

Eva J. Henry - District #1 Charles "Chaz" Tedesco - District #2 Emma Pinter - District #3 Steve O'Dorisio – District #4 Mary Hodge – District #5

> STUDY SESSION AGENDA TUESDAY February 26, 2019

ALL TIMES LISTED ON THIS AGENDA ARE SUBJECT TO CHANGE

10:30 A.M.	ATTENDEE(S): ITEM:	Adam Burg / Eliza Schultz / Elisabeth Rosen State Lobbyists Update
11:00 A.M.	ATTENDEE(S):	Ben Dahlman / Allison Slife, CliftonLarsonAllen / Jake Huolihan, CliftonLarsonAllen
	ITEM:	External Audit Kickoff
11:30 A.M.	ATTENDEE(S):	Kristin Sullivan / Doug Clark / Brian Staley / Rene Valdez / Matt Emmens
	ITEM:	General Traffic Impact Fees
12:30 P.M.	ATTENDEE(S): ITEM:	Kristin Sullivan / Brian Staley / Jeremy Reichert Traffic Signal System Central Software Selection
1:00 P.M.	ATTENDEE(S):	Kristin Sullivan / Brian Staley / Rene Valdez / Russ Nelson
	ITEM:	Hoffman Drainageway Project
1:30 P.M.	ATTENDEE(S): ITEM:	Kristin Sullivan / Ben Dahlman / Nancy Duncan Request to Use Tax Increment Financing, Aurora Urban Renewal Authority
2:00 P.M.	ATTENDEE(S): ITEM:	Heidi Miller Executive Session Pursuant to C.R.S. 24-6-402(4)(e) for the Purpose of Instructing Negotiators Regarding County Participation in Aurora Urban Renewal Authority Project
2:30 P.M.	ATTENDEE(S): ITEM:	Raymond Gonzales Administrative Item Review / Commissioners

Communication



STUDY SESSION AGENDA ITEM

DATE: February 26, 2019

SUBJECT: External Audit Work Plan and Update for the 2018 Fiscal Year

FROM: Benjamin Dahlman

AGENCY/DEPARTMENT: Finance Department

ATTENDEES: Benjamin Dahlman, Finance Director, and CLA Representatives: Allison Slife,

CPA, and Jake Huolihan CPA, Manager

PURPOSE OF ITEM: Discuss External Audit Work Plan for 2018 and Introduce

CliftonLarsonAllen's Staff Assigned to the Engagement

STAFF RECOMMENDATION: Proceed with 2018 External Audit Work Plan

BACKGROUND:

Local Governments including Adams County are required by C.R.S. 29-1-603 to have an annual audit performed on the financial statements. The County's financings also require annual audits as continuing disclosure.

The County's annual audit includes two primary components in the Comprehensive Annual Financial Report (CAFR). The Financial Section includes the County's Financial Statements. The Compliance Section includes the Single Audit which was conducted in conformity with the provision of the Single Audit Act of 1987, the Single Audit Act Amendments of 1996, and Title 2 U.S. Code of Regulation Part 200. The County's audit firm gives opinions related to these items.

CliftonLarsonAllen LLC has been selected as the County's External Auditor. The contract was approved in Public Hearing on December 6, 2016.

As mentioned in the Public Hearing, CliftonLarsonAllen LLC will engage the Board and discuss the audit process. Specific topics to be covered are as follows:

- 1. Introductions
- 2. Scope of the Audit: discussion about what an audit is and why it is performed
- 3. Auditors' Responsibilities under U.S. Generally Accepted Auditing Standards (GAAS)
- 4. The Auditors' and Board of County Commissioners' Roles in the Audit

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- 5. Risk Assessment and Fraud: discussion on what this is and auditors' responsibilities
- 6. Discussion on required communications and deliverables between the auditors and Board
- 7. Findings: overview of what a finding is, types of findings, and how they are communicated

AGENCIES, DEPARTMENTS OR OTHER OFFICES INVOLVED:

Finance Department

ATTACHED DOCUMENTS:

CLA Presentation

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FISCAL IMPACT:			
Please check if there is no fiscal impact . section below.	If there is fis	cal impact, please f	ully complete the
Fund:1		and the second s	
Cost Center: 9252			
		Object Sul	oledger Amount
		Account	
Current Budgeted Revenue:			
Additional Revenue not included in Current Bu Total Revenues:	dget:		
		Object Sub Account	oledger Amount
Current Budgeted Operating Expenditure:		7685	\$126,000
Add'l Operating Expenditure not included in Cu	rrent Budget:		
Current Budgeted Capital Expenditure:			
Add'l Capital Expenditure not included in Curre	ent Budget:		
Total Expenditures:			
New FTEs requested:	⊠ NO		
Future Amendment Needed: YES	NO NO		
Additional Note:			
This is a multiple year contract which is a tradit above is for this year only.	ional timeframe	e for such work. The	cost represented
APPROVAL SIGNATURES:			
AHUL			
Raymond H. Gonzales, County Manager	Alisha	Reis, Deputy County	Manager
Bryan Ostler, Deputy County Manager			
APPROVAL OF FISCAL IMPACT:			

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Fiscal Year 2018 Audit Entrance Meeting Agenda

- Introductions
- Scope of Audit
- Responsibilities under GAAS
- The BOCC's Role in the Audit
- Risk Assessment
- Required Communications and Deliverables
- Discussion on Findings
- Questions



Scope of the Audit: Why is an audit performed?

- Colorado's Local Government Audit Law requires every local government (cities, counties, special districts, school districts, authorities, political subdivisions, and others) in the state to undergo an annual financial audit conducted by an independent CPA firm.
- The State Auditor is required to examine all audit reports to determine compliance with accounting standards.

QA

Scope of the Audit: what is an audit?

- An examination of the financial report of an organization by someone independent of the organization.
- To determine: accounting records are accurate and complete, prepared in accordance with GAAP, and the financial statements are free of material misstatement.
- Required to report to Governance (Board) on control deficiencies, significant deficiencies and/or material weaknesses in internal controls when identified during the audit.

Q)

Scope of the Audit

- Financial Statement Audit Comprehensive Annual Financial Report (CAFR)
- Single Audit
 - Preliminary major program determination 4 programs:
 - ♦ Head Start
 - Foster Care Title IV-E
 - Workforce Innovation and Opportunity Act (WIOA) Cluster
 - Crime Victim Compensation
 - Potential for additional programs to be identified based on final SEFA
 - Schedule of Expenditures of Federal Awards (SEFA)
- Findings and Recommendations



Responsibilities under US Generally Accepted Auditing Standards (GAAS)

- Auditors are responsible for:
 - Expressing opinions on whether financial statements are in conformity with U.S. Generally Accepted Accounting Principles
 - Expressing opinions only over information identified in our report.
 Other information reviewed, but not subjected to testing
 - Performing audit in accordance with required auditing standards
 - Communication of significant matters related to audit

QA

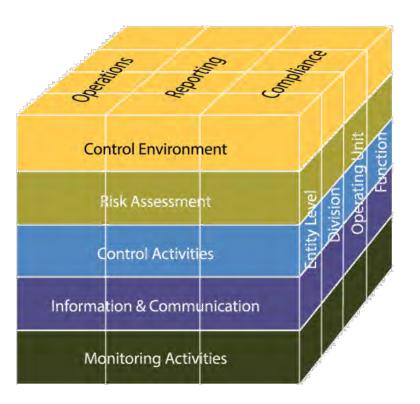
Responsibilities Under GAAS (continued)

- An Audit in Accordance with GAAS
 - Does not relieve management of responsibilities.
 - Includes consideration of internal control as a basis for audit procedures, but not to opine on effectiveness of internal controls.

Q)

The BOCC's Role in the Audit

The COSO Framework





Risk Assessment

Interviews with Prior Year Knowledge/Team Management, Operating Personnel, Internal Audit, **Brainstorming Session** BOCC Risk Assessment Inherent Risk/Other **Regulatory Reports**

4

Required Communications to BOCC and management

- Preliminary Communications to Governance:
 - Responsibilities under US Generally Accepted Auditing Standards (GAAS)
 and the Uniform Guidance
 - Planned scope and timing of the audit
- Communications to Governance Conclusion:
 - Significant findings or issues from the audit
- Management Letter at Conclusion:
 - Deficiencies in internal control other than significant deficiencies and material weaknesses



Required Deliverables

- Deliverables included in CAFR:
 - Independent Auditors' Report opinions on the financial statements
 - Independent Auditors' Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with Government Auditing Standards (GAS/Yellow Book report) – report on internal controls over financial reporting
 - Independent Auditors' Report on Compliance For Each Major Federal Program and Report on Internal Control Over Compliance Required By The Uniform Guidance – opinion on federal programs and findings severity
 - Schedule of Findings and Questioned Costs includes financial statement findings and federal award findings (material weaknesses and significant deficiencies)

(I)

Findings – What are they?

 An audit finding is defined as an area of potential control weakness, policy violation, or non-compliance with the terms and conditions of the award or other issue identified during the audit.

 A finding is reported as either a significant deficiency or material weakness over internal control and/or compliance.

Q.

Types of Audit Findings: Significant Deficiency vs Material Weakness

• **Significant Deficiency:** is a deficiency, or a **combination of deficiencies, in internal control over financial reporting or major programs**, that is **less severe than a material weakness** yet important enough to merit attention by those responsible for oversight of the entity.

Material Weakness: is a deficiency, or a combination of deficiencies, in internal control over
financial reporting or major programs, such that there is a reasonable possibility that a material
misstatement of the financial statements or material non-compliance with a program requirement
will not be prevented or detected on a timely basis.

QA

How are findings communicated?

