213	$18,292	$4,359	$24,770	$141,968	$34,365	$0	$295,311
Jurupa Valley	$5,613,221	$283,936	$603,364	$882,363	$480,879	$440,450	$141,968	$2,832,960
Lake Elsinore	$4,042,675	$53,238	$115,349	$452,523	$17,746	$60,551	$125,560	$824,966
March JPA	$2,009,269	$0	$0	$154,348	$742,413	$0	$0	$896,761
Menifee	$3,221,139	$0	$460,096	$342,134	$285,916	$296,045	$355,151	$1,739,341
Moreno Valley	$6,971,308	$523,507	$1,125,812	$194,029	$1,594,874	$1,767,561	$0	$5,205,783
Murrieta	$3,142,420	$354,034	$259,801	$257,317	$150,841	$70,984	$0	$1,092,977
Norco	$253,632	$5,424	$205,656	$0	$748,545	$0	$8,873	$968,498
Perris	$769,084	$301,682	$17,746	$593,560	$0	$35,492	$146,897	$1,095,377
Riverside	$3,567,176	$1,564,054	$280,738	$146,047	$647,399	$1,426,528	$115,349	$4,180,114
San Jacinto	$2,445,168	$409,034	$70,984	$177,460	$292,809	$120,681	$35,492	$1,558,983
Temecula	$1,822,548	$91,212	$259,701	$1,267	$177,329	$65,991	$21,905	$617,405
Wildomar	$1,309,894	$35,492	$8,873	$8,873	$67,119	$0	$110,882	$231,239
County Central	$3,779,337	$1,202,953	$239,571	$44,365	$150,841	$26,619	$186,333	$1,877,301
County Hemet/S.J.	$515,274	$17,746	$12,092	$380,390	$44,953	$74,532	$8,873	$698,294
County Northwest	$2,169,944	$62,111	$106,476	$177,460	$17,746	$416,033	$80,583	$1,215,329
County Pass	$144,898	$17,746	$8,873	$0	$0	$26,619	$0	$79,857
County Southwest	$3,700,525	$230,136	$366,272	$737,857	$834,498	$116,277	$384,733	$3,376,208
Total	**$ 53,415,318**	**$ 5,596,500**	**$4,447,445**	**$ 5,406,812**	**$ 7,159,735**	**$6,243,949**	**$2,015,407**	**$ 33,020,998**

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Western Riverside Council of Governments
Public Works Committee

Staff Report

Subject: **Riverside Transit Agency Activities Update**

Contact: **Rohan Kuruppu, Director of Planning, Riverside Transit Agency, rkurrupu@riversidetransit.com, (951) 565-5130**

Date: **February 14, 2019**

The purpose of this item is to *provide an update on projects that the Riverside Transit Agency is in the process of implementing.*

Requested Action:

1. Receive and file.

This item is reserved for a presentation from Rohan Kuruppu, Director of Planning, with the Riverside Transit Agency (RTA) on projects that are underway with funding contributions from the TUMF Program. RTA receives approximately 3% of TUMF funds collected to implement transit projects in the WRCOG subregion to alleviate congestion from new growth.

Prior Action:

None.

Fiscal Impact:

This item is informational only; therefore, there is no fiscal impact.

Attachment:

None.

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Western Riverside Council of Governments
Public Works Committee

Staff Report

Subject: **Fee Comparison Analysis Update**

Contact: **Christopher Tzeng, Program Manager, ctzeng@wrcog.us, (951) 405-6711**

Date: **February 14, 2019**

The purpose of this item is to *provide an update of the Fee Comparison Analysis. In 2016, WRCOG conducted an analysis of the fees required of development projects, the effect of other development costs, and the economic benefits of transportation investment. WRCOG is in the process of finalizing the analysis update with current fees.*

Requested Action:

1. Receive and file.

In 2016, WRCOG conducted a study to analyze fees / exactions required and collected by jurisdictions / agencies in and immediately adjacent to the WRCOG subregion. The study was received by the WRCOG Committees and subsequent presentations were completed to various City Councils in the subregion. Based on the feedback provided and the requests made for data and presentations, WRCOG indicated the study would be updated on a consistent basis to enable jurisdictions to understand the impact of fees on development and the regional economy. WRCOG and its project team has been updating the analysis since September 2018 and will be finalizing the update in the coming month.

Background on 2018 Update

Generally, the analysis methodologies, assumptions, and jurisdictions analyzed are consistent with the original study. The fee comparison update process primarily involved contacting jurisdictions and special districts to understand if and how their development impact fees had changed since 2016. In some cases, jurisdictions indicated the need for adjustments to the 2016 assumptions / methodologies, particularly concerning the calculation of water and sewer fees. As a result, the changes between 2016 and 2018 represent a combination of changes driven by fee schedule changes (actual changes in fee levels), as well as those driven by suggested refinements in other underlying assumptions.

Findings

Summary of Fee Schedule Changes: Table 1 presents aggregate average 2018 development impact fees, by land use type, as well as the average change in fees due to changes in jurisdictions' fee schedules since 2016. As a point of reference, the Consumer Price Index for the Western Region indicates an increase / inflation of about 6.5% of this period. The fee increases for Single-family, Multi-family, and Industrial were all somewhat below the level of inflation over this period, with fees on office development somewhat above. The average reduction in retail fees was about 8.5% and was driven by the 29% reduction in the TUMF fee on retail.

Table 1 Summary of Fee Schedule Changes (2016 to 2018)

Land Use	Average Fee 2018*	Fee Schedule-Driven Changes[1]
Single Family (per unit)	$47,470	4.8%
Multifamily (per unit)	$29,706	5.0%
Retail (per Sq.Ft.)	$23.63	-8.7%
Office (per Sq.Ft.)	$14.15	7.4%
Industrial (per Sq.Ft.)	$5.19	5.5%

*Average total 2018 fees are representative of all study jurisdictions.

[1]Fee Schedule-driven changes refers to the amount of change in fees from 2016 to 2018 that is due to changes to the fee schedule and therefore excludes changes in fees due to methodological or procedureal changes in fee calculations.

Summary of Average Fee Schedule-Driven Changes: Table 2 provides a summary of average fee schedule-driven changes by fee category for each land use. It indicates the degree to which different fee category (improvement type) components contributed towards the overall percentage change by land use type shown in Table 1. There have been different levels of average increases across the fee categories and different levels of variation among land use categories.

- The school facilities fees have generally shown the largest and most consistent increase of about 10% across land uses over the two-year period.
- Water and Sewer fees also increased on average, but more modestly, with a range of between 3.4% and 5.4%, while other area / regional fees (a combination of a range of fee types) also showed modest increases in the 2.0% to 4.1%.
- Other City fees (that includes transportation, parks, and other citywide capital facilities fees) – where individual jurisdictions have the most direct control – showed the most variation with an average of a 14.1% increase in office fees and a reduction of 0.6% in industrial fees.
- The TUMF fee showed the lowest fee increases, including modest increases in office and industrial fees, no change in Single-family fees, a modest reduction in Multi-family fees, and a significant reduction in Retail fees.

Table 2 Summary of Fee Schedule Changes by Fee Category

	Fee Schedule Changes by Fee Category (2016 to 2018)*				
Land Use	TUMF	Water & Sewer	Other City Fees	School Fees	Other Area / Regional Fees
Single Family	0.0%	4.4%	7.1%	11.8%	4.1%
Multifamily	-1.6%	4.4%	1.1%	9.8%	2.5%
Retail	-28.5%	5.2%	7.6%	10.5%	2.0%
Office	4.1%	5.4%	14.1%	10.4%	2.8%
Industrial	2.3%	3.4%	-0.6%	9.7%	3.1%

* Percent change, by fee category and land use, are derived by calculating the percentage change in average fees, excluding study jurisdictions where fee changes are not soley due to changes in fee schedule.

Summary of Fee Program Changes: Changes from 2016 to 2018 are assessed by comparing fee totals by land use type for each jurisdiction. For discussion purposes, development fees are broken into seven categories: Regional Transportation (TUMF), Water and Sewer Fees, Other City Fees, Storm Drain / Flood Control, School Fees, Habitat Mitigation, and Other Area /Regional Fees.

- Regional Transportation (TUMF): Since 2016, the TUMF fee for Single-family units has not changed, some increase for industrial and office use, some reduction in Multi-family use, and significant reduction in TUMF fees for retail use. The significant reduction in the TUMF fee for retail uses had a significant effect on the overall change in retail fees in all WRCOG jurisdictions.

- Water & Sewer Fees and Local DIFs: Water and Sewer fees and local development impact fees experienced the greatest variation in change by jurisdiction. Of the 21 jurisdictions / areas analyzed (including 18 cities), 16 had changes in their water and/or sewer fees, and 9 had changes in their local development impact fees. Four jurisdictions / areas experienced no change to their water, sewer, or local fees since 2016, while eight experienced changes in both water/sewer and local fees.

- Storm Drain Fees: Storm drain and flood control fees only changed in four of the 21 jurisdictions since 2016. Many jurisdictions do not have storm drain/flood control fees.

- School Fees: School fees in 18 of 21 jurisdictions have increased since 2016 by an overall average of 10% for residential land uses and 11% for non-residential land uses.

- Habitat Mitigation Fees: The MSHCP fee can be increased on an annual basis by the rate of inflation (the consumer price index) – which was done over for the last two years – for an increase of about 5.6%. Development in some jurisdictions is also subject to the Stevens' Kangaroo Rat fee, which has not changed since 2016.

Table 3 Summary of Changes to Water, Sewer, and Local Fees*

Jurisdiction	Fee Changes (2016 - 2018) Changes to Water / Sewer Fees	Changes to Local DIF Fees
Banning	No	No
Beaumont	Yes	Yes
Canyon Lake	Yes	No
Calimesa	No	Yes
Corona	No	No
Eastvale	Yes	Yes
Hemet	Yes	Yes
Jurupa Valley	Yes	No
Lake Elsinore	Yes	No
Menifee	Yes	Yes
Moreno Valley	Yes	Yes
Murrieta	Yes	Yes
Norco	No	No
Perris	Yes	Yes
Riverside	Yes	Yes
San Jacinto	Yes	No
Temecula	Yes	No
Wildomar	Yes	No
Unincorporated Riverside County (Temescal Valley)	No	No
Unincorporated Riverside County (Winchester)	Yes	No
March JPA	Yes	No

*Summary of Unmodified Fees.

Unmodified Fee Level Changes: Table 4 compares total average fee levels by land use for WRCOG jurisdictions from the original 2016 Study to the 2018 fee levels estimated in the updated study. These summary data points include all WRCOG study jurisdictions and all fee level changes whether due to changes in fee schedules or due to procedural / methodological changes. It is apparent that the procedural / methodological changes tended to increase the estimated fee levels, adding between 3% and 9% to the average level of fee increases for non-residential uses and a more modest 1% for Single-family fees and negative 0.3% for Multi-family fees. The procedural / methodical changes tend to explain the higher end of the range of percentage increases by jurisdiction (and in some cases the lower end of the range). These changes are most typically associated with changes in the water and sewer fee calculations / calculation methodology. This included the direct provision by water district staff of revised calculations as well as the provision by staff of more specific and different assumptions concerning water meter assumptions by land use / development prototype.

Table 4 Change in Average Total Estimated Fee Amounts: 2016 to 2018

Land Use	Average Estimated Total Fee			Range of Change	
	2016	2018	Avg % Change	Low	High
Single Family (per unit)	$44,734	$47,345	5.8%	-8%	26%
Multifamily (per unit)	$28,384	$29,706	4.7%	-5%	16%
Retail (per SF)	$23.57	$23.63	0.3%	-15%	61%
Office* (per SF)	$12.67	$14.15	11.7%	1%	55%
Industrial (per SF)	$4.74	$5.18	9.4%	-7%	49%

*Assumes 50 percent reduction in TUMF for Class A/B office developments.

Fee Schedule-Driven Change: Table 5 shows the "modified" average changes in fee levels with excluded jurisdictions noted for each land use category. The average change is similar amongst the unmodified and modified calculations for residential land uses, while average changes in non-residential land uses are more substantial, reflecting the larger impact of the procedural / methodological changes on these land uses.

Table 5 Modified Change Summary Table

Land Use	Average Estimated Total Fee Avg % Change	Range of Change Low High
Single Family (per unit)[1]	4.8%	0% - 18%
Multifamily (per unit)[2]	5.0%	1% - 15%
Retail[3] (per SF)	-8.7%	-15% - 5%
Office*[4] (per SF)	7.4%	1% - 31%
Industrial[5] (per SF)	5.5%	-7% - 49%

*Assumes 50 percent reduction in TUMF for Class A/B office developments.