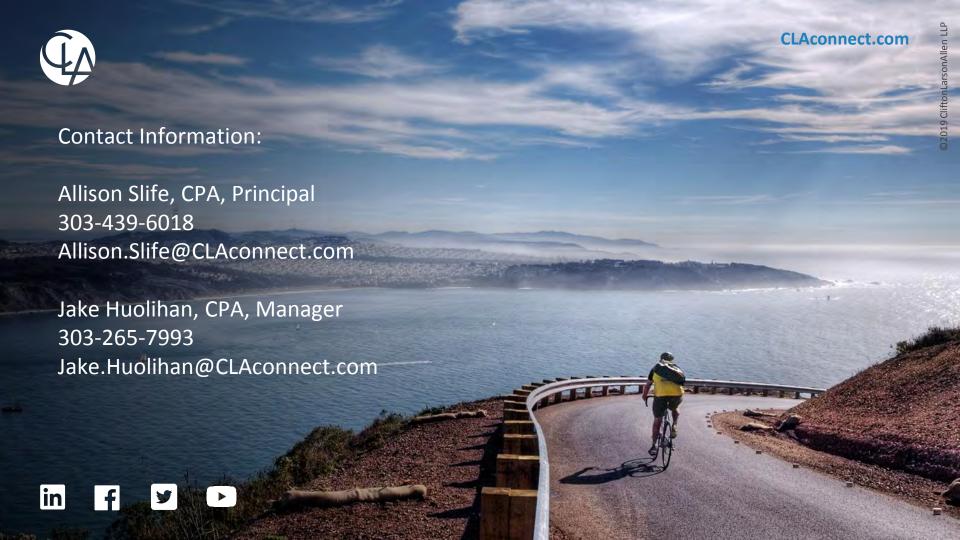
- Significant deficiencies (SDs) and material weaknesses (MWs) are required to be reported in the "Schedule of Findings and Questioned Costs" – in the CAFR package (compliance section)
- Deficiencies in internal control that are not SDs or MWs are reported in the management letter that is given to the BOCC and management

QA

Questions?









STUDY SESSION AGENDA ITEM

DATE: February 26, 2019

SUBJECT: Traffic Impact Fees

FROM: Kristin Sullivan, Director of Community and Economic Development

AGENCY/DEPARTMENT: Community and Economic Development

ATTENDEES: Doug Clark, Brian Staley, Melanie Sloan, Rene Valdez, Matt Emmens, Ben Dahlman,

Justin Blair and Christine Fitch

PURPOSE OF ITEM: To provide a status update and preliminary results of the general traffic impact

fee study

STAFF RECOMMENDATION: Post the traffic impact fee study on the County's website for public input in anticipation of amending the Development Standards and Regulations and adoption of updated traffic impact fees in January 2020.

BACKGROUND:

The Community and Economic Development department has been working with Tischsler Bise to review the County's general traffic impact fees assessed on new development and make policy recommendations. The County's general traffic impact fees have not been reviewed since 1998 and have not kept pace with the increase in population and associated demand on road infrastructure.

The County staff and the consultant have been collecting data, reviewing various data relating to traffic impact information in the County, as well as current and anticipated capital improvement plans. On October 25, 2017, April 18, 2018, and October 5, 2018, staff met with stakeholders representing the development community to discuss the study and solicit input. At the meetings, the attendees provided feedback on methodology of the study and general ideas on how to continue to find opportunities to provide the needed road improvements to support growth in the County. The stakeholders also discussed opportunities and mechanisms to ensure any potential increase in the traffic impact fees would not deter the provision of affordable housing to the County residents. Overall, the stakeholders acknowledged the need to revise the traffic impact fees to keep up with the record growth and demand on road infrastructure.

The purpose of this study session is to discuss the preliminary results with the Board of County Commissioners (BoCC) and make recommendations prior to sharing the results for public input.

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STAFF RECOMMENDATION:

- 1. Accept the findings of the traffic impact study.
- 2. Phase the recommended fees in over a three year period.
- 3. Waive the traffic impact fees for low to moderate income housing projects that have established an affordability period.
- 4. Post the traffic impact study on the Adams County web site for public input.
- 5. Amend the Adams County Development Standards and Regulations to implement the traffic impact study findings and recommendations.
- 6. Implement the Phase 1 traffic impact fees, effective January 1, 2020.
- 7. Revisit the traffic impact fees on an annual basis for implementation of phases 2 and 3.

AGENCIES, DEPARTMENTS OR OTHER OFFICES INVOLVED:

County Manager's Office Public Works Department County Attorney's Office Finance Department

ATTACHED DOCUMENTS:

Presentation
Draft 2018 Transportation Impact Fee Report

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FISCAL IMPACT:

Please check if there is no fiscal impact ⊠. If section below.	f there is fise	cal impact, please fully comp	lete the
Fund:			
Cost Center:			
		Object Subledger Account	Amount
Current Budgeted Revenue:			
Additional Revenue not included in Current Budge	et:		
Total Revenues:		_	
		Object Subledger Account	Amount
Current Budgeted Operating Expenditure:	- T	***	
Add'l Operating Expenditure not included in Curre	nt Budget:		
Current Budgeted Capital Expenditure:	D 1 .		
Add'l Capital Expenditure not included in Current Total Expenditures:	Budget:		
New FTEs requested: YES Future Amendment Needed: YES	⊠ no ⊠ no		
Additional Note:			
APPROVAL SIGNATURES:			
Raymond H. Gonzales, County Manager Bryan Ostler, Deputy County Manager	Alisha	Reis, Deputy County Manager	
APPROVAL OF FISCAL IMPACT: Many Dunce Budget	-		

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Traffic Impact Fees Study

Community and Economic Development February 26, 2019

Background

Project background:

- County traffic impact fees have not seen a comprehensive update since initial fee study completed in 1998.
- Continued population growth and demand on County road infrastructure.

Background

Findings from Adams County Local Financing Study (5/18):

- Local road needs of \$2 billion through 2045 or about \$69 million per year have been identified.
- Existing funding levels from Five Year Capital Improvement Plan is about \$13 million per year.
- Road improvement needs greatly exceed current funding levels.
- New residential development is a significant fiscal drain on the County.
- Development should pay for a greater share of its infrastructure cost burden.

Information and Stakeholder Meeting

- County staff and consultant have been collecting data and reviewing information for the past year.
- Held three stakeholder meetings:
 - Discussed need for the study
 - Reviewed methodology for the study
 - All agreed on the importance of the study
 - Discussed methods to address the policy concern of the impact increased fees could have on affordable housing

Methodology, Findings and Results

• Presentation by Carson Bise of Tichler Bise

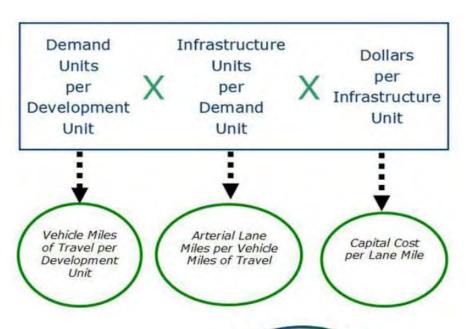
Legal and Methodology

- One time payments to fund system improvements
- Cannot be deposited into General Fund

Basic legal requirements are need, benefit, and

proportionality

- General Methods
 - » Plan Based
 - » Cost Recovery
 - » Incremental Expansion



Eligible Costs

- Facilities/improvements required to serve new development - Yes
- Maintenance and repairs No
- Operating costs No
- Excess capacity in existing facilities Yes
- Improvements required to correct existing deficiencies – No
 - » Unless there is a funding plan

Impact Fees in Colorado

- Governed by Senate Bill 15
 - » October 2001
- Improvement or facility that:
 - » Is directly related to any service that a local government is authorized to provide;
 - » Has a useful life of five years or longer
- Specific accounting requirements
- Allows a local government to waive an impact fee on the development of low/moderate income housing
 - » Does not address whether the local government is required to "make up" the difference

Process

- Determine existing development base and project future growth
- Determine existing levels of service and capital needs due to new growth
- Determine appropriate indicators of demand
- Evaluate methodological alternatives
- Evaluate need for credits
- Calculate fees
- Meetings with stakeholders
- Adoption process



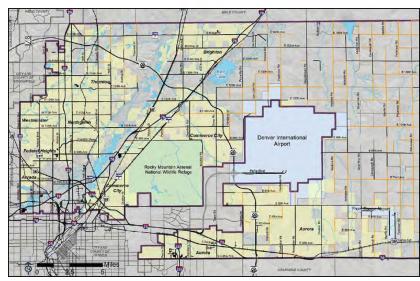
2018

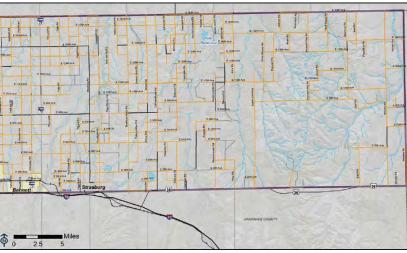
2018 Update

- Last updated 20 years ago
- Moving from Countywide Service Area to Two Services Areas (consistent with 2012 Transportation Plan)
 - » East
 - » West

Improvements

- » Traditional arterial lane capacity improvements (West Service Area)
- Rural road upgrades (East Service Area)







Evaluate Need for Credits

Site specific

» Developer constructs a capital facility included in fee calculations

Debt service

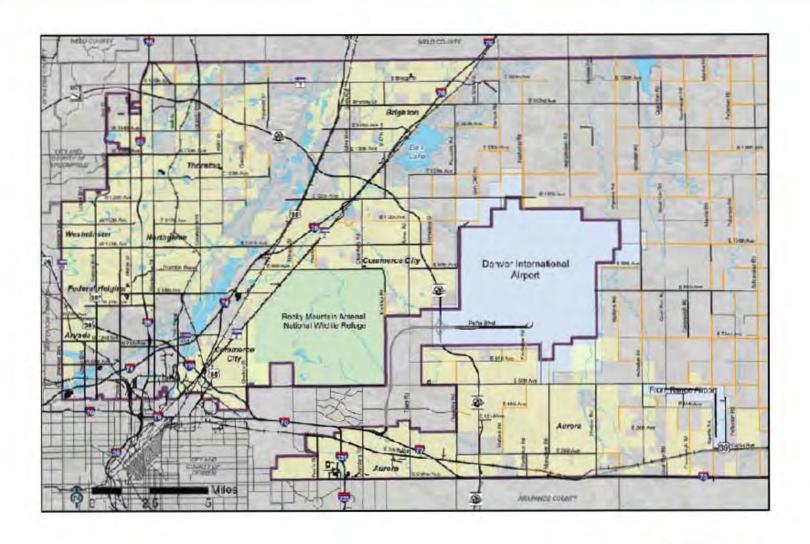
» Avoid double payment due to existing or future bonds

Dedicated revenues

» Property tax, local option sales tax, gas tax



West Service Area



West Service Area: Consumption-Based Methodology

- Based on existing LOS on West area arterial network
 - » Provides flexibility
 - » Respond to changes in market conditions
 - » Respond to changes in funding arrangements
 - » Reduces General Fund exposure
- Generates need for 18.5 lane miles
- CIP is basis for determining County share of the cost per lane mile
- Growth share not needed since we are maintaining LOS

West Travel Demand Model

Development Type	ITE Code	Wkdy VTE	Dev Unit	Trip Adj
0-1 Bedroom Residential	210	5.09	HU	61%
2 Bedrooms Residential	210	7.37	HU	61%
3 Bedrooms Residential	210	8.99	HU	61%
4+ Bedrooms Residential	210	10.63	HU	61%
Retail	820	37.75	KSF	34%
Service	710	9.74	KSF	50%
Industrial	140	3.93	KSF	50%

Avg Trip Length (miles)	4.66
Vehicle Capacity Per Lane	8,000

venicle Capacity Per Lane	8,000							
	2016	2017	2018	2019	2020	2021	2026	10-Year
	Base	1	2	3	4	5	10	Increase
0-1 Bedroom	231	232	233	233	234	234	237	6
2 Bedrooms	7,249	7,262	7,275	7,288	7,301	7,314	7,378	129
3 Bedrooms	16,551	16,635	16,719	16,803	16,887	16,971	17,390	839
4+ Bedrooms	6,360	6,430	6,500	6,570	6,639	6,709	7,058	698
Retail Floor Area (KSF)	2,557	2,647	2,736	2,826	2,915	3,014	3,524	967
Service Floor Area (KSF)	5,750	5,909	6,068	6,227	6,386	6,561	7,467	1,717
Industrial Floor Area (KSF)	14,725	15,093	15,462	15,830	16,198	16,604	18,698	3,973
0-1 Bedroom Trips	719	720	722	724	725	727	736	17
2 Bedrooms Trips	32,590	32,648	32,706	32,764	32,822	32,880	33,170	580
3 Bedrooms Trips	90,765	91,225	91,686	92,146	92,606	93,066	95,367	4,602
4+ Bedrooms Trips	41,240	41,693	42,146	42,599	43,052	43,504	45,769	4,528
Retail Trips	32,819	33,969	35,118	36,267	37,416	38,685	45,230	12,411
Service Trips	28,002	28,776	29,551	30,325	31,099	31,952	36,362	8,360
Industrial Trips	28,935	29,659	30,382	31,106	31,830	32,626	36,742	7,808
Total Vehicle Trips	255,070	258,690	262,310	265,930	269,550	273,442	293,376	38,306
Vehicle Miles of Travel (VMT)	1,226,768	1,240,883	1,254,999	1,269,114	1,283,229	1,298,229	1,374,786	148,019
Arterial Lane Miles (VMT)	153.35	155.11	156.87	158.64	160.40	162.28	171.85	18.50
Signalized Intersections	40.0	40.5	40.9	41.4	41.8	42.3	44.8	4.8

West: Potential Projects/Cost Basis

CIP Project	Lanes	Length of Project (miles)	Lane Miles	Total Cost	County Share	County Cost per Lane Mile
York Street (Between HWY 224 to E. 78th Ave)	5.00	0.62	3.10	\$5,000,000	\$5,000,000	\$1,612,903
Dahlia Street (Hwy 224 to 70th Ave)	3.00	3.00	9.00	\$8,000,000	\$6,400,000	\$711,111
Lowell Blvd (Clear Creek and W 62nd Ave)	2.00	2.00	4.00	\$3,200,000	\$3,200,000	\$800,000
58th Ave (Between Washington and York)	5.00	1.00	5.00	\$7,000,000	\$7,000,000	\$1,400,000
York Street (58th to Hwy 224)	5.00	0.62	3.10	\$11,300,000	\$11,300,000	\$3,645,161
York Street (78th to 88th)	5.00	1.40	7.00	\$10,500,000	\$10,500,000	\$1,500,000
Pecos Street (52nd Ave to 58th Ave)	5.00	0.70	3.50	\$5,300,000	\$5,300,000	\$1,514,286
66th Ave (West of Broadway) Design	5.00	0.25	1.25	\$600,000	\$600,000	\$480,000
54th Ave (Washington to Franklin) Design	5.00	0.50	2.50	\$6,500,000	\$6,500,000	\$2,600,000
TOTAL	40.00	10.09	38.45	\$57,400,000	\$55,800,000	\$1,451,235

West Area Revenue Credit

Year	Property Tax	Sales Tax	Specific Ownership Tax	Total Tax Revenue	% Spent on Capital (27%)	% Attributable to West (73%)	Projected VMT	Credit per VMT
1	\$5,058,047	\$2,777,543	\$12,616,018	\$20,451,608	\$5,521,934	\$4,031,012	1,240,883	\$3.25
2	\$5,270,010	\$2,879,757	\$12,825,625	\$20,975,392	\$5,663,356	\$4,134,250	1,254,999	\$3.29
3	\$5,510,157	\$2,985,732	\$13,045,913	\$21,541,802	\$5,816,286	\$4,245,889	1,269,114	\$3.35
4	\$5,750,303	\$3,095,607	\$13,266,201	\$22,112,112	\$5,970,270	\$4,358,297	1,283,229	\$3.40
5	\$5,990,450	\$3,209,525	\$13,486,490	\$22,686,464	\$6,125,345	\$4,471,502	1,298,229	\$3.44
6	\$6,230,596	\$3,327,635	\$13,706,778	\$23,265,009	\$6,281,552	\$4,585,533	1,313,228	\$3.49
7	\$6,470,743	\$3,450,092	\$13,927,066	\$23,847,901	\$6,438,933	\$4,700,421	1,328,227	\$3.54
8	\$6,606,511	\$3,511,504	\$14,122,794	\$24,240,808	\$6,545,018	\$4,777,863	1,343,226	\$3.56
9	\$6,742,279	\$3,574,009	\$14,318,521	\$24,634,809	\$6,651,398	\$4,855,521	1,358,225	\$3.57
10	\$6,878,046	\$3,637,626	\$14,514,249	\$25,029,921	\$6,758,079	\$4,933,397	1,374,786	\$3.59
Total	\$60,507,142	\$32,449,030	\$135,829,655	\$228,785,826	\$61,772,173	\$45,093,686		\$34.48

Discount Rate	4.5%
Net Present Value	\$27.17

Source: Revenue projections are from EPS Local Finance Study, prepared for Adams County. VMT projection from TischlerBise, as are percentages of VMT by Service Area. Percentage of capital expenditures to overall revenue from FY2018 Adams County Budget

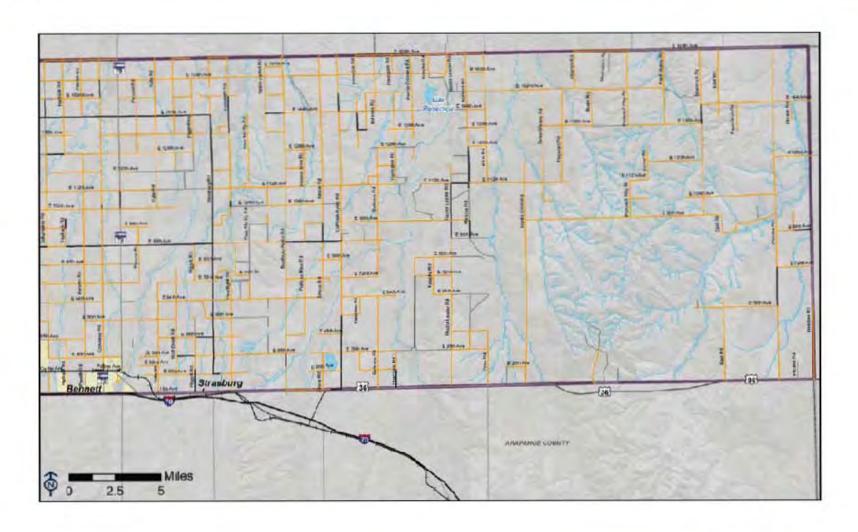
West Area Impact Fee

Input Variables for		Averag	ge Miles per Trip	4.66			
Unincorporated Area		Cost per Addition	nal Lane Mile =>	\$1,451,235			
	Additional Lane	e Miles Needed to N	Maintain LOS =>	18.50			
	Ter	n-Year Growth Cost	Funded by Fees	\$26,853,695			
		VMT Increase	Over Ten Years	148,019			
		Capit	al Cost per VMT	\$181.42			
			Revenue Credit	(\$27.17)			
		Net Capit	al Cost per VMT	\$154.25			
Development Type	Avg Wkdy Veh Trip Ends	Trip Rate Adjustment	Trip Length Adjustment	Transportation Impact Fee	Current County Fee (1998)	Increase or Decrease	Percent Change
Residential (per dwelling) by	Sq Ft of Finished Livi	ng Space					
900 or less	5.09	61%	121%	\$2,700	\$888	\$1,812	204%
901 to 1300	7.37	61%	121%	\$3,910	\$983	\$2,927	298%
1301 to 1800	8.99	61%	121%	\$4,769	\$983	\$3,786	385%
1801 to 2400	10.63	61%	121%	\$5,639	\$1,599	\$4,040	253%
2401 or more	12.01	61%	121%	\$6,371	\$1,599	\$4,772	298%
Nonresidential (per 1,000 Sq	uare Feet of Floor A	rea)					
Retail	37.75	34%	66%	\$6,089	\$4,264	\$1,825	43%
Office/Service	9.74	50%	73%	\$2,555	\$2,357	\$198	8%
Industrial	3.93	50%	73%	\$1,031	\$1,552	(\$521)	-34%

Residential development has a larger trip adjustment factor of 55% to account for commuters leaving Adams County for work. Retail has a lower adjustment factor to account for pass-by trips

According to the National Household Travel Survey, vehicle trips from residential development are approximately 121% of the average trip length. Conversely, shopping trips associated with commercial development are roughly 66% of the average trip length while other nonresidential development typically accounts for trips that are 73% of the average for all trips.