[1]The following jurisdictions have been removed from these calculations since the changes in estimated fee amounts that have occurred since 2016 are due to procedural changes rather than changes to the fee amount: Beaumont, Calimesa, Riverside, Wildomar, March JPA.

[2]The following jurisdictions have been removed from these calculations since the changes in estimated fee amounts that have occurred since 2016 are due to procedural changes rather than changes to the fee amount: Canyon Lake, Calimesa, Lake Elsinore, Wildomar, March JPA.

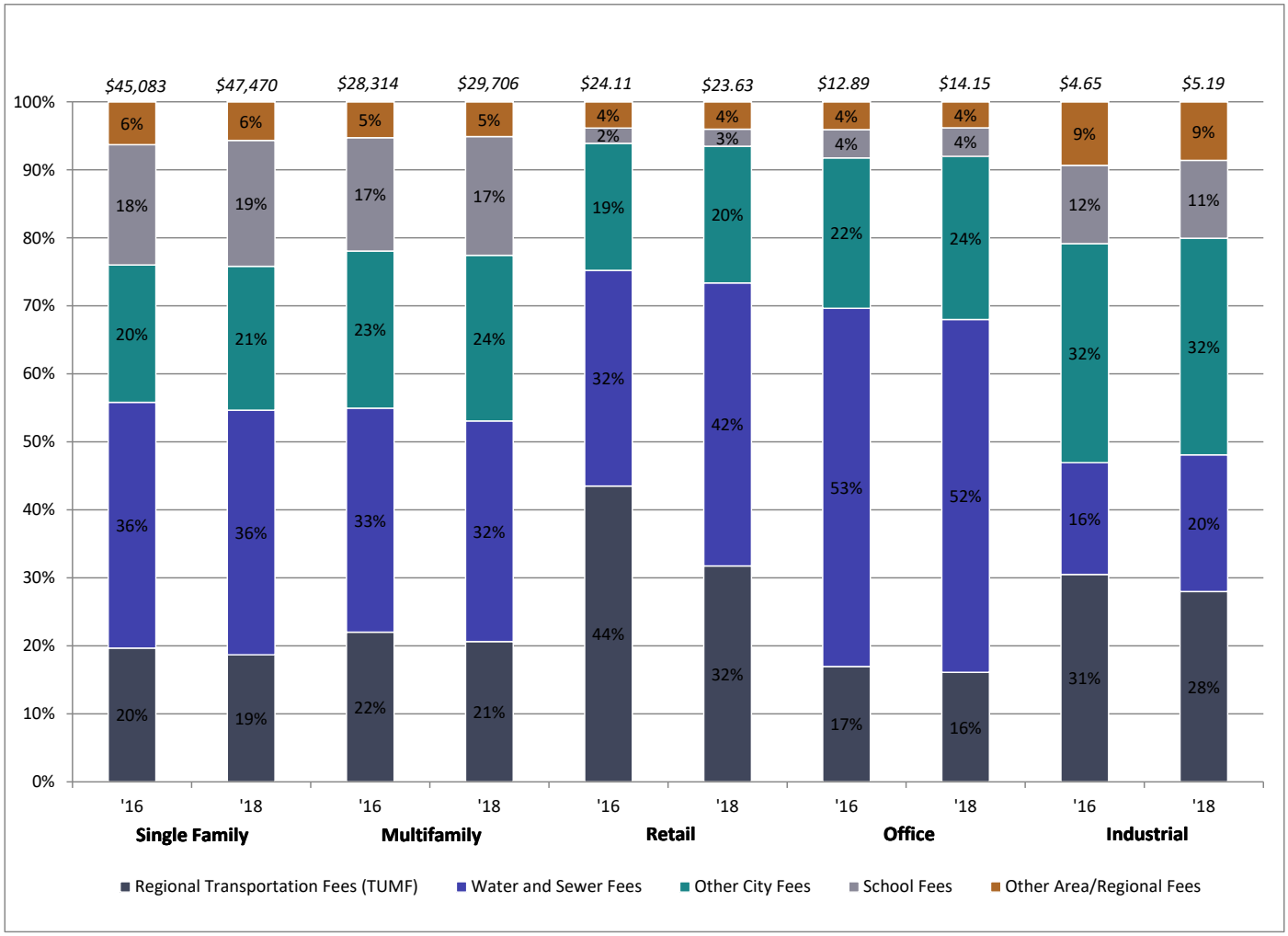
[3]The following jurisdictions have been removed from these calculations since the changes in estimated fee amounts that have occurred since 2016 are due to procedural changes rather than changes to the fee amount: Beaumont, Canyon Lake, Lake Elsinore, Wildomar, March JPA.

[4]The following jurisdictions have been removed from these calculations since the changes in estimated fee amounts that have occurred since 2016 are due to procedural changes rather than changes to the fee amount: Beaumont, Canyon Lake, Calimesa, Lake Elsinore, Wildomar, March JPA.

[5]The following jurisdictions have been removed from these calculations since the changes in estimated fee amounts that have occurred since 2016 are due to procedural changes rather than changes to the fee amount: Canyon Lake, Calimesa, Lake Elsinore, Wildomar, March JPA.

Fee Composition: Figure 1 presents a graphic comparison of the composition of total estimated fees, by category and land use, for both 2016 and 2018. The substantial reduction in the TUMF retail fee drove the most significant changes in the distributions, with other overall changes more modest – as would be expected – over a two-year period.

Figure 1 Proportional Development Fee Amounts (Comparison: 2016 & 2018) by Land Use



Prior Action:

August 9, 2018: The Public Works Committee received and filed.

Fiscal Impact:

Transportation Department activities are included in the Agency's adopted Fiscal Year 2018/2019 Budget under the Transportation Department.

Attachment:

None.

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Western Riverside Council of Governments
Public Works Committee

Staff Report

Subject: **Fiscal Year 2019/2020 SB 821 - Bicycle and Pedestrian Facilities Program Call for Projects**

Contact: **Jenny Chan, Management Analyst, Riverside County Transportation Commission, jchan@rctc.org, (951) 787-7924**

Date: **February 14, 2019**

The purpose of this item is to *provide an update on the Fiscal Year (FY) 2019/2020 SB 821 - Bicycle and Pedestrian Facilities Program Call for Projects, administered by the Riverside County Transportation Commission (RCTC).*

Requested Action:

1. Receive and file.

Background

Each year, 2% of the Local Transportation Fund (LTF) revenue received by RCTC is set aside for use on bicycle and pedestrian facility projects through the its SB 821 Program. This is a discretionary Program administered by RCTC.

At its March 2014 meeting, the RCTC approved its Technical Advisory Committee's subcommittee recommendation to extend the SB 821 - Call for Projects from an annual basis to a biennial basis. It also set the call release date for the first Monday of every other February and the close date for the last Thursday of every other April, beginning February 2015.

Based on the FY 2018/2019 and FY 2019/2020 apportionments, the amount available for Program for the 2019 SB 821 - Call for Projects is approximately $3,833,000. Following is the planned schedule for the Program.

February 4, 2019:	Call for Projects released. Guidelines and application available at *http://rctc.org/SB821Call*.
February 5 – April 19, 2019:	One-on-one sessions on Program eligibility and guidance with RCTC staff are available upon request. Submit requests to Jenny Chan at jchan@rctc.org.
April 25, 2019:	Proposals due to RCTC by 2:00 p.m.

Please submit any claims from prior awards or questions to Jenny Chan at jchan@rctc.org.

Prior Action:

None.

Fiscal Impact:

This item is informational only; therefore, there is no fiscal impact.

Attachment:

None.

Western Riverside Council of Governments
Public Works Committee

Staff Report

Subject: **High-Cube Warehouse Calculation**

Contact: **Daniel Ramirez-Cornejo, Program Manager, dramirez-cornejo@wrcog.us, (951) 405-6712**

Date: **February 14, 2019**

The purpose of this item is to *present a proposed adjustment to the High-Cube Warehouse component of the TUMF Calculation Handbook based on data from the Trip Generation Study.*

Requested Action:

1. Recommend that the Executive Committee approve the adjustment to the High-Cube Warehouse component of the TUMF Calculation Handbook.

WRCOG's Transportation Uniform Mitigation Fee (TUMF) Program is a regional fee program designed to provide transportation and transit infrastructure that mitigates the impact of new growth in Western Riverside County. Each of WRCOG's member jurisdictions and the March JPA participates in the Program through an adopted ordinance, collects fees from new development, and remits the fees to WRCOG. WRCOG, as administrator of the TUMF Program, allocates TUMF to the Riverside County Transportation Commission (RCTC), groupings of jurisdictions – referred to as TUMF Zones – based on the amounts of fees collected in these groups, the Western Riverside County Regional Conservation Authority (RCA) and the Riverside Transit Agency (RTA).

Background

During the 2016 TUMF Nexus Study update process, staff received questions from several stakeholders regarding the TUMF calculation for fulfillment centers. In spring 2018, the Public Works Committee requested that staff review the available data and undertake a study to provide additional information and potential support of an additional rate or calculation methodology in the TUMF Calculation Handbook for fulfillment centers and distribution centers. A subcommittee was formed consisting of representatives from the Cities of Eastvale, Jurupa Valley, Moreno Valley, Perris, and Riverside. The purpose of the subcommittee was to conduct a trip generation study of sites within and around Western Riverside County and to determine if a separate component of the TUMF Calculation Handbook would be necessary for fulfillment centers.

WRCOG retained WSP to conduct a trip generation study at sites recommended by the members of the subcommittee. Traffic counts were collected at 16 sites over a 72-hour period for three midweek days beginning on June 26, 2018. In December 2018, staff provided a presentation on the findings of the study. For reference, the study is included as Attachment 1 to this Staff Report.

Since the last presentation on this item, staff has received comments from stakeholders. One comment regarding the square footage of a site resulted in a revision to the Trip Generation Study. Additional comments included the types of land uses of the sites selected for trip counts and whether these sites represent fulfillment centers. Staff would note that the land uses selected represent high-cube warehouses in the region and for TUMF calculation purposes, this is generally the only information provided when a fee obligation is calculated. Since TUMF is assessed and/or collected at issuance of building permit, the end use of the development

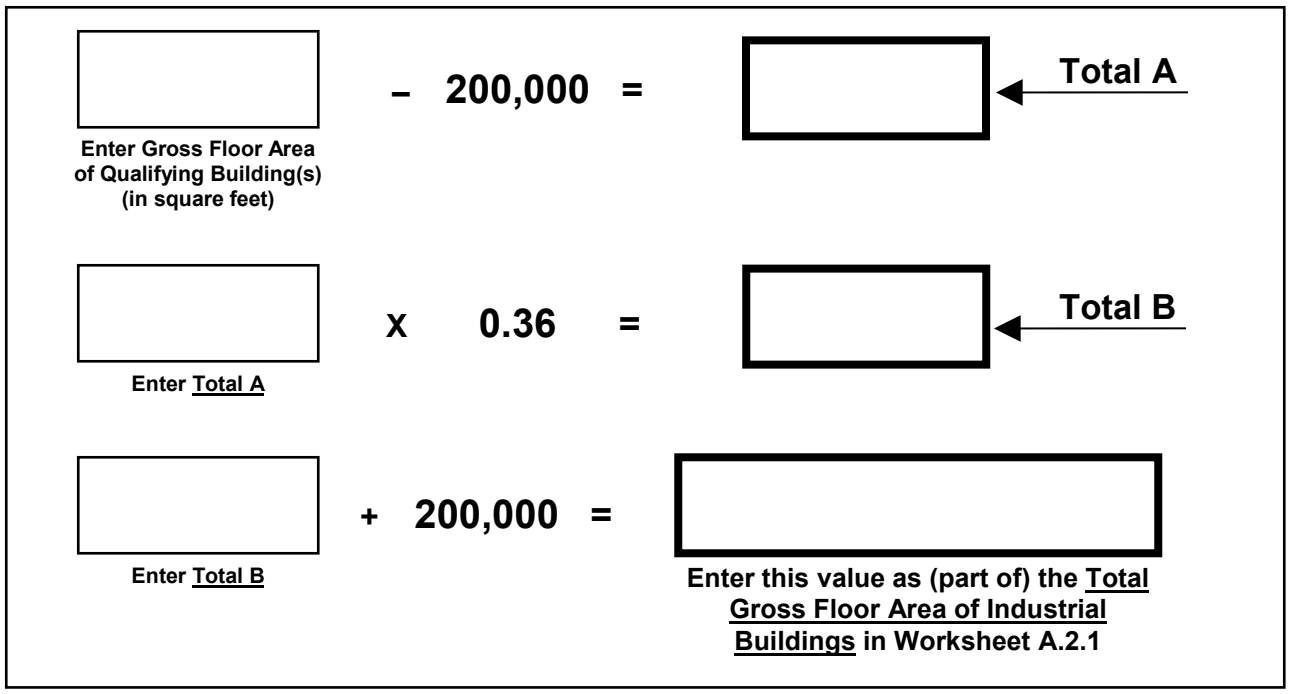
project is not known. For reference, comments received by WRCOG are included as Attachment 3 to this Staff Report.