East Service Area



East Travel Demand Model

Development	ITE	Wkdy	Dev	Trip
Туре	Code	VTE	Unit	Adj
0-1 Bedroom Residential	210	7.52	HU	55%
2 Bedrooms Residential	210	9.39	HU	55%
3 Bedrooms Residential	210	10.72	HU	55%
4+ Bedrooms Residential	210	12.07	HU	55%
Retail	820	37.75	KSF	34%
Service	710	9.74	KSF	50%
Industrial	140	3.93	KSF	50%

Avg Trip Length (miles) 19.32
Vehicle Capacity Per Lane 6,000

	2016	2017	2018	2019	2020	2021	2026	10-Year
	Base	1	2	3	4	5	10	Increase
0-1 Bedroom	16	21	27	33	39	45	75	59
2 Bedrooms	332	339	346	353	359	366	400	68
3 Bedrooms	1,498	1,569	1,640	1,712	1,783	1,854	2,211	714
4+ Bedrooms	625	666	707	747	788	829	1,034	409
Retail Floor Area (KSF)	75	80	85	90	96	101	131	56
Service Floor Area (KSF)	231	248	265	282	298	317	413	182
Industrial Floor Area (KSF)	202	215	229	242	256	271	347	145
0-1 Bedroom Trips	64	89	113	138	162	187	309	244
2 Bedrooms Trips	1,715	1,750	1,786	1,821	1,856	1,891	2,067	352
3 Bedrooms Trips	8,830	9,250	9,671	10,092	10,513	10,933	13,037	4,208
4+ Bedrooms Trips	4,147	4,419	4,690	4,962	5,233	5,505	6,863	2,716
Retail Trips	960	1,026	1,093	1,160	1,227	1,299	1,675	715
Service Trips	1,125	1,207	1,289	1,371	1,453	1,544	2,011	886
Industrial Trips	397	423	450	476	503	532	681	284
Total Vehicle Trips	17,238	18,165	19,093	20,020	20,947	21,891	26,644	9,406
Vehicle Miles of Travel (VMT)	378,607	398,564	418,522	438,479	458,437	478,619	579,998	201,391

East Service Area: Plan-Based Methodology

- Based on planned projects provided by Adams County staff
- Growth share based on percentage increase in VMT

CIP Project	Lanes	Length of Project (miles)	Lane Miles	Total Cost	County Share	Growth Share	Growth Cost
Piggot Rd (E 29th Ave to E 56th Ave)	2.00	3.00	6.00	\$3,000,000	\$3,000,000	35%	\$1,050,000
Strasburg Rd (15th to E 48th Ave)	2.00	2.00	4.00	\$2,000,000	\$1,600,000	35%	\$560,000
Headlight Mile Rd (US 38 to E 48th)	2.00	3.00	6.00	\$3,000,000	\$3,000,000	35%	\$1,050,000
Wolf Creek Rd (E 26th to E 48th)	2.00	1.00	2.00	\$1,000,000	\$1,000,000	35%	\$350,000
E 120th Ave (Petterson Rd to Hwy 79	2.00	5.00	10.00	\$5,000,000	\$5,000,000	35%	\$1,750,000
E 38th Ave (Piggot to Headlight Mile)	2.00	2.00	4.00	\$2,000,000	\$2,000,000	35%	\$700,000
TOTAL	12.00	16.00	32.00	\$16,000,000	\$15,600,000	35%	\$5,460,000

Growth-Related Cost	\$5,460,000
10-Year VMT Increase	201,391
Average Cost per VMT	\$27.11

Source: Adams County, CO

East Area Impact Fee

Input Variables for		Averag	e Miles per Trip	19.32			
Unincorporated Area	Ten-Ye	ar Growth Cost F	unded by Fees	\$5,460,000			
		VMT Increase	Over Ten Years	201,391			
		Capita	l Cost per VMT	\$27.11			
Development Type	Avg Wkdy Veh Trip Ends	Trip Rate Adjustment	Trip Length Adjustment	Transportation Impact Fee	Current County Fee (1998)	Increase or Decrease	Percent Change
Residential (per dwelling) by	Sq Ft of Finished L	iving Space					
900 or less	7.52	61%	121%	\$2,906	\$888	\$2,018	227%
901 to 1300	9.39	61%	121%	\$3,629	\$983	\$2,646	269%
1301 to 1800	10.72	61%	121%	\$4,143	\$983	\$3,160	321%
1801 to 2400	12.07	61%	121%	\$4,665	\$1,599	\$3,066	192%
2401 or more	12.96	61%	121%	\$5,009	\$1,599	\$3,410	213%
Nonresidential (per 1,000 Sq	uare Feet of Floor	Area)					
Retail	37.75	34%	66%	\$4,436	\$4,264	\$172	4%
Office/Service	9.74	50%	73%	\$1,861	\$2,357	(\$496)	-21%
Industrial	3.93	50%	73%	\$751	\$1,552	(\$801)	-52%

Residential development has a larger trip adjustment factor of 55% to account for commuters leaving Adams County for work. Retail has a lower adjustment factor to account for pass-by trips

According to the National Household Travel Survey, vehicle trips from residential development are approximately 121% of the average trip length. Conversely, shopping trips associated with commercial development are roughly 66% of the average trip length while other nonresidential development typically accounts for trips that are 73% of the average for all trips.



Comparables

 Comparing proposed fee options to County's current fees and neighboring counties.

Jurisdiction	Single Family Housing Unit*	Retail (per 1,000 Sq. Ft.)	Service (per 1,000 Sq. Ft.)	Industrial (per 1,000 Sq. Ft.)
Adams County - Proposed Fees (West Area)	\$5,677	\$6,130	\$2,357	\$1,552
Adams County - Proposed Fees (East Area)	\$4,665	\$4,436	\$1,861	<i>\$751</i>
Adams County - Current Fees, 2018\$	\$2,469	\$6,585	\$3,640	\$2,397
Adams County - Current Fees, 1998\$	\$1,599	\$4,264	\$2,357	\$1,552
Weld County, 2010 Fees	\$2,406	\$3,336	\$2,220	\$2,177
Jefferson County, 2018 Fees	\$2,466	\$5,360	\$3,590	\$1,550
Arapahoe County, 2017 Fees (East)	\$2,531	\$3,806	\$2,223	\$769
Larimer County - Proposed 2018 Fees	\$4,168	\$5,461	\$3,213	\$1,296

Note: fee amounts shown for a 1,900 square foot detached housing unit

Policy Considerations

Affordable Housing and "Missing Middle" Concerns:

- The County Balanced Housing Plan (BHP) documents the need for affordable housing.
- The BHP recommends policies that address the "missing middle".
 - The "missing middle" are housing types that fall between detached single family homes and large (20+) apartment complexes.



- Providing missing middle housing presents an opportunity to increase housing options for a variety of income levels.
- Additionally, one goal of the plan is to "Balance Supply with Demand" so that a diverse housing stock can accommodate a variety of housing needs.

Policy Considerations

- The proposed fee schedule varies depending on the square footage of the residential unit. The smaller the unit, the less the traffic impact fee.
- Lower square footage residential units will generally be more affordable.
- Local governments can chose to waive fees for low to moderate income housing.
 - Low to Moderate Income projects that receive state or federal grants have requirements that insure an affordability period.
 - Examples include Low Income Tax Credits, Housing and Urban Development HOME or CDBG funding.
 - Additional costs incurred by development are generally passed down to the future owner/resident, decreasing affordability.

Policy Considerations

- Staff recommends a full waiver of traffic impact fees for residential units with a guaranteed affordability period based on HUD or LIHTC funds in the project
- Staff looked at additional fee adjustments to incentivize "missing middle" housing options when a subsidy is not present.
- Staff found that there were complications in targeting specific housing types that prevent us from reducing the fees on this basis.
- In order to reduce the impact of the full increase, staff recommends a three-phase implementation schedule with the ability to consider each phase one year at a time.

Recommendation

- 1. Continue to move forward with the traffic impact study.
- 2. Post the traffic impact study on the Adams County web site for public input, notify stakeholders, and solicit comments.
- 3. Phase the recommended fees in over a three-year period along with the budget adoption cycle.
- 4. Implement the Phase 1 traffic impact fees, effective January 1, 2020.
- 5. Waive the traffic impact fees for low and moderate income housing projects that have established an affordability period.
- 6. Amend the Adams County Development Standards and Regulations to implement the traffic impact study findings and recommendations.
- 7. Revisit the traffic impact fees on an annual basis for implementation of phases 2 and 3.

Recommendation

	West Service Area										
Residential by Square feet Of Finished Living Space (per unit)	Cı	urrent	Phase	e 1 -2020	Phase	e 2- 2021	Phas	e 3- 2022			
900 or less	\$	888	\$	1,492	\$	2,096	\$	2,700			
901 to 1300	\$	983	\$	1,959	\$	2,934	\$	3,910			
1301 to 1800	\$	983	\$	2,245	\$	3,507	\$	4,769			
1801 to 2400	\$	1,599	\$	2,946	\$	4,292	\$	5,639			
2401 or more	\$	1,599	\$	3,190	\$	4,780	\$	6,371			
Non Residential (per 1000 sf of	Floo	r Area)									
Retail	\$	4,264	\$	4,872	\$	5,481	\$	6,089			
Office/Service	\$	2,357	\$	2,423	\$	2,489	\$	2,555			
Industrial	\$	1,552	\$	1,031	\$	1,031	\$	1,031			

Recommendation

East Service Area									
Residential by Square feet Of Finished Living Space (per unit)	Cı	urrent	Phase	e 1 -2020	Phase	e 2- 2021	Phas	e 3- 2022	
900 or less	\$	888	\$	1,561	\$	2,233	\$	2,906	
901 to 1300	\$	983	\$	1,865	\$	2,747	\$	3,629	
1301 to 1800	\$	983	\$	2,036	\$	3,090	\$	4,143	
1801 to 2400	\$	1,599	\$	2,621	\$	3,643	\$	4,665	
2401 or more	\$	1,599	\$	2,736	\$	3,872	\$	5,009	
Non Residential (per 1000 sf of	f Floo	r Area)							
Retail	\$	4,264	\$	4,321	\$	4,379	\$	4,436	
Office/Service	\$	2,357	\$	1,862	\$	1,862	\$	1,862	
Industrial	\$	1,552	\$	751	\$	751	\$	751	

Recommendation vs. Comps

Residential Sq Ft.	Cı	urrent	Pl	West nase 1 2020	Pł	East nase 1 2020	١	Veld	J	effco	Ara	apahoe	La	rimer
1,900	\$	1,599	\$	2,946	\$	2,621	\$	2,406	\$	2,466	\$	2,531	\$	4,168
	_	Residential of Floo	_	a)										
Retail	\$	4,264	\$	4,872	\$	4,379	\$	3,336	\$	5,360	\$	3,806	\$	5,461
Office/ Service	\$	2,357	\$	2,423	\$	1,862	\$	2,220	\$	3,590	\$	2,223	\$	3,213
Industrial	\$	1,552	\$	1,031	\$	751	\$	2,177	\$	1,550	\$	769	\$	1,269



Draft 2018 TransportationImpact Fee

Prepared for:

Adams County, Colorado

November 16, 2018

Prepared by:



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INTRODUCTION

Adams County's Transportation Impact Fee study was completed in 1998. Since that time, the State of Colorado has implemented a new impact fee statute, demographics, the real estate market and capital cost of transportation improvements have changed, requiring an update of the fee study. Transportation impact fees are one-time payments for new development's proportionate share of the capital cost of infrastructure. Transportation impact fees do have limitations and should not be regarded as the total solution for transportation infrastructure funding. Rather, they are one component of a comprehensive funding strategy to ensure provision of adequate public facilities. Transportation impact fees may only be used for capital improvements or debt service for growth-related infrastructure. Transportation impact fees may not be used for operations, maintenance, replacement of infrastructure, or correcting existing deficiencies. Although Colorado is a "home-rule" state and home-rule municipalities were already collecting "impact fees" under their home-rule authority granted in the Colorado Constitution, the Colorado Legislature passed enabling legislation in 2001, as discussed further below.

Colorado Impact Fee Enabling Legislation

For local governments, the first step in evaluating funding options for transportation improvements is to determine basic options and requirements established by state law. Some states have more conservative legal parameters that basically restrict local government to specifically authorized actions. In contrast, "home-rule" states grant local governments broader powers that may or may not be precluded or preempted by state statutes depending on the circumstances and on the state's particular laws.

Impact fees are one-time payments imposed on new development that must be used solely to fund growth-related capital projects, typically called "system improvements". An impact fee represents new growth's proportionate share of capital facility needs. In contrast to project-level improvements, impact fees fund infrastructure that will benefit multiple development projects, or even the entire service area, as long as there is a reasonable relationship between the new development and the need for the growth-related infrastructure. Project-level improvements, typically specified in a development agreement, are usually limited to transportation improvements near a proposed development, such as ingress/egress lanes.

According to Colorado Revised Statute Section 29-20-104.5, impact fees must be legislatively adopted at a level no greater than necessary to defray impacts generally applicable to a broad class of property. The purpose of impact fees is to defray capital costs directly related to proposed development. The statutes of other states allow impact fee schedules to include administrative costs related to impact fees and the preparation of capital improvement plans, but this is not specifically authorized in Colorado's statute. Impact fees do have limitations and should not be regarded as the total solution for infrastructure funding. Rather, they are one component of a comprehensive portfolio to ensure adequate provision of public facilities. Because system improvements are larger and more costly they may require bond financing and/or funding from other revenue sources. To be funded by impact fees, Section 29-20-104.5 requires that the capital improvements must have a useful life of at least five years. By law, impact fees can only be used for capital improvements, not operating or maintenance costs. Also, impact fees cannot be used to repair or correct existing deficiencies in existing infrastructure.



1

Additional Legal Guidelines

Both state and federal courts have recognized the imposition of impact fees on development as a legitimate form of land use regulation, provided the fees meet standards intended to protect against regulatory takings. Land use regulations, development exactions, and impact fees are subject to the Fifth Amendment prohibition on taking of private property for public use without just compensation. To comply with the Fifth Amendment, development regulations must be shown to substantially advance a legitimate governmental interest. In the case of impact fees, that interest is the protection of public health, safety, and welfare by ensuring development is not detrimental to the quality of essential public services. The means to this end is also important, requiring both procedural and substantive due process. The process followed to receive community input (i.e. stakeholder meetings, work sessions, and public hearings) provides opportunities for comments and refinements to the impact fees.

There is little federal case law specifically dealing with impact fees, although other rulings on other types of exactions (e.g., land dedication requirements) are relevant. In one of the most important exaction cases, the U. S. Supreme Court found that a government agency imposing exactions on development must demonstrate an "essential nexus" between the exaction and the interest being protected (see Nollan v. California Coastal Commission, 1987). In a more recent case (Dolan v. City of Tigard, OR, 1994), the Court ruled that an exaction also must be "roughly proportional" to the burden created by development.

There are three reasonable relationship requirements for development impact fees that are closely related to "rational nexus" or "reasonable relationship" requirements enunciated by a number of state courts. Although the term "dual rational nexus" is often used to characterize the standard by which courts evaluate the validity of development impact fees under the U.S. Constitution, TischlerBise prefers a more rigorous formulation that recognizes three elements: "need," "benefit," and "proportionality." The dual rational nexus test explicitly addresses only the first two, although proportionality is reasonably implied, and was specifically mentioned by the U.S. Supreme Court in the Dolan case. Individual elements of the nexus standard are discussed further in the following paragraphs.

All new development in a community creates additional demands on some, or all, public facilities provided by local government. If the capacity of facilities is not increased to satisfy that additional demand, the quality or availability of public services for the entire community will deteriorate. Development impact fees may be used to cover the cost of development-related facilities, but only to the extent that the need for facilities is a consequence of development that is subject to the fees. The Nollan decision reinforced the principle that development exactions may be used only to mitigate conditions created by the developments upon which they are imposed. That principle likely applies to impact fees. In this study, the impact of development on infrastructure needs is analyzed in terms of quantifiable relationships between various types of development and the demand for specific facilities, based on applicable level-of-service standards.

The requirement that exactions be proportional to the impacts of development was clearly stated by the U.S. Supreme Court in the Dolan case and is logically necessary to establish a proper nexus. Proportionality is established through the procedures used to identify development-related facility costs, and in the methods used to calculate impact fees for various types of facilities and categories of



development. The demand for facilities is measured in terms of relevant and measurable attributes of development (e.g. a typical housing unit's average weekday vehicle trips).

A sufficient benefit relationship requires that impact fee revenues be segregated from other funds and expended only on the facilities for which the fees were charged. The calculation of impact fees should also assume that they will be expended in a timely manner and the facilities funded by the fees must serve the development paying the fees. However, nothing in the U.S. Constitution or the state enabling legislation requires that facilities funded with fee revenues be available exclusively to development paying the fees. In other words, benefit may extend to a general area including multiple real estate developments. Procedures for the earmarking and expenditure of fee revenues are discussed near the end of this study. All of these procedural as well as substantive issues are intended to ensure that new development benefits from the impact fees they are required to pay. The authority and procedures to implement impact fees is separate from and complementary to the authority to require improvements as part of subdivision or zoning review.

Impact fees must increase the carrying capacity of the transportation system. Capacity projects include but are not limited to the addition of travel lanes, intersection improvements (i.e., turning lanes, signalization or roundabouts) and widening roads (e.g. adding travel lanes, paved shoulders, and bike lanes). Whenever improvements are made to existing roads, non-impact fee funding is typically required to help pay a portion of the cost.