Proposed Adjustment to High Cube Warehouse Calculation

Based on the results of the Trip Generation Study and recommendation by the subcommittee, staff does not recommend the inclusion of a separate component of the TUMF Calculation Handbook for fulfillment centers. However, staff does recommend an adjustment to the current High-Cube Warehouse TUMF calculation component in the TUMF Calculation Handbook to better accommodate the data gathered in this study regarding the higher number of trips generated by large fulfillment centers. This approach would recognize that fulfillment centers are a subset of the general High-Cube Warehouse Fee calculation category.

The proposed adjustment to the calculation worksheet for high-cube warehouses would increase the multiplier from 0.32 to 0.36 and is as follows:

Worksheet A.2.8 High-Cube Warehouse TUMF Calculation Worksheet



For High-Cube warehouses that are approximately 250,000 square feet, this update would result in an approximately $3,500 difference, or an approximately 1% increase in fees. For larger projects, such as a one million square foot warehouse, this update would increase fees by approximately $56,000, representing an approximate 7% increase based on current fees.

For reference, attached to this Staff Report is the adjusted component of the TUMF Calculation Handbook for High-Cube Warehouses (Attachment 2).

Prior Action:

December 13, 2018: The Public Works Committee directed staff to present the adjusted High-Cube Warehouse component of the TUMF Calculation Handbook based on the Trip Generation Study.

Fiscal Impact:

Transportation Department activities are included in the Agency's adopted FY 2018/2019 Budget under the Transportation Department.

Attachments:

1. Trip Generation Study.
2. TUMF Calculation Handbook – High Cube Warehouse.
3. Trip Generation Study – Stakeholder comments.

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Item 7.D

High-Cube Warehouse Calculation

Attachment 1

Trip Generation Study

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Technical Memorandum

To: Daniel Ramirez-Cornejo, Program Manager, WRCOG

From: Billy Park, Supervising Transportation Planner, WSP

Subject: **TUMF High-Cube Warehouse Trip Generation Study**

Date: January 29, 2019

Background

High-cube warehousing is emerging as an important development type in the Inland Empire. Studies such as Logistics & Distribution: *An Answer to Regional Upward Social Mobility*[1] and *Multi-County Goods Movement Action Plan*[2] suggests that this trend is likely to increase over time due to the Inland Empire's relative abundance of suitable sites compared to coastal counties.

A recurring analytical problem for the analyses of traffic impacts associated with proposed high-cube warehouses is the lack of reliable data regarding the number and vehicle mix of trips generated by this land development type. Specifically:

- The *2003 Fontana Truck Trip Generation Study*, which has been used for years by agencies in the Inland Empire, is based on the older type of high-cube warehouse. Newer warehouses generally are larger (often over 1 million square feet), much more automated, and generate far fewer trips per square foot.
- The use of overly-conservative estimates has produced results that were unreasonable when compared to actual field conditions. For example, the Environmental Impact Report (EIR) for the Skechers high-cube warehouse building in Moreno Valley included traffic forecasts that were substantially higher than the actual post-construction trip generation for both cars and trucks. Overstated forecasts are misleading to decision makers and could result in oversized infrastructure that could itself have environmental consequences, creates an undue burden on development, and could even have adverse legal consequences for the agencies involved.
- In 2011 the Commercial Real Estate Development Association, also known by its former acronym NAIOP, commissioned a trip generation study of high-cube warehouses focused on large highly-automated warehouses in the Inland Empire. NAIOP had hoped that their study, which found trip-gen rates considerably lower than previous studies, would be used in CEQA analyses going forward. However, concerns about potential bias by the sponsoring party have placed into question the validity of the study results. Similarly, a study commissioned by SCAQMD was viewed as possibly having an anti-development bias.
- Finally, in 2015 NAIOP and SCAQMD jointly sponsored a trip-gen study for high-cube warehouses through a respected neutral party, the Institute of Transportation Engineers (ITE). The report for this study, *High-Cube Warehouse Vehicle Trip Generation Analysis*, was completed in 2016.

The joint NAIOP/SCAQMD/ITE study resulted in a consensus on the trip generation rates to be used for the most common type of high-cube warehouse, a category they call "transload and short-term storage". The findings of the joint study generally indicated the trip generation rates for this use as being consistent with the trip generation rates for the broader category of high-cube warehouses as described by ITE in the 9th Edition of the *Trip*

[1] *Logistics & Distribution: An Answer to Regional Upward Social Mobility*, Dr. John Husing for SCAG, June 2004
[2] *Multi-County Goods Movement Action Plan*, Wilbur Smith Associates, August 2008

Generation Manual. However, the report did not settle the issue of trip generation rates for two other specific types of high-cube warehouses:

> *"The single data points for fulfillment centers and parcel hubs indicate that they have significantly different vehicle trip generation characteristics compared to other HCWs. However, there are insufficient data from which to derive useable trip generation rates."*

The purpose of this technical memorandum is to gather sufficient data to develop reliable trip generation rates for fulfillment centers and parcel hubs for use in traffic impact studies in the Inland Empire.

Methodology

Number of Sites: The study team reviewed ITE's *Trip Generation Handbook 2nd* Edition, Chapter 4 of which describes how to perform a trip generation study that meets ITE's standards (which improves the defensibility of the results if they are used for CEQA analyses). ITE recommends that at least three sites, and preferably five, be surveyed for a given land use category. Based on the review of candidate sites identified by Western Riverside Council of Governments (WRCOG) staff, it was recommended that data be collected at a total of 16 sites for the purposes of this study.

Independent Variables: ITE's Trip Generation Manual measures the size of proposed developments using more than a dozen different independent variables, such as students (for schools), acres (for parks), etc. All High-Cube related categories in both 9th and 10th Editions of the Trip Generation Manual are reported in Square Foot Gross Floor Area (GFA) measured in thousands of square feet (TSF), which is also the independent variable used for the TUMF program. Some other ITE employment categories use employment as the independent variable, as does SCAG in its Sustainable Communities Strategy. WRCOG provided GFA for all sites and employment data for eight fulfillment centers and one parcel hub site.

The ITE *Trip Generation Manual* typically reports trip generation rates two ways; namely as the average rate and using the "best fit" mathematical relationship between the number of trips generated and the independent variable. R-squared, also known as the coefficient of determination, is used to measure how well the best fit equations match the surveyed traffic counts. The *Trip Generation Manual* recommends that the best fit equation only be used when the R^2 is greater than or equal to 0.50 and certain other conditions being met; otherwise the average rate should be used.

Data Collection

WRCOG provided a list of recommended trip generation study sites after reviewing potential sites within the Inland Empire with its member agencies. The list included 11 fulfillment centers and 5 parcel hub sites as follows:

Fulfillment Centers

1. Walmart: 6750 Kimball Ave, Chino, CA 91708
2. Amazon: 24208 San Michele Rd, Moreno Valley, CA 92551
3. Lineage Logistics: 1001 Columbia Ave Riverside, CA 92507
4. P&G: 16110 Cosmos Street, Moreno Valley, CA 92551
5. Big 5: 6125 Sycamore Canyon Blvd, Riverside, CA 92507
6. Nestle USA: 3450 Dulles Drive, Jurupa Valley, CA
7. Home Depot: 11650 Venture Drive, Jurupa Valley, CA
8. ACT Fulfillment Center: 3155 Universe Drive, Jurupa Valley, CA
9. Petco: 4345 Parkhurst Street, Jurupa Valley, CA
10. Komer: 11850 Riverside Drive, Jurupa Valley, CA
11. Ross: 3404 Indian Ave Perris, CA 92571

Parcel Hubs

12. UPS: 15801 Meridian Pkwy, Riverside, CA 92518
13. FedEx: 330 Resource Dr, Bloomington, CA 92316
14. FedEx Freight: 12100 Riverside Drive, Jurupa Valley, CA
15. UPS Chain Logistics: 11811/11991 Landon Drive, Jurupa Valley, CA
16. DHL: 12249 Holly St N, Riverside, CA 92509

Traffic counts were collected at all of these sites. These were 72-hour driveway counts collected using video cameras for three-midweek days starting June 26, 2018. Video collection was determined to be preferable to collection data by means of machine counts, which can be problematic for driveways where vehicles are maneuvering at slow speeds. Video counts provide the ability for human viewers to review the captured footage to classify vehicles into 5 types (car, large 2-axle, 3-axle, 4-axle, and 5+ axle truck). The three-day average was calculated and used for the purposes of this study.

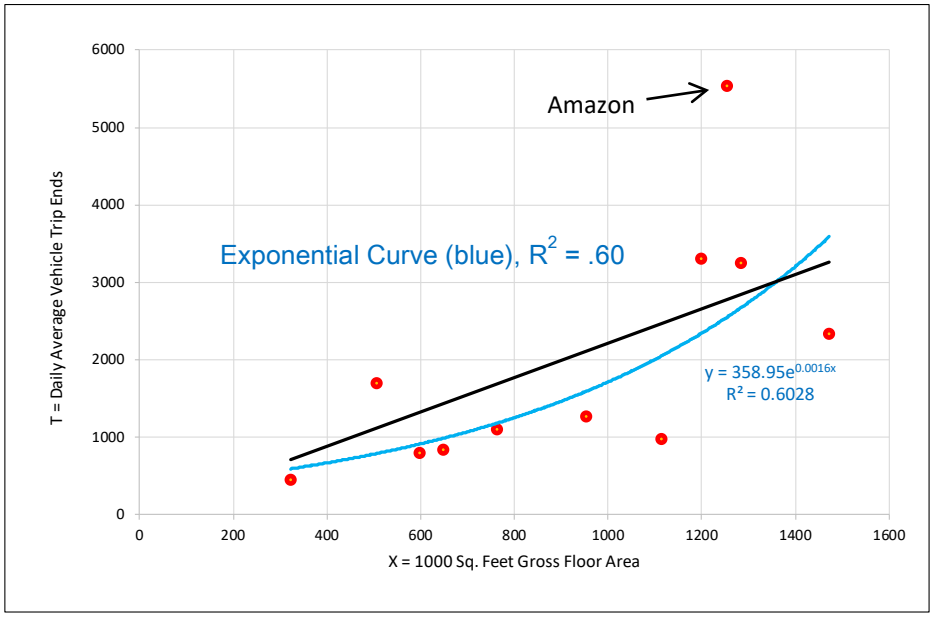
Fulfillment Centers

By Building Size

Exhibit 1 displays a data plot of daily vehicle trips for the 11 fulfillment centers against building size as the independent variable. The average trip generation rate for fulfillments centers (see black line in Exhibit 1) was found to be 2.2 trips/TSF, compared to the 1.4 trips/TSF found for conventional high-cube warehouses in the ITE/SCAQMD/NAIOP study (i.e. about 50% higher).

Exhibit 1 denotes one outlier data point representing the Amazon site in the upper right of the chart. As shown, the average daily trips generated at this facility is over 50% higher than the trips generated at the two sites of similar size (Walmart and Ross), which appears indicative of a greater frequency of same day e-commerce deliveries from Amazon to individual consumers.

Exhibit 1: Data Plot for Daily Total Vehicle Trip Ends against Building Size (Fulfillment Center)



The best fit equation was an exponential relationship with R^2 of 0.60 (i.e. high enough to meet the criteria of acceptability). This is shown as a blue line in Exhibit 1. An exponential relationship, meaning that the larger the

building the higher the trip generation rate, is quite unusual. Exhibit 2 takes a deeper look at this by showing the daily vehicle trip generation rates for each of the 11 surveyed fulfillment centers sorted by the smallest to the largest building size from left to right. As shown, small sites tend to generate fewer trips per thousand square feet, but higher percentage of trucks. On the other hand, largest sites tend to generate a higher number of car trips, but fewer truck trips. So not only is the overall trip generation rate affected by building size, the vehicle mix is affected as well.

Exhibit 2: Daily Vehicle Trip Generation Rates by Building Size for Each Fulfillment Center

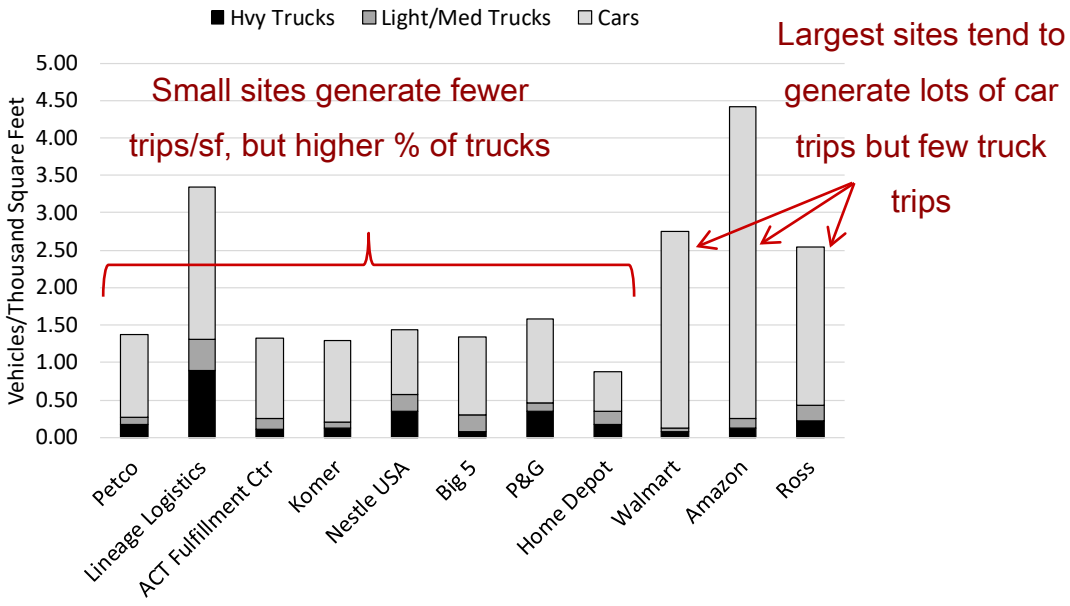


Exhibit 3 and Exhibit 4 show data plots for AM and PM peak hour vehicle trip ends against building size (respectively). The fitted curves had a low R^2, and so we recommend using the average rate.

Exhibit 3: Data Plot for AM Peak Hour Vehicle Trip Ends against Building Size (Fulfillment Center)

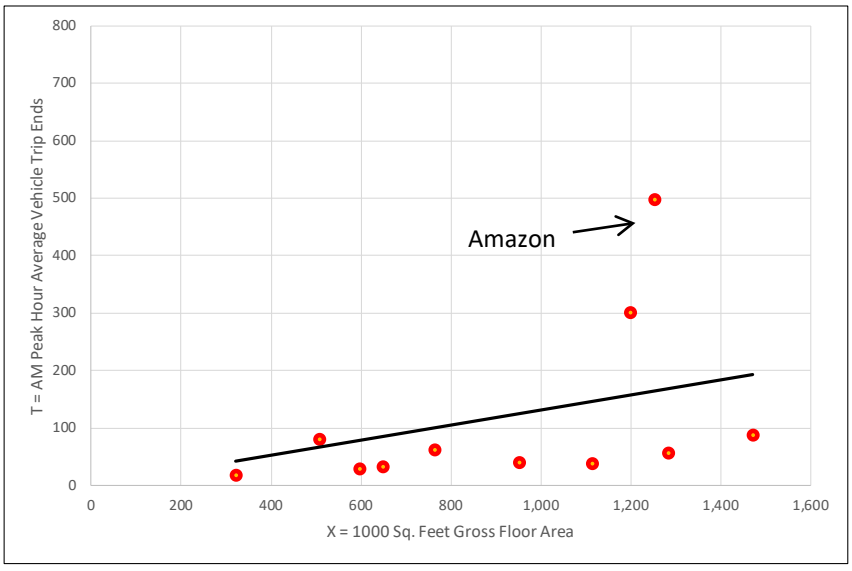


Exhibit 4: Data Plot for PM Peak Hour Vehicle Trip Ends against Building Size (Fulfillment Center)

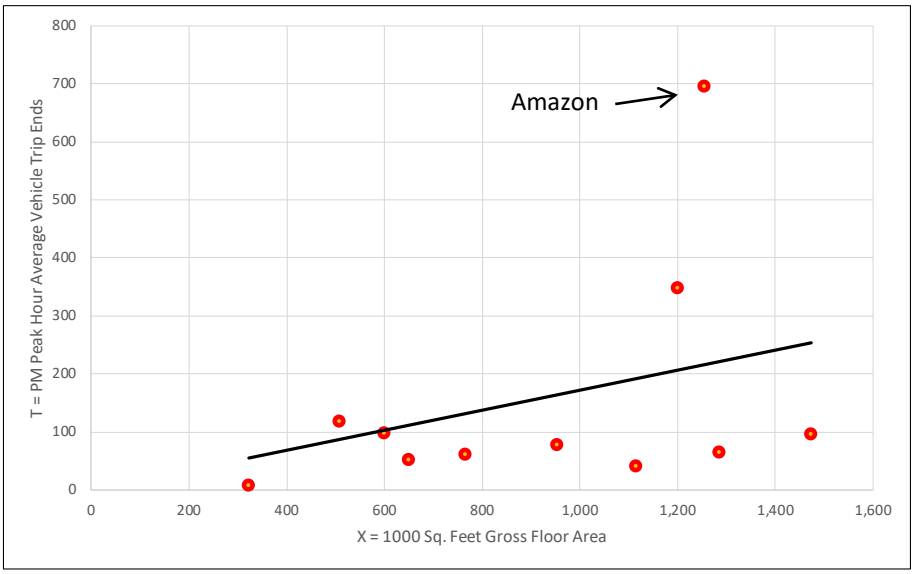
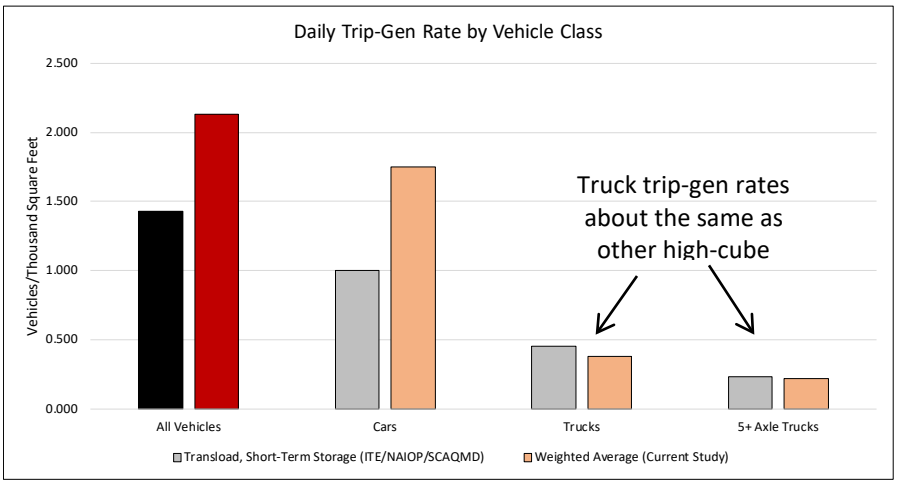


Exhibit 5 compares the average trip generation rates of 11 fulfillment centers with the rates found for conventional transload and short-term storage warehouses in the 2016 high-cube warehouse trip generation study[3] by SCAQMD/NAIOP/ITE. As shown, the fulfillment centers generate more daily vehicle trips than conventional warehouse facilities although trucks are roughly the same. This means that the additional trips by fulfillment centers are entirely due to additional car traffic, which is almost double the rate of car trips generated by conventional warehouses.

Exhibit 5: Conventional Warehouse vs Fulfillment Centers



Visual observation of the fulfillment center sites indicates the higher trip generation rates for cars appears to be mostly due to the use vans and passenger cars as delivery vehicles, particularly for the larger facilities operated by retailers such as Amazon and Walmart.

[3] *High-Cube Warehouse Vehicle Trip Generation Analysis*, Institute of Transportation Engineers, 2016

Exhibit 6 summarizes the AM and PM peak hour trip rates and the daily rates for fulfillment centers based on the findings of this study, and compares the results to rates for conventional transload and short-term storage warehouses.

Exhibit 6: Summary of Trip Generation Rates per Thousand Square Feet of Gross Floor Area for Fulfillment Centers

Vehicle Class	AM Peak Hour		PM Peak Hour		Daily	
	Conventional Warehouse*	Fulfillment Center	Conventional Warehouse	Fulfillment Center	Conventional Warehouse	Fulfillment Center
Cars	0.057	0.103	0.086	0.144	1.000	1.750
2-4 Axle Trucks	0.009	0.008	0.013	0.011	0.221	0.162
5-Axle Trucks	0.015	0.011	0.010	0.010	0.233	0.217
Total	0.082	0.122	0.108	0.165	1.432	2.129
% Higher than Conventional		49%		52%		49%

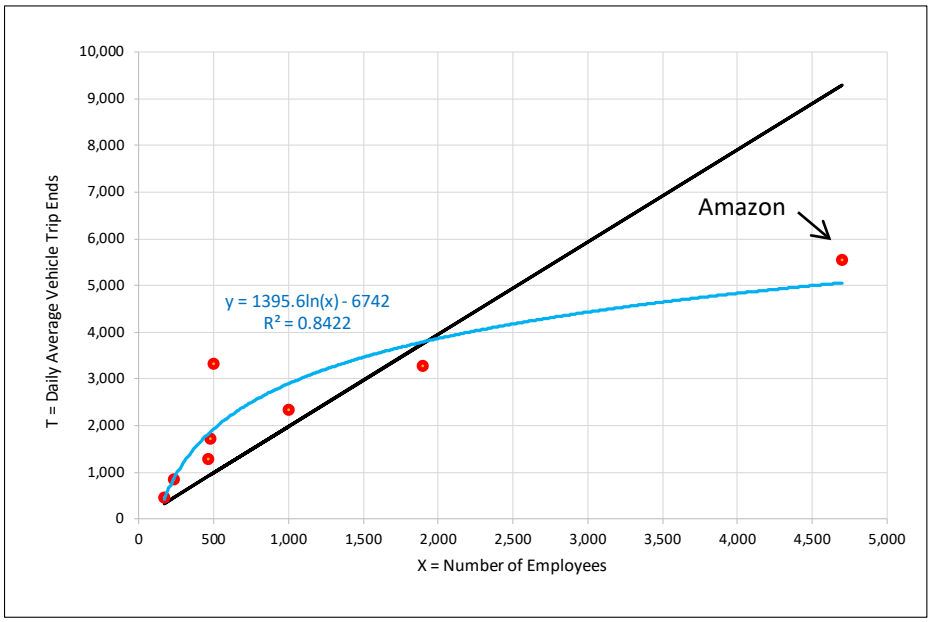
* Transload, Short-Term Storage category in 2016 TIE/ NAIOP/ SCAQMD study

By Employee

The WRCOG contacted the surveyed fulfillment centers and obtained employment data for eight of the eleven sites. Exhibit 7 shows a data plot for those eight sites for daily total vehicle trip ends against the number of employees. The best fit equation was logarithmic function which had an R^2 of 0.84, indicating a very good fit. Notably, the Amazon site, which was an outlier for trip generation based on floor area (see Exhibit 1), correlates more closely to other sites when employment is used instead. The average trip generation rate for fulfillments centers (represented by the black line in Exhibit 7) was found to be 2.0 trips/TSF

No comparison was made to any previous rates per employees because none of the previous high-cube warehouse related trip generation studies included correlation of trips with employment data.

Exhibit 7: Data Plot for Daily Total Vehicle Trip Ends against Employee (Fulfillment Center)



The data plots for the AM and PM peak hour total vehicle trip ends against the number of fulfillment center employees are shown in Exhibit 8 and Exhibit 9. The best fit equations are linear regressions (shown with black lines) which show a good R^2 for both the AM and PM peak periods.