Current and Proposed Transportation Impact Fee

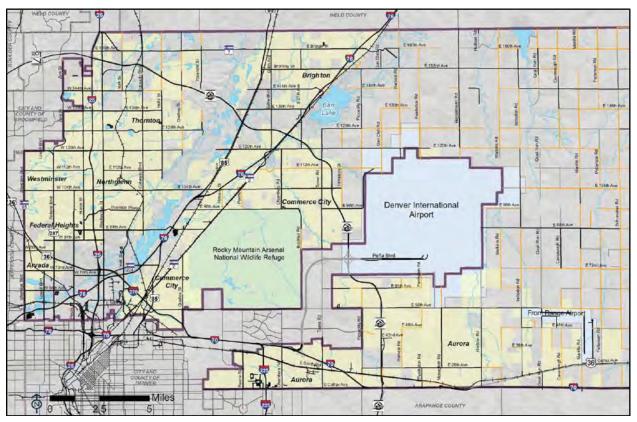
After reviewing the County's 1998 transportation impact fee study, collaborating with County staff, and receiving input from a stakeholder group, TischlerBise recommends several changes to the proposed transportation impact fees.

- First, the proposed transportation impact fees will be easier to administer by switching from three residential housing unit categories (single family-detached, multifamily, and mobile homes) to fees based on dwelling size, measured by square feet of finished living space. Also, 39 nonresidential categories will be consolidated into three general nonresidential types.
- Second, the proposed fees improve proportionality for residential development because smaller dwellings, that typically have fewer persons, vehicles available, and lower trip generation rates, will no longer pay the same amount as larger dwellings that average more persons, vehicles available, and higher trip generation rates.
- Third, Transportation fees are currently collected and spent in the unincorporated portion of Adams County. Given the very different development patterns between the eastern (rural) and western (suburban/urban) areas of unincorporated County, TischlerBise recommends moving from a countywide transportation impact fee to two distinct service areas, which are based on planning areas contained in the 2012 Transportation Plan, prepared by Felsburg, Holt and Ullevig.

The boundary of the West Service Area is shown below in Figure 1.



Figure 1: West Service Area



Current and proposed transportation impact fees for the West Service Area are summarized in Figure 2. The middle three columns of the table below indicate current transportation fees and the proposed increase or decrease. Proposed transportation fees decrease for industrial development but increase for retail and office. All residential units see significant increases in the impact fee amount. These residential and nonresidential increases are not surprising given it has been twenty years since the County's transportation impact fee methodology was updated.

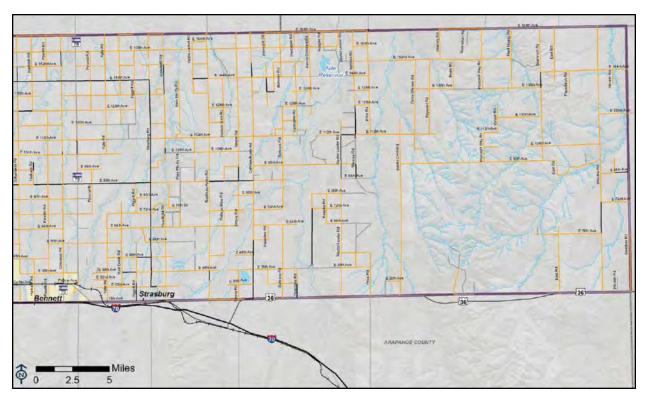
Figure 2: Current and Proposed Transportation Impact Fees: West Service Area

Development Type	Transportation Impact Fee: West Area	Current County Fee (1998)	Increase or Decrease	Percent Change
Residential (per dwelling)	by Sq Ft of Finish	ed Living Space		
900 or less	\$2,700	\$888	\$1,812	204%
901 to 1300	\$3,910	\$983	\$2,927	298%
1301 to 1800	\$4,769	\$983	\$3,786	385%
1801 to 2400	\$5,639	\$1,599	\$4,040	253%
2401 or more	\$6,371	\$1,599	\$4,772	298%
Nonresidential (per 1,000	Square Feet of Fl	oor Area)		
Retail	\$6,089	\$4,264	\$1,825	43%
Office/Service	\$2,555	\$2,357	\$198	8%
Industrial	\$1,031	\$1,552	(\$521)	-34%



The boundary of the East Service Area is shown below in Figure 3.

Figure 3: East Service Area



Current and proposed transportation impact fees for the East Service Area are summarized in Figure 4. The middle three columns of the table below indicate current transportation fees and the proposed increase or decrease. Proposed nonresidential transportation impact fees decrease for the office/service and industrial land use categories. All residential units see increases in the impact fee amount. Similar to the West Service Area, these residential increases are not surprising given it has been twenty years since the County's transportation impact fee methodology was updated.

Figure 4: Current and Proposed Transportation Impact Fees: East Service Area

. ,,	Transportation Impact Fee: East Area	Current County Fee (1998)	Increase or Decrease	Percent Change
Residential (per dwelling)	by Sq Ft of Finish	ed Living Space	•	
900 or less	\$2,906	\$888	\$2,018	227%
901 to 1300	\$3,629	\$983	\$2,646	269%
1301 to 1800	\$4,143	\$983	\$3,160	321%
1801 to 2400	\$4,665	\$1,599	\$3,066	192%
2401 or more	\$5,009	\$1,599	\$3,410	213%
Nonresidential (per 1,000	Square Feet of Fl	oor Area)		
Retail	\$4,436	\$4,264	\$172	4%
Office/Service	\$1,861	\$2,357	(\$496)	-21%
Industrial	\$751	\$1,552	(\$801)	-52%



Figure 5 provides a comparison of current and proposed transportation impact fees in Adams County to other counties along the Front Range of Colorado. Given it has been twenty years since the County updated the transportation impact fee methodology, we have also shown the 1998 fees, adjusted to 2018 dollars.

Figure 5: Transportation Impact Fee Comparisons

1 7	Single Family	Retail (per	Service (per	Industrial (per
Jurisdiction	Housing Unit*	1,000 Sq. Ft.)	1,000 Sq. Ft.)	1,000 Sq. Ft.)
Adams County - Proposed Fees (West Area)	\$5,639	\$6,089	\$2,357	\$1,552
Adams County - Proposed Fees (East Area)	\$4,665	\$4,436	\$1,861	\$751
Adams County - Current Fees, 2018\$	\$2,469	\$6,585	\$3,640	\$2,397
Adams County - Current Fees, 1998\$	\$1,599	\$4,264	\$2,357	\$1,552
Weld County, 2010 Fees	\$2,406	\$3,336	\$2,220	\$2,177
Jefferson County, 2018 Fees	\$2,466	\$5,360	\$3,590	\$1,550
Arapahoe County, 2017 Fees (East)	\$2,531	\$3,806	\$2,223	\$769
Larimer County - Proposed 2018 Fees	\$4,168	\$5,461	\$3,213	\$1,296

Note: fee amounts shown for a 1,900 square foot detached housing unit



GENERAL METHODS FOR IMPACT FEES

There are three general methods for calculating impact fees. The choice of a particular method depends primarily on the timing of infrastructure construction (past, concurrent, or future) and service characteristics of the facility type being addressed. Each method has advantages and disadvantages and can be used simultaneously for different cost components.

Reduced to its simplest terms, the process of calculating impact fees involves two main steps: (1) determining the cost of development-related capital improvements and (2) allocating those costs equitably to various types of development. In practice, though, the calculation of development impact fees can become quite complicated because of the many variables involved in defining the relationship between development and the need for facilities within the designated service area. The following paragraphs discuss three basic methods for calculating impact fees and how those methods can be applied to Adams County.

Cost Recovery Method (past improvements)

Although not used in Adams County, the rationale for recoupment, or cost recovery, is that new development is paying for its share of the useful life and remaining capacity of facilities already built, or land already purchased, from which new growth will benefit. This methodology is often used for utility systems that must provide adequate capacity before new development can take place.

Incremental Expansion Method (concurrent improvements)

The incremental expansion method documents current level-of-service (LOS) standards for transportation, using both quantitative and qualitative measures. This approach assumes there are no existing infrastructure deficiencies or surplus capacity in the transportation system. New development is only paying its proportionate share for growth-related infrastructure. Revenue will be used to expand or provide additional facilities, as needed, to accommodate new development. An incremental expansion cost method is best suited for public facilities that will be expanded in regular increments to keep pace with development.

Plan-Based Method (future improvements)

Transportation impact fees in Adams County are calculated using the plan-based method, with the fees in the West Service Area calculated using a proprietary plan-based hybrid developed by TischlerBise and the fees in the East Service Area calculated using a traditional plan-based approach. This method allocates costs for a specified set of improvements to a specified amount of development. Improvements are typically identified in a long-range facility plan and development potential is identified by a land use plan. There are two basic options for determining the cost per demand unit: 1) total cost of a public facility can be divided by total service units (average cost), or 2) the growth-share of the public facility cost can be divided by the net increase in service units over the planning timeframe (marginal cost).

Evaluation of Possible Credits

Regardless of the methodology, a consideration of "credits" is integral to the development of a legally defensible impact fee methodology. There are two types of "credits" with specific characteristics, both



of which should be addressed in impact fee studies and ordinances. The first is a revenue credit due to possible double payment situations, which could occur when other revenues may contribute to the capital costs of infrastructure covered by the impact fee. This type of credit is integrated into the development impact fee calculation, thus reducing the fee amount. The second is a site-specific credit or developer reimbursement for construction of system improvements. This type of credit is addressed in the administration and implementation of the impact fee program.