Exhibit 8: Data Plot for AM Peak Hour Total Vehicle Trip Ends against Employee (Fulfillment Center)

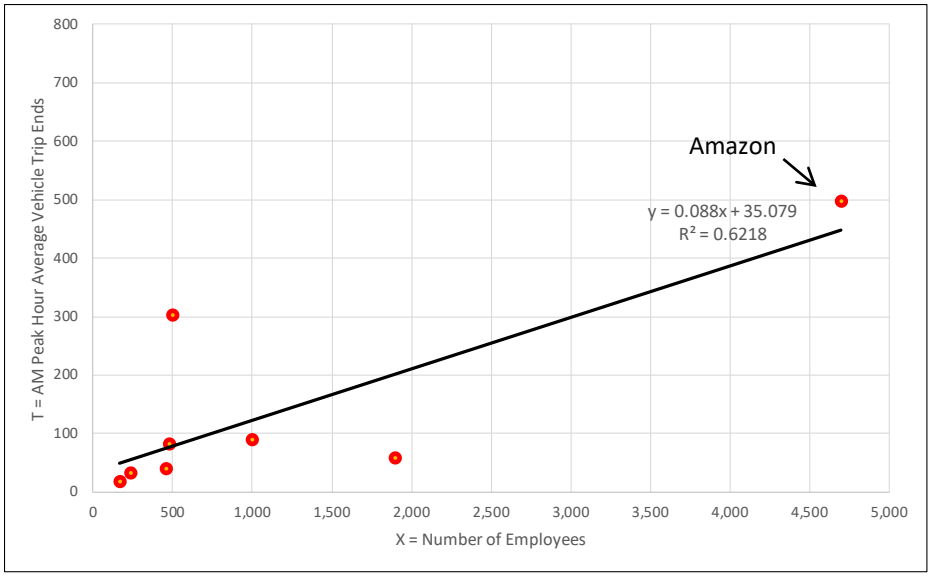


Exhibit 9: Data Plot for PM Peak Hour Total Vehicle Trip Ends against Employee (Fulfillment Center)

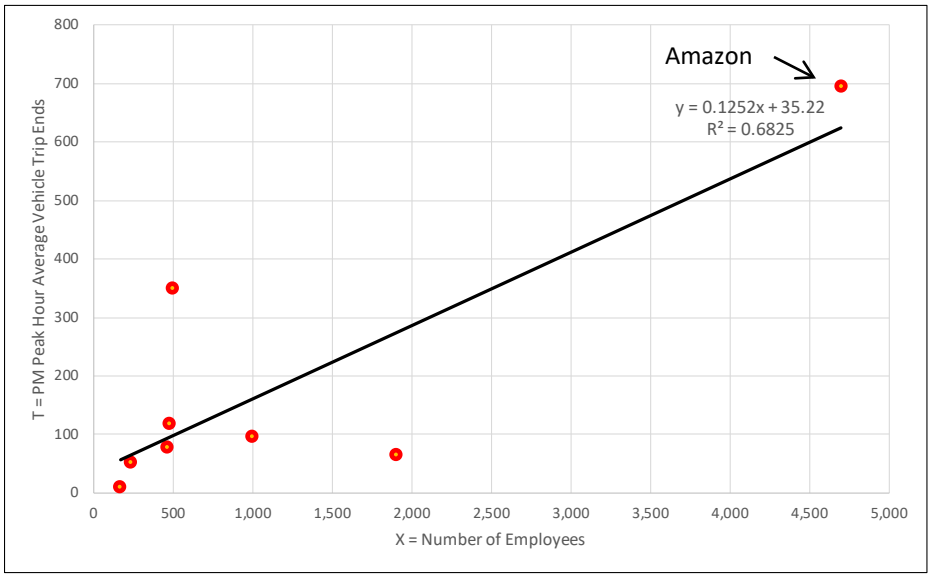


Exhibit 10 summarizes the AM and PM peak hour trip rates and the daily rates for trip generation per employee at fulfillment centers based on the findings of this study.

Exhibit 10: Summary of Trip Generation Rates per Employee for Fulfillment Centers

Vehicle Class	AM Peak Hour	PM Peak Hour	Daily
Cars	0.102	0.139	1.673
2-4 Axle Trucks	0.006	0.008	0.125
5-Axle Trucks	0.009	0.008	0.178
Total	0.118	0.155	1.977

Parcel Hubs

By Building Size

Exhibit 11 displays daily vehicle trip generation rates by building size for each of five parcel hub sites. They are sorted by the smallest to the largest building size from left to right. In this case the small sites generate significantly more trips of every kind than the larger sites, which is the opposite to the pattern observed for fulfillment centers.

Exhibit 11: Daily Trip Generation Rates at Parcel Hubs

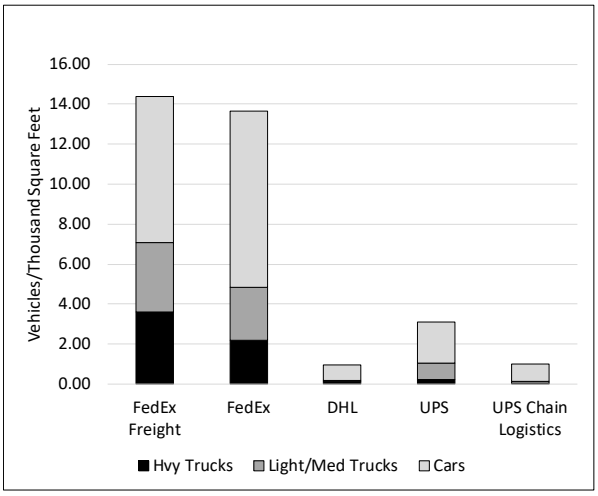


Exhibit 12 shows a data plot of daily vehicle trips of five parcel hubs against building size. As shown, a linear best fit was negative. During the collection of traffic data, construction activity was observed at the FedEx site potentially tainting the validity of these data to represent typical trip generation characteristics. To determine if the trip generation at this site was contributing to the poor data correlation, Exhibit 13 displays the same daily data plot without the FedEx site. The linear best fit shows a positive slope, but remains almost flat effectively indicating no correlation between the daily trips and building size based on the analysis of these sites.

The basic premise of the ITE trip generation approach is that the number of trips generated by a project is proportional to its size. That premise does not hold true for the parcel hubs in this sample and so no meaningful trip generation rates could be determined based on the data collected in support of this study. It should be recognized that a sample size of four or five sites represents the minimum recommended by ITE for valid trip generation studies, and for this reason, it is recommended that additional sites would need to be investigated and included in the data set to develop a more definitive finding on trip generation rates. Furthermore, it may be appropriate to determine the specific function at each site, due to the disparity between the rates observed at the FedEx sites versus the other three sites. It is likely that the function served by the respective sites is significantly different, as reflected in the trip generation rates, thereby necessitating reclassification of these uses for comparative purposes.

Exhibit 12: Data Plot for Daily Total Vehicle Trip Ends against Building Size (Parcel Hubs)

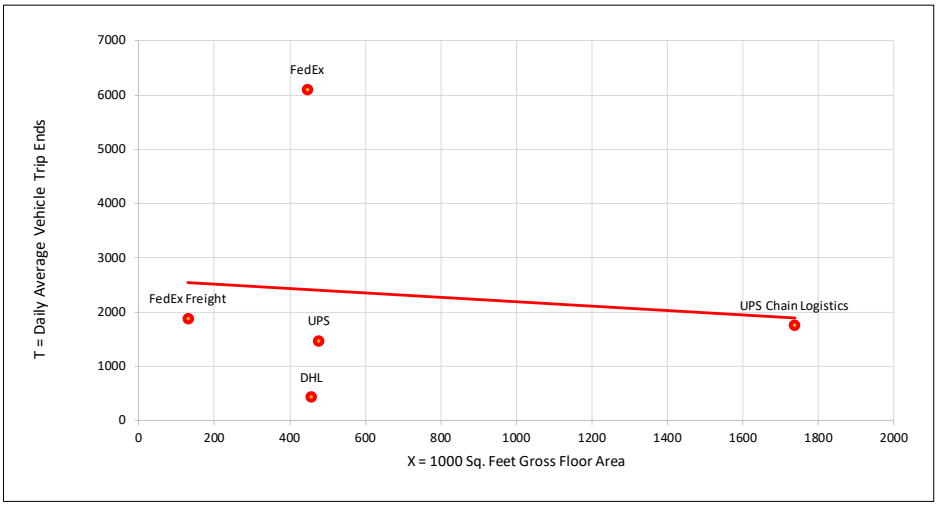
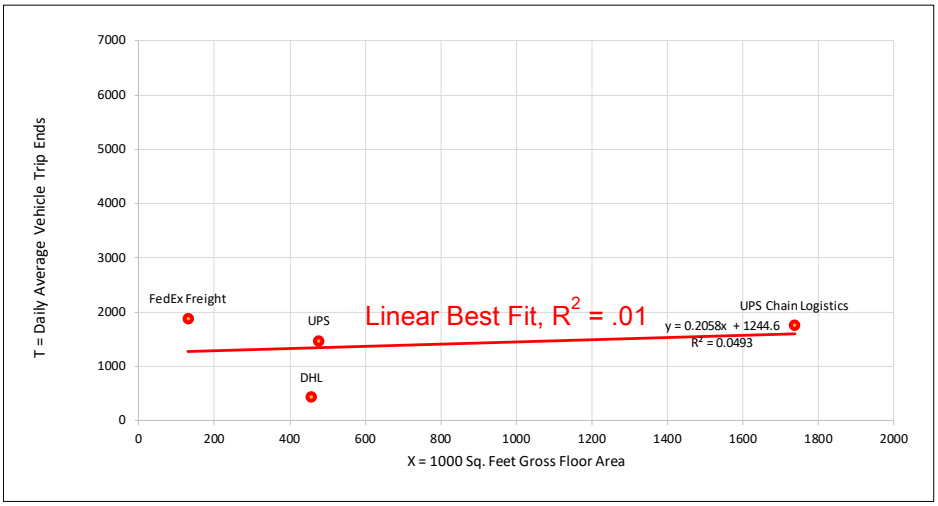


Exhibit 13: Data Plot for Daily Vehicle Trip Ends against Building Size without Construction Site



Conclusions

Our survey of 11 fulfillment centers produced trip generation rates based on the gross floor area of the sites that satisfies ITE's standards for use. The findings of the study indicate that the daily trip generation rates for fulfillment centers is approximately 2.1 trips per thousand square feet of gross floor area, which is roughly 50% higher than the comparable rate for conventional transload and short term storage warehouses previously defined in the ITE *Trip Generation Manual* Version 10. The results of the study further indicate that the higher rates were entirely due to more cars traffic at these sites; the trip generation rates for trucks was found to comparable to those at conventional warehouses.

Employment data were available for eight out of 11 fulfillment center sites. This provided the ability to determine trip generation rates per employee. The study results indicate that that trip generation for fulfillment centers is approximately 2.0 trips per employee. The study also found that the trip generation rate per employee correlated more closely that the trip generation rate per thousand square feet of gross floor area.

The data from the five parcel hubs did not show any statistically meaningful relationship between trips and building size. Therefore, no trip generation rate could be calculated. However, the data collected at these sites may provide a useful basis for further comparison with additional sites to provide more data points for analysis.

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Item 7.D

High-Cube Warehouse Calculation

Attachment 2

TUMF Calculation Handbook – High Cube Warehouse

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1.1. High-Cube Warehouses

1.1.1. Summary

For the purpose of determining the TUMF obligation, all types of high-cube warehouses, including fulfillment centers, transload and short-term storage warehouses and other similar distribution facilities will be considered industrial use types. The methodology outlined in **Worksheet A.2.8** and described as follows will be applied to determine the equivalent floor area for high-cube warehouses/fulfillment centers with a minimum gross floor area of 200,000 square feet, a minimum ceiling height of 24 feet and a minimum dock-high door loading ratio of 1 door per 10,000 square feet *(for the example calculation assume a high-cube warehouse with a gross floor area of 450,000 square feet, a ceiling height exceeding 24 feet and a dock-high door loading ratio exceeding 1:10,000)*:

1. Subtract 200,000 square feet from the total gross floor area
   (*i.e. for the example facility it is 450,000 – 200,000 = 250,000 square feet*)
2. Multiply the resultant value from step 1 which is total gross floor area in excess of 200,000 square feet by 0.36
   (*i.e. for the example facility it is 250,000 x 0.36 = 90,000 square feet*)
3. Add 200,000 square feet to the resultant value of step 2
   (*i.e. for the example facility it is 200,000 + 90,000 = 290,000 square feet*)
4. Use the resultant value of step 3 as the gross floor area to calculate the TUMF obligation using **Worksheet A.2.1** for standard non-residential fee calculations.

The TUMF obligation for a warehouse facility with a gross floor area of less than 200,000 square feet, a ceiling height of less than 24 feet and/or a dock-high door loading ratio of less than 1 door per 10,000 square feet will be calculated based on the actual gross floor area using **Worksheet A.2.1** for standard non-residential fee calculations. Furthermore, where other uses such as wholesale showrooms, retail showrooms or office suites are co-located with qualifying high-cube warehouse facilities, only the qualifying warehouse portion of the premises will be calculated using **Worksheet A.2.8**. The fee obligation for all other co-located facilities will be calculated based on the actual gross floor area and the appropriate land use category using **Worksheet A.2.1** for standard non-residential fee calculations.

1.1.2. Detailed Narrative

High-cube warehouses are primarily for the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses. These facilities typically have a high level of on-site automation and logistics management enable highly-efficient processing of goods through the facility. High-cube warehouses include, but may not be limited to, the following types of facilities:

- High-cube transload and short-term storage facilities typically provide for consolidation and distribution of loads for manufacturers, wholesalers or retailers.

Transload and short-term storage facilities typically provide limited storage duration, high throughput and high-efficiency distribution.

- Fulfillment centers include high-cube warehouses typically characterized by significant storage and direct distribution of ecommerce products to the end users. These facilities typically handle smaller packages and quantities than other types of high-cube warehouses.
- High-cube parcel hub warehouses typically serve as regional and local freight-forwarding facilities of time sensitive shipments via air freight and ground carriers. These sites may also include truck maintenance, wash, and/or fueling facilities ancillary to the primary use of the site.
- High-cube cold storage warehouses are facilities that provide temperature-controlled environments for the storage and distribution of frozen foods or other perishable products.

For the purpose of determining the TUMF obligation, all high-cube warehouses are defined as follows:

> *Very large shell buildings commonly constructed using steel framed and/or concrete tilt-up techniques with a minimum gross floor area of 200,000 square feet, a minimum ceiling height of 24 feet and a minimum dock-high door loading ratio of 1 door per 10,000 square feet.*

In accordance with Section 6.2 and Appendix B of the Transportation Uniform Mitigation Fee Nexus Study 2016 Update Final Report (Western Riverside Council of Governments, As Adopted July 10, 2017), high-cube warehouses are considered to be industrial use types with the primary use of the facility generally meeting the description of Motor Freight Transportation and Warehousing (SIC Major Category 42). The TUMF obligation for industrial (and all non-residential) land uses is based on the gross floor area of buildings associated with the specific land use and is calculated using **Worksheet A.2.1** for standard non-residential fee calculations. However, in the case of high-cube warehouses, vehicle trips generated to and from the site are typically lower than traditional industrial uses due to the high-level of on-site automation and logistics management. For this reason, it is necessary to determine the gross floor area equivalency for the purpose of calculating the TUMF obligation.

A review of Trip Generation 9th Edition (Institute of Traffic Engineers, 2012) indicates the average weekday daily trip generation rate for high-cube warehouses is 1.68 trips per thousand square feet, while the weekday PM peak-hour trip generation rate for the same uses is approximately 0.16 trips per thousand square feet of building area. By comparison, traditional warehouse uses have a weekday daily trip generation rate of 3.56 trips per thousand square feet, and PM peak-hour trip generation rates of 0.45 trips per thousand square feet and 0.58 trips per employee. A study of the trip generation characteristics of fulfillment centers in the Inland Empire of Southern California completed in January 2019 by WSP for the Western Riverside Council of Governments (WRCOG) found trip generation rates of these facilities to be generally consistent with the rates prescribed in Trip Generation 9th Edition for all high-cube warehouse uses, with an average weekday daily trip generation rate of 2.13 trips per thousand square feet and an average weekday PM peak rate of 0.16 trips per thousand square feet.

Table 5.7 summarizes the various characteristics of high-cube warehouses, including trip generation, and establishes the equivalent square feet for the purpose of calculating the TUMF obligation for all high-cube warehouse facilities.

Table 5.7 – Characteristics of High-Cube Warehouses and Distribution Centers

Land Use Type	*Average Daily Vehicle Trips per 1,000 sqft*	*Average PM Peak Vehicle Trips per 1,000 sqft*	*Average PM Peak Trips per Employee*	*TUMF Weighted Equivalent sqft **
Warehousing (i) (150)	3.56	0.45	0.58	
High-Cube Warehouse (i) (152)	1.68	0.16		***0.36***
Fulfillment Centers (ii)	2.13	0.16	0.16	
Warehouse/Distribution Center (iii)	1.10	0.08		
All TUMF Industrial Use Types (i)	5.33			

Source: (i) Trip Generation 9th Edition, Institute of Traffic Engineers, 2012
(ii) TUMF High-Cube Warehouse Trip Generation Study, WRCOG, January 2019
(iii) San Bernardino/Riverside County Warehouse/Distribution Center Vehicle Trip Generation Study, Crain and Associates, January 2005

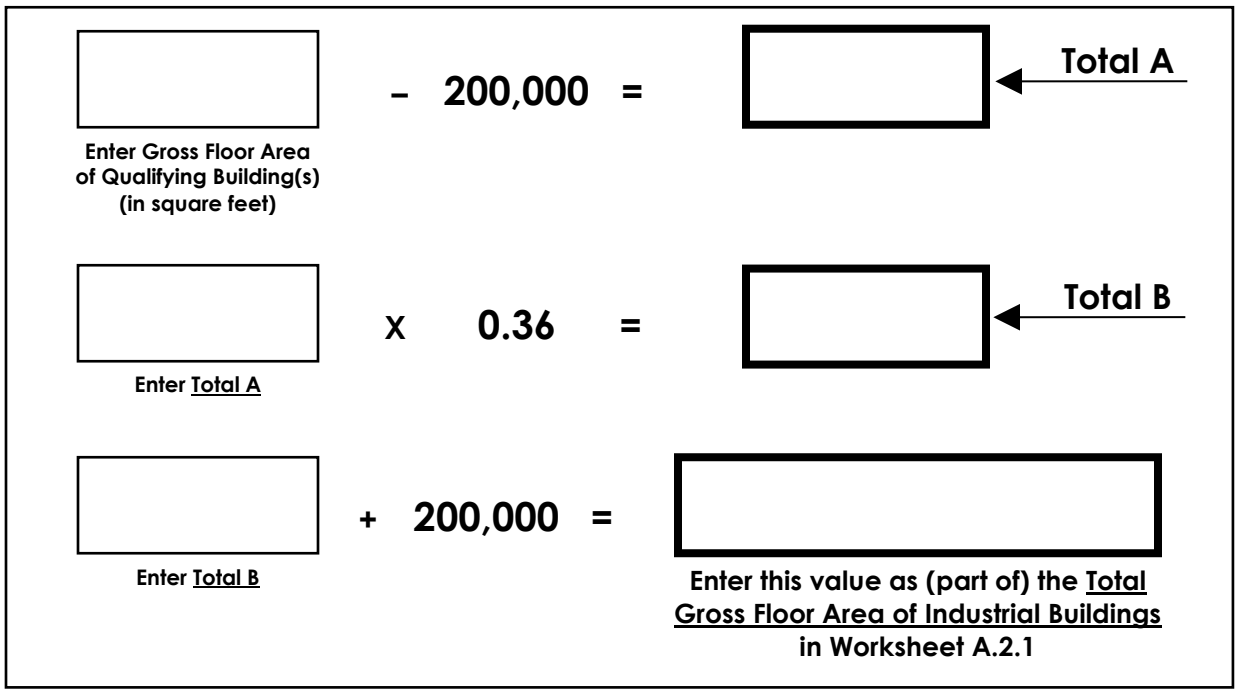
Note: * - TUMF weighted equivalent square feet based on relative trip generation per 1000 sqft between the average of High-Cube Warehouse and Fulfillment Centers and the median of all TUMF Industrial Uses (consistent with TUMF Nexus Study Trip Generation Rate Comparison).

The gross floor area equivalency for High-Cube Warehouses is based on the average of the trip generation characteristics of High-Cube Warehouse, which is quantified in the Trip Generation 9th Edition in terms of both daily and peak trips per thousand square feet gross floor area, and Fulfillment Centers, which is quantified in the TUMF High-Cube Warehouse Trip Generation Study in terms of both daily and peak trips per thousand square feet gross floor area as well as per employees. Based on this information, the simple average daily trip generation rate for a high-cube warehouse, including fulfillment centers, is approximately 1.90 trips per thousand square feet of gross floor area. To account for the variation in trip generation rates between high-cube warehouses, including fulfillment centers, and all TUMF industrial land use types, the gross floor area equivalency was weighted based on the relative trip generation between high-cube warehouses, including fulfillment centers, and the median of all TUMF Industrial Uses as used in the TUMF Nexus Study. The weighted gross floor area equivalency for high-cube warehouses is 0.36.

For the purpose of calculating the TUMF obligation for *High-Cube Warehouses* with a minimum gross floor area of 200,000 square feet, a minimum ceiling height of 24 feet and a minimum dock-high door loading ratio of 1 door per 10,000 square feet, the gross floor area *in excess of 200,000 square feet* will be multiplied by *0.36* and the resultant value *increased by 200,000 square feet* to determine the equivalent number of square feet of floor area. The *equivalent floor area will be used for the purpose of calculating the TUMF* at the rate prescribed by the respective local jurisdictions TUMF Ordinance and supported by the TUMF Nexus Study. For example, a high-cube warehouse with a gross floor area of 450,000 square feet, a ceiling height exceeding 24 feet and a dock-high door loading ratio exceeding 1:10,000 (for the example facility it is at least 45 dock-high door loading bays i.e. 450,000/10,000 = 45) the equivalent floor area would be 290,000 square feet ({[450,000 - 200,000] x 0.36} + 200,000 = 290,000)

The TUMF obligation for a warehouse facility with a gross floor area of less than 200,000 square feet, a ceiling height of less than 24 feet and/or a dock-high door loading ratio of less than 1 door per 10,000 square feet will be calculated based on the actual gross floor area using **Worksheet A.2.1** for standard non-residential fee calculations. Furthermore, where other uses such as wholesale showrooms, retail showrooms or office suites are co-located with qualifying high-cube warehouse facilities, only the qualifying warehouse portion of the premises will be calculated using **Worksheet A.2.8**. The fee obligation for all other co-located facilities will be calculated based on the actual gross floor area and the appropriate land use category using **Worksheet A.2.1** for standard non-residential fee calculations.

Worksheet A.2.8 High-Cube Warehouse TUMF Calculation Worksheet



Item 7.D

High-Cube Warehouse Calculation

Attachment 3

Trip Generation Study – Stakeholder comments

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Daniel Ramirez-Cornejo

From: Frank Sherkow <fsherkow@earthlink.net>
Sent: Thursday, January 17, 2019 1:00 PM
To: Daniel Ramirez-Cornejo
Cc: 'Jonathan Shardlow'; Chris Gray; 'Sandipan Bhattacharjee, P.E., AICP'; Matt Englhard
Subject: RE: E-Commerce Trip Generation Rates
Attachments: Survey Trip Gen Average-01.16.19_v2.xlsx

Daniel:

Here are some preliminary results from our analysis. As you open the excel file, you will see a summary of facilities sorted by groups that we believe are relevant and as consistent as possible with ITE and sound traffic engineering practices. I will refer to items on this file/tab in this email.

1. We believe that the square footage used in the report for the P&G facility is wrong, and reflects the Floor & Décor company (next door). The real square footage for the P&G facility should be 1,560,046 SF.
2. We conducted a hand-count of the parking spaces using aerial photos from Google Maps.
3. The consultant's reports refers to the size of facilities' sites as the driving factor as to whether they are e-commerce (fulfillment) facilities and how much traffic they might generate. The bigger the site the more trips, they say. "Largest sites tend to generate lots of car trips but few truck trips." The size of the site is NOT the cause for more trips. The auto parking spaces per building SF is the real relationship. It is one of the key factors as to whether the building is/will be e-commerce vs. High Cube Distribution Center. When reviewing a site plan, does it have a large number of auto parking spaces or not? Directly related is also the Total Trips (employees) per 1,000 SF. More goods handling will necessitate more employees, until/unless additional automation comes on the scene.