Transportation Impact Fee: West Service Area

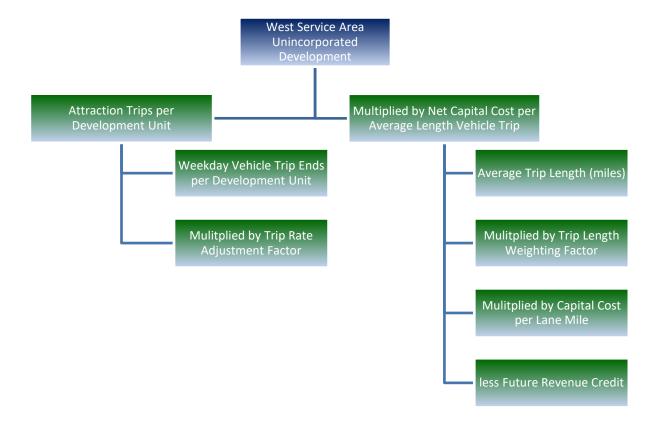
The transportation impact fees in the West Service Area are derived using a proprietary hybrid of the planbased approach. As shown in the formula and Figure 6 below, the West Area transportation impact fee is the product of Vehicle Miles of Travel (VMT) per development unit multiplied by the net capital cost per VMT for transportation capacity.

Transportation Impact Fee = VMT (vehicle miles of travel) per Development Unit x Capital Cost per VMT

VMT is equal to the trip generation rate, multiplied by primary trip adjustment factor, average trip length (in miles) and trip-length weighting factor. The capital cost per VMT is based on the projected ten-year growth-cost of transportation improvements, divided by the increase in projected VMT over ten years. Each component is described below.

Current infrastructure standards and projected development in the West Service Area in unincorporated Adams County are used determined the general need for growth-related transportation improvements. Adams County will periodically identify specific transportation capital improvements during the regular, annual budget process. As discussed further in the Implementation and Administration Section, Adams County will follow expenditure guidelines to ensure benefit to fee payers.

Figure 6: West Service Area Transportation Impact Fee Methodology Chart





Trip Generation Rates: West Service Area

As an alternative to simply using the national average trip generation rate for residential development, published by the Institute of Transportation Engineers (ITE), TischlerBise derived custom trip rates using local demographic data. Key inputs needed for the analysis (i.e. vehicles available, housing units and persons) are available from American Community Survey (ACS) data for the unincorporated area of Adams County.

Unincorporated Area Control Totals

Figure 7 indicates the average number of residents per housing unit for three levels of geography. At the top are countywide data, the middle is data for the incorporated areas of the County, and the bottom of the figure provides data for the unincorporated area. Typically, unincorporated places have more persons per dwelling, this is the case for multifamily units in Adams County. However, single family units in the unincorporated areas have a slightly lower persons per housing unit compared to the countywide average. This is a result of a higher vacancy rate in the unincorporated County.



Figure 7: Persons per Housing Unit

Countywide, Adams County

Housing Type	Persons	Households	Housing Units	Persons per Housing Unit	Vacancy Rate
Single Family [1]	381,617	120,504	125,400	3.04	4%
Multifamily [2]	85,606	36,034	39,646	2.16	9%
Total	467,223	156,538	165,046	2.83	5%

[1] Includes attached and detached single family homes and mobile homes

[2] Includes all other types

Source: U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates

Incorporated Adams County

Housing Type	Persons	Households	Housing Units	Persons per Housing Unit	Vacancy Rate
Single Family [1]	298,484	94,098	97,500	3.06	3%
Multifamily [2]	73,808	31,775	35,013	2.11	9%
Total	372,292	125,873	132,513	2.81	5%

[1] Includes attached and detached single family homes and mobile homes

[2] Includes all other types

Source: U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates

Unincorporated Adams County

Housing Type	Persons	Households	Housing Units	Persons per Housing Unit	Vacancy Rate
Single Family [1]	83,133	26,406	27,900	2.98	5%
Multifamily [2]	11,798	4,259	4,633	2.55	8%
Total	94,931	30,665	32,533	2.92	6%

[1] Includes attached and detached single family homes and mobile homes

[2] Includes all other types

Source: U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates

Trip generation rates are also dependent upon the average number of vehicles available per dwelling. Figure 8 indicates vehicles available for all of Adams County, incorporated places, and the unincorporated area. As expected, the unincorporated area has more vehicles available per dwelling than housing units located within incorporated places.



Figure 8: Vehicles Available per Housing Unit

Countywide		Н			
Tenure	Vehicles Available (1) Single Family* Multifamily Total		Vehicles per Household by Tenure		
Owner-occupied	225,760	97,545	3,498	101,043	2.23
Renter-occupied	87,082	22,959	32,626	55,585	1.57
Total	312,842	120,504	36,124	156,628	2.00
Units per Structure	Vehicles Available	Housing Units (3)	Vehicles per Housing Unit		
Single family	253,913	125,400	2.02		
Multifamily	58,929	39,646	1.49		
Total	312,842	165,046	1.90		
Incorporated Places		Н	ouseholds (2)		
Tenure	Vehicles Single Unit		Vehicles per Household by Tenure		
Owner-occupied	174,896	76,608	2,977	79,585	2.20
Renter-occupied	71,203	17,490	28,883	46,373	1.54
Total	246,099	94,098	31,860	125,958	1.95
Units per Structure	Vehicles Available	Housing Units (3)	Vehicles per Housing Unit		
Single family	195,209	97,500	2.00		
Multifamily	50,890	35,013	1.45		
Total	246,099	132,513	1.86		
Unincorporated Area		Н			
Tenure	Vehicles Available (1)	Single Family*	Multifamily	Total	Vehicles per Household by Tenure
Owner-occupied	50,864	20,937	521	21,458	2.37
Renter-occupied	15,879	5,469	3,743	9,212	1.72
Total	66,743	26,406	4,264	30,670	2.18
_					
Units per Structure	Vehicles Available	Housing Units (3)	Vehicles per Housing Unit		
Single family	59,056		2.12		
Multifamily	7,687	4,633	1.66		
Total	66,743	32,533	2.05		

⁽¹⁾ Vehicles available by tenure from Table B25046, American Community Survey, 2015.

Demand Indicators by Dwelling Size

Custom tabulations of demographic data by bedroom range can be created from individual survey responses provided by the U.S. Census Bureau, in files known as Public Use Micro-Data Samples (PUMS).



⁽²⁾ Households by tenure and units in structure from Table B25032, American Community

⁽³⁾ Housing units from Table B25024, American Community Survey, 2015.

^{*} Includes single family deattached, attached, mobile home

Because PUMs files are available for areas of roughly 100,000 persons, Adams County is included in Public Use Micro-Data Areas (PUMA) 805, 806 and 807. At the top of Figure 9, in the cells with yellow shading, are the survey results for **Western Adams County**. The unadjusted number of persons and vehicles available per dwelling, derived from the PUMS data, were adjusted downward to match the control totals for the unincorporated area, as documented above in Figures 7 and 8.

In comparison to the national averages based on ITE traffic studies, the unincorporated area of Western Adams County has fewer persons per dwelling, but a greater number of vehicles per dwelling. Rather than rely on one methodology, the recommended multipliers shown below with grey shading and bold numbers are an average of trips rates based on persons and vehicles available for all types of housing units. In the unincorporated area of Western Adams County, each housing unit is expected to yield an average of 9.85 Average Weekday Vehicle Trip Ends (AWVTE), compared to the national average of 9.14 trips ends per household.

Figure 9: Average Weekday Vehicle Trip Ends by Bedroom Range

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	s County 2015								. –
Bedroom	Persons (1)	Vehicles	Housing	Adams Co.	Unadjusted	Adjusted	Unadjusted	Adjuste	
Range		Available (1)	Units (1)	Hsg Mix	Persons/HU	Persons/HU (2)	VehAvl/HU	VehAvI/HL	
0-1	783	566	536	9.82%	1.46	1.50	1.06		1.14
2	2,578	1,907	1,236	22.64%	2.09	2.15	1.54		1.66
3	5,800	4,510	2,203	40.35%	2.63	2.71	2.05		2.21
4+	5,043	3,699	1,485	27.20%	3.40	3.50	2.49		2.69
Total	14,204	10,682	5,460		2.60	2.68	1.96		2.11
National Av	erages Accordi	ng to ITE, 2017							
ITE	AWVTE per	AWVTE per	AWVTE per	Unincorp		Persons per		Veh Avl p	er
Code	Person	Vehicle Available	Housing Unit	Hsg Mix		Housing Unit		Housing U	nit
220 Apt	1.42	5.10	7.32	14%		5.15			1.44
210 SFD	2.65	6.36	9.44	86%		3.56			1.48
Wgtd Avg	2.48	6.18	9.14		3.78			1.47	
Recommended AWVTE per Dwelling by Bedroom Range			(1) American	Community Surve	y, Public Use Microdo	ata Sample for CO	PUMAs 805,		
Bedroom AWVTE per AWVTE per Hsg Unincorp Adams				806, and 807 (2015 Five-Year unweighted data).					
Range	Housing Unit	Unit Based on	AWVTE per	(2) Adjusted multipliers are scaled to make the average PUMS values match control					
	Based on	Vehicles	Housing	totals for the	unincorporated a	rea, based on America	an Community Sui	vey 2015	
	Persons (3)	Available (4)	Unit (5)		nersons ner housi	ng unit multiplied by	national weiahted	average trip	
0-1	3.72	7.05	5.39	rate per perso	•	ng amemanapinea by		arelage the	
2	5.33	10.26	7.80			per housing unit mul	tiplied by national	weighted	
3	6.72	13.66	10.19		ate per vehicle av				
4+	8.68	16.62	12.65	(5) Average	of trip rates basea	on persons and vehic	cies available per r	ousing unit.	
Total	6.65	13.04	9.85						
AWVTE per	Dwelling by H	ouse Type							
ITE	AWVTE per	AWVTE per Hsg	Unincorp Adams						
Code	Housing Unit	Unit Based on	AWVTE per			Unincorp		Unincor	р
	Based on	Vehicles	Housing			Adams Co.		Adams C	0.
	Persons (3)	Available (4)	Unit (5)				VehAvl/H	ŧυ	
220 Apt	3.93	10.26	7.10	1.59				•	1.66
210 SFD	5.06	13.10	9.08	2.04					2.12
All Types	6.65	13.04	9.85			2.68			2.11