From our analysis, the group of facilities that were studied actually consists of 5 separate land use types or combinations of land uses:

a. Fulfillment centers (e-commerce) – Walmart (Chino) and Amazon (MV)
b. Distribution with Cold Storage (maybe mixed land uses on one site) – Walmart (Columbia Ave.)
c. Distribution without Cold Storage – P&G, Big 5, Home Depot, Nestles, Petco, Komar, ACT
d. Aggregation Distribution & Handling (probably mixed land uses on one site) – Ross
e. Parcel Hubs – FedEx, UPS, DHL

Referring to the spreadsheet column "S", note the significant differences between sub groups in Total Trips per 1,000 SF (building). True High Cube facilities (Distribution Centers without Cold Storage) will have a small trip rate, because there aren't as many employees per SF. Due to their efficiency of goods movements (with less handling), the truck traffic compared to all trips is a relatively high percentage for High Cube – see column "N". These trip rates are similar to those for Transloading or High Cube facilities in the ITE Trip Generation Handbook. They are also similar to previous data points collected by ITE and AQMD. They are NOT e-commerce of fulfillment facilities.

We know (from work with AQMD and ITE) that cold storage will have slightly higher trip rates, dependent on the type of goods (frozen vs. perishable). Clearly, the Walmart facility on Columbia Ave. is partially or totally cold storage. There is evidence online about its cold storage function.

The Ross facility (Perris) is a mixture of High Cube and goods handling (but not e-commerce). The trip rates and truck % is evidence of this. Ross's business model depends on selling goods that have been for sale in other stores. So, the facilities like the one in Perris are used to resort and regroup goods for sale in Ross stores. Thus, there are many more

employees than at High Cube facilities per SF, but less than an e-commerce building. This mixture is NOT a recognized ITE land use, so we have set it aside.

The only facilities that are acting like true Fulfillment Centers or E-commerce facilities are Amazon (MV) and Walmart (Chino). Note that both of these companies have other facilities that are more like High Cube or Cold Storage, and even Parcel Hub facilities. So, each site should be viewed separately. See column "N" for the small proportion of truck trips vs. total trips. Also see column "S" to compare the higher total trip rates compared to High Cube Distribution Centers (similar for column "Q").

For purposes of establishing traffic impacts or development fees, the group of facilities that the consultant studied does NOT represent Fulfillment Centers. This is also reinforced by the data plot diagrams from the consultant's report.

The other item of note is that true e-commerce facilities are a relatively small portion of the warehouses built or being developed. Even when a facility uses the label of "fulfillment center," it does not mean that it functions as, or has the necessary characteristics of, a true e-commerce facility.

In reference to Parcel Hubs, these facilities are different from other warehouse facilities in size, shape, height, and design. Thus, they can easily be identified as a separate group for your purposes.

We welcome your questions or comments. We hope you will share this information with members of the Public Works Committee.

Franklin E. Sherkow, P.E., T.E., P.S.E., Env SP, F.ASCE
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949-500-7878

Daniel Ramirez-Cornejo

From: Frank Sherkow <fsherkow@earthlink.net>
Sent: Friday, January 11, 2019 3:46 PM
To: Daniel Ramirez-Cornejo
Cc: 'Jonathan Shardlow'; Chris Gray; 'Sandipan Bhattacharjee, P.E., AICP'
Subject: RE: E-Commerce Trip Generation Rates

Daniel:

Thanks for the quick response.

On the P&G building, here is what we had in our data:

Tenant	Address Line 1	City	Building Total SF	Building Dock High Doors	Orignial Database - Parking Stalls
Floor & Décor	24101 Iris Avenue	Moreno Valley	1,103,003	166	400
P&G	24015 Iris Avenue	Moreno Valley	1,560,046	268	862

I believe that someone has used the Floor & Decor square footage for the P&G building in your excel spreadsheet. Can you clarify?

Are you aware of any transit usage to these site? Any signs of significant ridesharing at any of these sites? The reason I ask, is that when you take each site's daily traffic flow and divide by the number of employees, the results are very puzzling in some cases. Don't know if you really care about the employment levels, but they should be within reason ranges.

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From: Daniel Ramirez-Cornejo [mailto:dramirez-cornejo@wrcog.us]
Sent: Friday, January 11, 2019 9:34 AM
To: Frank Sherkow
Cc: 'Jonathan Shardlow'; Chris Gray; 'Sandipan Bhattacharjee, P.E., AICP'
Subject: RE: E-Commerce Trip Generation Rates

Good morning Frank,

The employment numbers were provided by the agencies in which the sites are located.

We have also provided responses to your previous questions on two sites as shown below:

1. For the P&G site, the physical address is shown as 24015 Iris Ave, Moreno Valley, CA 92551. The driveways were selected based on the building called out in the aerial photo below. Cosmos Street is an internal road of the same property as shown in the aerial photo.

2. The below is a street view from Riverside Drive to the shared driveway of Komar (building on the left) and Damco (on the right). As shown, the access from Damco (on the right) to the shared driveway is prohibited. Komar does the same for the northern aisle (on the left).

For reference, all traffic counts were collected with video cameras.

-Daniel

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"Respect Local Control...Provide Regional Perspective"

From: Frank Sherkow <fsherkow@earthlink.net>
Sent: Wednesday, January 9, 2019 11:52 AM
To: Daniel Ramirez-Cornejo <dramirez-cornejo@wrcog.us>
Cc: 'Jonathan Shardlow' <Jonathan.Shardlow@GreshamSavage.com>; Chris Gray <cgray@wrcog.us>; 'Sandipan Bhattacharjee, P.E., AICP' <sandipan@translutions.com>
Subject: RE: E-Commerce Trip Generation Rates

Daniel:

Thanks for the update.

A few items. We know from our work on development activities and working with tenants, plus our work on traffic impact studies, that the employment levels at these (and most other sites) fluctuates based on a regular seasonal pattern. Since the traffic counts appear have been gathered in Aug. 2018, we understand that this would represent an off-peak season period. This period last about 10 months during the year, but can vary based on local circumstances.

Can you tell us how you determined the employment numbers from your spreadsheet?

Based on our very preliminary work on the information from the consultant's report and other data that we possess (omitting the parcel hubs for the time being), it appears that there is a mixture of High Cube, E-commerce, and Cold Storage facilities in the list provided (11 sites). Some individual sites may have a mixture of several of these land uses, and therefore, in our opinion, would not be good candidates for this type of analysis. They don't have a pure representation of any of the recognized ITE land uses, thus, it would be difficult to apply the trips rates (and other factors) to a broader analysis or draw generalized conclusions about this sites.

When AQMD and NAIOP conducted similar studies, we always made sure of two things: 1. The sites were as pure a representative land uses as possible (not a mixture, like cold storage and high cube), and 2. The site possess driveways that could be isolated for traffic counts.

Unfortunately, some of these facilities, from your list, violate one or both of these criteria.

We are continuing to dig, so stay tuned. Thanks.

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From: Daniel Ramirez-Cornejo [mailto:dramirez-cornejo@wrcog.us]
Sent: Wednesday, January 9, 2019 11:26 AM
To: Frank Sherkow
Cc: 'Jonathan Shardlow'; Chris Gray; 'Sandipan Bhattacharjee, P.E., AICP'
Subject: RE: E-Commerce Trip Generation Rates

Hi Frank,

Thank you for your comments on WRCOG's High-Cube Warehouse Trip Generation Study with regard to use of the facilities in the study to represent e-commerce trip rates.

We wanted to give you some further background on the study, why we did it, and how the study was performed.

Back in 2017 the Nexus Study was approved, we received some broad direction from our Executive Committee to look into the issue of whether the Nexus Study and the TUMF Program accurately reflects impacts associated with industrial uses. There was some limited direction provided to Staff to look at different industrial uses such parcel hubs, distribution centers, etc. given the perception that these uses generate more trips than typical industrial or high-cube uses.

We convened a working group of local agency staff who recommended a series of locations they were familiar with and also worked with a consultant (WSP) to identify facilities that could be classified as either a distribution center or a parcel hub.

After that, we collected data for each of the sites and summarized the data. We then presented the information to first our working group and then our Public Works Committee to get their feedback. They also recommended that we not have a separate category for these types of uses.

We will be reaching out to WSP to provide a detailed response with respect to the questions below. As requested we are including the worksheet with the data from each facility.

We would be happy to answer any additional questions that you have regarding the work that we've done and will be doing in the future.

Thank you,

-Daniel

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"Respect Local Control...Provide Regional Perspective"

From: Frank Sherkow <fsherkow@earthlink.net>
Sent: Monday, January 7, 2019 3:36 PM
To: Daniel Ramirez-Cornejo <dramirez-cornejo@wrcog.us>
Cc: 'Jonathan Shardlow' <Jonathan.Shardlow@GreshamSavage.com>; Chris Gray <cgray@wrcog.us>; 'Sandipan Bhattacharjee, P.E., AICP' <sandipan@translutions.com>
Subject: RE: E-Commerce Trip Generation Rates

Daniel:

Two preliminary questions:

1. Floor & Décor with an address of 24101 Iris and P&G with an address of 16110 Cosmos Street in MV. The traffic sheets and report says that the P&G facility was studied at 24015 Iris Ave. Can you clarify?
2. The Komar facility shares a driveway with a neighboring distribution center (Damco) onto Riverside Dr. What steps were taken to isolate the Komar traffic from other?

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From: Frank Sherkow [mailto:fsherkow@earthlink.net]
Sent: Thursday, January 3, 2019 10:07 AM
To: 'Daniel Ramirez-Cornejo'
Cc: 'Jonathan Shardlow'; 'Chris Gray'; 'Sandipan Bhattacharjee, P.E., AICP'
Subject: RE: E-Commerce Trip Generation Rates

Daniel:

Thanks so much for your quick response. We stand ready to work with you on this important matter.

In the meantime, we will start to examine the traffic counts provided. Perhaps, we will have some comments in the near future.

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From: Daniel Ramirez-Cornejo [mailto:dramirez-cornejo@wrcog.us]
Sent: Thursday, January 3, 2019 9:40 AM
To: Frank Sherkow
Cc: Jonathan Shardlow; Chris Gray; Sandipan Bhattacharjee, P.E., AICP
Subject: RE: E-Commerce Trip Generation Rates

Good morning Frank,

We will begin reviewing your comments and will respond accordingly. However, we wanted to ensure you receive the data requested. Per your request, we are attaching the spreadsheets with the counts taken in summer 2018.

Please let us know if you have any questions. Thank you,

-Daniel

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"Respect Local Control...Provide Regional Perspective"

From: Frank Sherkow <fsherkow@earthlink.net>
Sent: Wednesday, January 2, 2019 3:05 PM
To: Daniel Ramirez-Cornejo <dramirez-cornejo@wrcog.us>
Cc: Jonathan Shardlow <Jonathan.Shardlow@GreshamSavage.com>; Sandipan Bhattacharjee, P.E., AICP <sandipan@translutions.com>
Subject: E-Commerce Trip Generation Rates

Daniel:

I am writing to you concerning the Dec. 13, 2018 staff report about the High-Cube Warehouse Trip Generation Study and possible adjustments related to E-commerce facilities. To give you a bit of history, I represented NAIOP when the original High Cube fee levels were set. We continue to do consulting work for NAIOP and some of their members.

I have read your consultant's report about E-commerce facilities. The staff report states that, "The Trip Generation Study was conducted in a manner that meets the ITE standards for performing studies of this nature." Although the traffic counts may have done in accordance with the ITE Trip Generation Manual, the facilities selected and definitions for the E-commerce facilities do not seem to done in accordance with the ITE recent work on this issue.

I have attached a recent working prepare (referred to on page 2 of your staff report). Note that the ITE working paper refers to definitions for many of the large warehouse facilities, which I authored for ITE, with support of NAIOP members. There are physical site and buildings differences between the warehouse categories.

Having said that, not all E-commerce facilities are the same. For example, Amazon facilities may be "sort", "non-sort", "cross-dock", or some hybrids. My firm has done extensive traffic work on High Cube and E-commerce facilities in the Inland Empire. Some of these E-commerce facilities operate like High Cube facilities, while others have higher trip generation rates due to higher employee activities.

One major note of concern: Using the label, by the consultant, as "Fulfillment Centers" is most probably NOT ACCURATE.

The trip rates and parking capacity at some of these sites are significant indicators that some of these facilities are true High Cube buildings that feed local retail outlets, and not the end-customer. Even if the establishment uses the name "fulfillment center" in the title, it does not make them true E-commerce facilities for trip rates purposes.

Grouping these particular facilities together as a representation of E-commerce trip rates is not correct.

We would be glad to work with you, on behalf of NAIOP, to ensure that WRCOG has the most recent and correct information. We are glad to hear that, the WRCOG "staff is not recommending the inclusion of a separate component of the TUMF Calculation Handbook for fulfillment centers." However, as you explore possible adjustments to the TUMF fee program, NAIOP would like the opportunity to correct the record about this data and give WRCOG better information about this issue.

In the meantime, we would **formally request the electronic spreadsheets with the actual traffic counts for the 16 facilities** mentioned in the study. Please advise. Thanks.

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Western Riverside Council of Governments
Public Works Committee

Staff Report

Subject: **TUMF Calculation Handbook Revisions**

Contact: **Daniel Ramirez-Cornejo, Program Manager, dramirez-cornejo@wrcog.us, (951) 405-6712**

Date: **February 14, 2019**

The purpose of this item is to *present several proposed minor revisions to the Transportation Uniform Mitigation Fee (TUMF) Calculation Handbook and request input on additional revisions from the Committee.*

Requested Actions:

1. Recommend that the Executive Committee approve the proposed revisions to the TUMF Fee Calculation Handbook to include clarification language on the 3,000 square foot deduction policy for retail and service uses.
2. Discuss and provide input on proposed clarification to the issuance of credit for existing uses for the exemption outlined in the TUMF Administrative Plan.

WRCOG's Transportation Uniform Mitigation Fee (TUMF) Program is a regional fee program designed to provide transportation and transit infrastructure that mitigates the impact of new growth in Western Riverside County. Each of WRCOG's member jurisdictions and the March JPA participates in the Program through an adopted ordinance, collects fees from new development, and remits the fees to WRCOG. WRCOG, as administrator of the TUMF Program, allocates TUMF to the Riverside County Transportation Commission (RCTC), groupings of jurisdictions – referred to as TUMF Zones – based on the amounts of fees collected in these groups, the Western Riverside County Regional Conservation Authority (RCA) and the Riverside Transit Agency (RTA). The TUMF Fee Calculation Handbook details the methodology for calculating the TUMF obligation for different categories of new development and, where necessary, clarifies the definition and calculation methodology for uses not clearly defined in the respective TUMF Ordinances.

As part of the annual review of TUMF Program documents, staff has identified several items to be added or modified in the TUMF Fee Calculation Handbook.

3,000 Square Foot Deduction Policy

On August 7, 2017, the Executive Committee approved a 3,000 square foot (SF) deduction for all service and retail land use types. Since approval of the policy on August 7, 2017, most project applicants are not required to pay TUMF fees on the first 3,000 SF of retail and service projects. This policy benefits both new uses and existing uses that are expanding their operation to provide more economic development in the region. Staff have also interpreted this policy to include Class A and Class B office buildings, to each independent tenant space of a multi-tenant building, and to all defined land uses in the TUMF Fee Calculation Handbook.

On October 1, 2018, the Executive Committee approved an update to the 3,000 SF deduction to retail and service TUMF land uses that limits the reduction to development projects that are less than 20,000 SF, effective immediately. This means that a retail / service project that is 19,999 SF would receive the 3,000 SF deduction but a 20,000 SF retail / service project would not receive the 3,000 SF deduction.

There is currently no specific language in the TUMF Fee Calculation Handbook or any of the TUMF governing documents detailing how the 3,000 SF deduction policy is to be implemented. Staff have proposed clarifying language for addition to the TUMF Fee Calculation Handbook and has added a line in Worksheet A.2.1 for standard, non-residential TUMF calculations to provide guidance on administration of the 3,000 SF deduction. These proposed updates to the TUMF Fee Calculation Handbook are included as an attachment to this Staff Report.

Credit for Existing Uses

The TUMF Program contains an exemption for the reuse / reconstruction of existing buildings and the language in the TUMF Administrative Plan is as follows:

> "The rehabilitation and/or reconstruction of any habitable structure in use on or after January 1, 2000, provided that the same or fewer traffic trips are generated as a result thereof"

There is currently no official calculation methodology to guide staff in implementation of this exemption. Staff currently calculate credits for existing uses utilizing the fees and policies currently in effect. Staff is requesting input from the Public Works Committee (PWC) on the following two proposed implementation strategies for potential inclusion in the TUMF Fee Calculation Handbook:

- Option 1: Calculate credit based on the fees in effect at the time that the building was last in use, no earlier than January 1, 2000. This would mean that a credit would be awarded on the full building square footage for existing uses that were in place prior to introduction of the 3,000 SF deduction policy in August 2017; or

- Option 2: Continue calculating credits for existing uses based on the current fee schedules and calculation policies, including the 3,000 SF deduction.

The developer and/or member agency would continue to be responsible for providing documentation showing that the building was in use and occupied after January 1, 2000, to receive credit. If the PWC elects to move forward with Option 1, the developer and/or member agency would also be required to provide documentation of termination of use after January 1, 2000, in order to have credit calculated based on a previous fee schedule and calculation policy. If insufficient documentation is provided, credit would be awarded using the fees and policies currently in place.

Next Steps

Staff is requesting input from member agencies on the potential addition to the TUMF Fee Calculation Handbook to clarify application of the 3,000 SF deduction policy. Once staff has direction on allocating credit for existing uses, draft language will be brought to the PWC for possible recommendation to the Executive Committee for action.

Prior Action:

None.

Fiscal Impact:

Transportation Department activities are included in the Agency's adopted FY 2018/2019 Budget under the Transportation Department.

Attachment:

1. 3,000 SF Deduction Revisions for Fee Calculation Handbook.

Item 7.E

TUMF Calculation Handbook Revisions

Attachment 1

3,000 SF Deduction Revisions for Fee Calculation Handbook

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1.1. 3,000 Square Foot Reduction for Retail and Service TUMF Land Uses

1.1.1. Summary

On August 7, 2017, the WRCOG Executive Committee implemented a policy of waiving the TUMF obligation for the first 3,000 square feet (SF) of gross floor area for all service and retail land uses due to concerns raised during the 2016 Nexus Study update over the impact of TUMF on retail uses. On October 1, 2018, the WRCOG Executive Committee updated the provisions of this policy to limit the fee reduction to only those retail and service land uses that have a total gross floor area of less than 20,000 SF.

1.1.2. Implementation

The policy enacted in August 2017 and updated in October 2018 provides a waiver from the TUMF obligation for the first 3,000 SF of gross floor area for new retail and service development projects as well as expansions to existing retail and service land uses where the net increase in the total gross floor area of the building(s) will be less than 20,000 SF. As such, no TUMF is paid on retail or service projects that increase the total gross floor area of the building(s) by less than 3,000 SF, and the gross floor area used as the basis to determine the fee obligation is reduced by 3,000 SF for retail or service projects that increase the total gross floor area of the building(s) by more than 3,000 SF but less than 20,000 SF. For the purposes of this policy, Class A/B offices are considered Service uses.

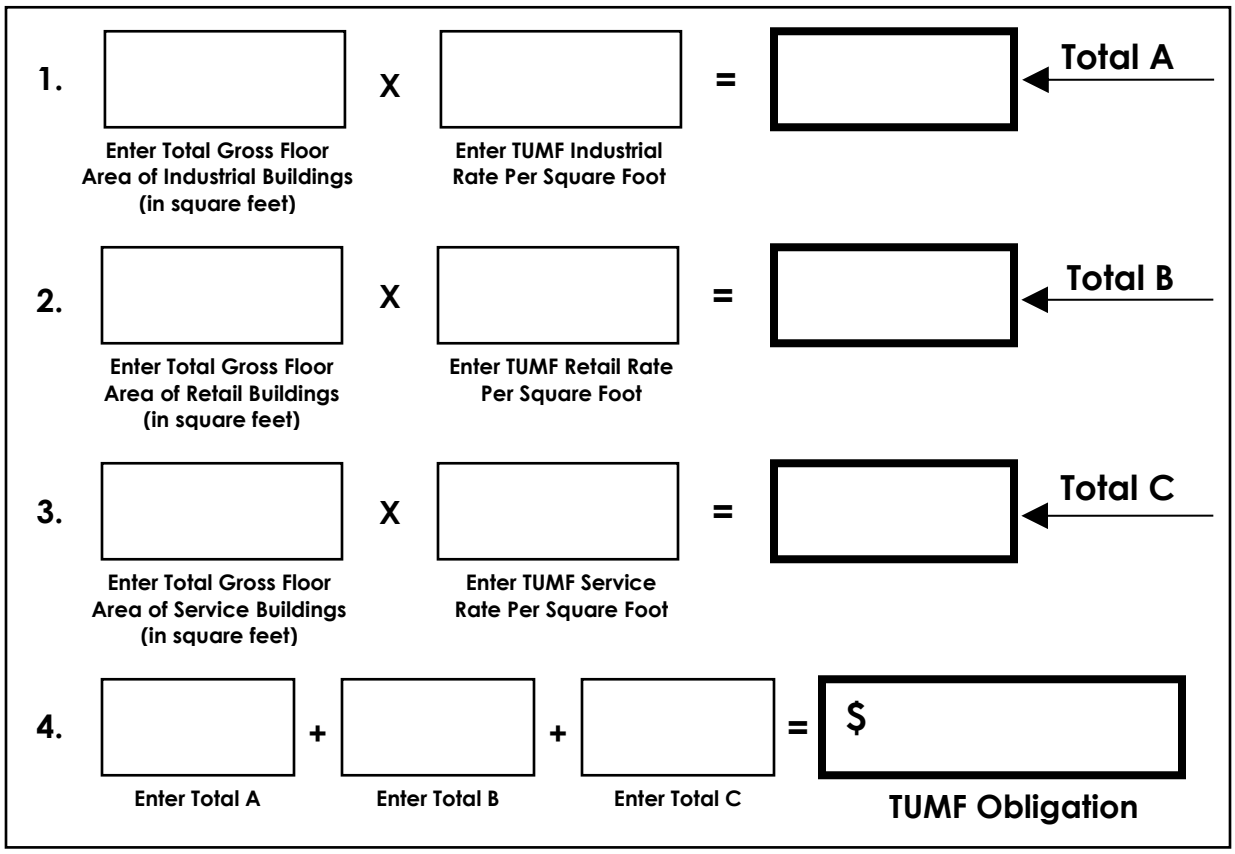
For mixed-use projects or projects with multiple tenants, the 3,000 SF reduction would apply to each individual use or each individual tenant to the extent that each tenant is operating independently of one another, and each is viewed as separate uses. This deduction is applied at the time of TUMF fee assessment and is based on the building as shown on plans at that time. Therefore, if a building is subdivided after TUMF fees are paid, TUMF would not be refunded.

1.1.3. Background

In response to concerns raised during the 2016 Nexus Study update, WRCOG staff undertook a study of several mid-size shopping centers in the subregion. Results from this study show that these shopping centers are generally anchored by a large tenant, typically occupying a space over 20,000 SF, and that these large spaces are surrounded by a number of smaller tenant spaces. The larger spaces are commonly occupied by large retailers such as grocery stores, clothing stores, and supermarkets; however, smaller tenant spaces are more commonly occupied by restaurants, beauty salons, dental offices, or electronics shops. Whereas the larger spaces may create a regional traffic draw, these smaller uses are generally more local-serving. For example, a new 200,000 SF retail super center may draw traffic from adjacent jurisdictions, as there may be a limited number of these retailers in the region. However, the smaller uses, such as a beauty salon or dental office, are generally located in every jurisdiction and will not likely create a large regional draw. Thus, even if a smaller use does generate additional traffic, this traffic will generally be local (i.e., new drive-through coffee shop locations, as there are numerous locations throughout the region).

A.2 Fee Calculation Worksheets for Non-Residential Use Types

Worksheet A.2.1 Standard Non-Residential TUMF Calculation Worksheet



☐ 3,000 SF Deduction Awarded (Total SF: _____ ; Adjusted SF: _____)

August 7, 2017 the WRCOG Executive Committee approved a 3,000 SF deduction for all service and retail TUMF land use types.

October 1, 2018 the WRCOG Executive Committee approved a revision to the 3,000 SF reduction policy for retail and service uses to limit this reduction to projects that are less than 20,000 SF.