Trip Generation by Floor Area

To derive average weekday vehicle trip ends by dwelling size in the West Service Area, TischlerBise matched trip generation rates and average floor area, by bedroom range, as shown in Figure 10. The logarithmic trend line formula, derived from the four actual averages in Adams County, is used to derive estimated trip ends by dwelling size. A mid-size housing unit is estimated to range from 1301-1800 square

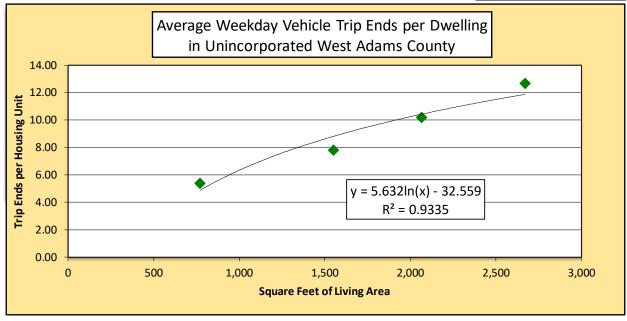


feet of finished living space. A small unit (900 square feet or less) would pay 57% of the transportation impact fee paid by a mid-size unit. A large unit of 2,401 square feet or more would pay 133% of the transportation impact fee paid by a mid-size unit. If Adams County were to continue with its present practice of a "one-size-fits-all" approach, smaller housing units will be required to pay more than their proportionate share while large units will pay less than their proportionate share. TischlerBise does not recommend an average fee by house type because it makes small units less affordable and essentially subsidizes larger units.

Figure 10: Vehicle Trips by Dwelling Size: West Service Area

Average weekday vehicle trip ends per housing unit are derived from 2015 ACS PUMS data (PUMA 805, 806, 807). Average square feet by bedroom range is derived from Adams County Assessor parcel data for new dwellings constructed in the unincorporated western area during 2006 through 2016.

Adams Averages per Dwelling			Fitted-Curve Values		
Bedrooms	Square Feet Trip Ends		Sq Ft Range	Trip Ends	
0-1	773	5.39	900 or less	5.09	
2	1,552	7.80	901 to 1300	7.37	
3	2,067	10.19	1301 to 1800	8.99	
4+	2,672	12.65	1801 to 2400	10.63	
•			2401 or more	12.01	



Adjustments for Commuting Patterns and Pass-By Trips

For residential units, the trip adjustment factor includes several components, shown below in Figure 11. According to the National Household Travel Survey (2009), home-based work trips are typically 31 percent of "production" trips, out-bound trips (which are 50 percent of all trip ends). Also, utilizing the most recent data from the Census Bureau's web application "OnTheMap", 71 percent of Adams County's workers travel outside the County for work. In combination, these factors account for 11 percent of additional production trips $(0.31 \times 0.50 \times 0.71 = 0.11)$. The total adjustment factor for residential housing units



includes attraction trips (50 percent of trip ends) plus the journey-to-work commuting adjustment (11 percent of production trips) for a total of 61 percent.

Figure 11: Inflow/Outflow Analysis

Employed Adams County Residents (2015)	224,122			
Adams County Residents Working in County (2015)	64,585			
Adams County Residents Commuting Outside County for Work				
Percent Commuting out of the County				
Additional Production Trips				
Residential Trip Adjustment Factor	61%			

Source: U.S. Census, OnTheMap Application, 2015

For commercial development, the trip adjustment factor is less than 50% because retail development and some services, like schools and daycare, attract vehicles as they pass by on arterial and collector roads. For example, when someone stops at a convenience store on the way home from work, the convenience store is not the primary destination. For the average shopping center, ITE indicates that 34% of the vehicles that enter are passing by on their way to some other primary destination. The remaining 66% of attraction trips have the commercial site as their primary destination. Because attraction trips are half of all trips, the trip adjustment factor is 66% multiplied by 50%, or approximately 34% of the trip ends.

Vehicle Miles of Travel

A Vehicle Mile of Travel (VMT) is a measurement unit equal to one vehicle traveling one mile. In the aggregate, VMT is the product of vehicle trips multiplied by the average trip length¹. For the purpose of transportation impact fees, the average trip length in Adams County is calibrated to existing lane miles of County arterials within the unincorporated area of the West Service Area. According to data provided by Adams County staff, there are currently has 153 lane miles of arterials in the West Service Area of unincorporated Adams County.

Lane Capacity

Transportation impact fees are based on a lane capacity standard of 8,000 vehicles per lane, which is from the 2012 Adams County Transportation Plan. The lane capacity standard was reviewed by Adams County staff and found to be reasonable for existing arterials within the unincorporated area.

¹ Typical VMT calculations for development-specific traffic studies, along with most transportation models of an entire service area, are derived from traffic counts on particular road segments multiplied by the length of that road segment. For the purpose of impact fees, VMT calculations are based on attraction (inbound) trips to development located in the service area, with the trip length calibrated to the road network considered to be system improvements. This refinement eliminates pass-through or external- external trips, and travel on roads that are not system improvements (e.g. interstate highways).



Trip Length Weighting Factor by Type of Land Use

The transportation impact fee methodology includes a percentage adjustment, or weighting factor, to account for trip length variation by type of land use. As documented in Table 6 of the 2009 National Household Travel Survey, vehicle trips from residential development are approximately 121% of the average trip length. The residential trip length adjustment factor includes data on home-base work trips, social, and recreational purposes. Conversely, shopping trips associated with commercial development are roughly 66% of the average trip length while other nonresidential development typically accounts for trips that are 73% of the average for all trips.

Development Prototypes and Projected Travel Demand

The relationship between development in the West Service Area of unincorporated Adams County and the need for arterial transportation system improvements is documented below. Figure 12 summarizes the input variables used to determine the average trip length on unincorporated County roads in the West Service Area. In the tables below, DU means dwelling units, KSF means square feet of nonresidential development, in thousands, Institute of Transportation Engineers is abbreviated ITE, and VTE means vehicle trip ends.

Projected unincorporated County development in the West Service Area over the next ten years is shown in the middle section of Figure 12. Trip generation rates and trip adjustment factors convert projected development into average weekday vehicle trips. A typical vehicle trip, such as a person leaving their home and traveling to work, generally begins on a local street that connects to a collector street, which connects to an arterial road and eventually to a state or interstate highway. This progression of travel up and down the functional classification chain limits the average trip length determination, for the purpose of transportation impact fees, to the following question, "What is the average vehicle trip length on transportation fee system improvements (i.e. arterials in the unincorporated area of the West Service Area)?"

With 153 arterial lane miles and a lane capacity standard of 8,000 vehicles per lane, the existing network of unincorporated County roads in the West Service Area has 1,224,000 vehicle miles of capacity (i.e., 8,000 vehicles per lane multiplied by 153 lane miles). To derive the average utilization (i.e., average trip length expressed in miles) of the system improvements, divide vehicle miles of capacity by the vehicle trips attracted to development in the service area. As shown in the bottom-left corner of the table below, existing development attracts 255,070 average weekday vehicle trips. Dividing 1,224,000 vehicle miles of capacity by inbound average weekday vehicle trips *yields an un-weighted* average trip length of approximately 4.79 miles. However, the calibration of average trip length includes the same adjustment factors used in the transportation impact fee calculations (i.e., journey-to-work commuting, commercial pass-by adjustment and average trip length adjustment by type of land use). With these adjustments, TischlerBise determined the weighted-average trip length to be 4.66 miles.



Figure 12: West Service Area Unincorporated County Projected Travel Demand and Trip Length Calibration

Development	ITE	Wkdy	Dev	Trip	
Туре	Code	VTE	Unit	Adj	
0-1 Bedroom Residential	210	5.09	HU	61%	
2 Bedrooms Residential	210	7.37	HU	61%	
3 Bedrooms Residential	210	8.99	HU	61%	
4+ Bedrooms Residential	210	10.63	HU	61%	
Retail	820	37.75	KSF	34%	
Service	710	9.74	KSF	50%	
Industrial	140	3.93	KSF	50%	

Avg Trip Length (miles) 4.66
Vehicle Capacity Per Lane 8,000

	2016	2017	2018	2019	2020	2021	2026	10-Year
	Base	1	2	3	4	5	10	Increase
0-1 Bedroom	231	232	233	233	234	234	237	6
2 Bedrooms	7,249	7,262	7,275	7,288	7,301	7,314	7,378	129
3 Bedrooms	16,551	16,635	16,719	16,803	16,887	16,971	17,390	839
4+ Bedrooms	6,360	6,430	6,500	6,570	6,639	6,709	7,058	698
Retail Floor Area (KSF)	2,557	2,647	2,736	2,826	2,915	3,014	3,524	967
Service Floor Area (KSF)	5,750	5,909	6,068	6,227	6,386	6,561	7,467	1,717
Industrial Floor Area (KSF)	14,725	15,093	15,462	15,830	16,198	16,604	18,698	3,973
0-1 Bedroom Trips	719	720	722	724	725	727	736	17
2 Bedrooms Trips	32,590	32,648	32,706	32,764	32,822	32,880	33,170	580
3 Bedrooms Trips	90,765	91,225	91,686	92,146	92,606	93,066	95,367	4,602
4+ Bedrooms Trips	41,240	41,693	42,146	42,599	43,052	43,504	45,769	4,528
Retail Trips	32,819	33,969	35,118	36,267	37,416	38,685	45,230	12,411
Service Trips	28,002	28,776	29,551	30,325	31,099	31,952	36,362	8,360
Industrial Trips	28,935	29,659	30,382	31,106	31,830	32,626	36,742	7,808
Total Vehicle Trips	255,070	258,690	262,310	265,930	269,550	273,442	293,376	38,306
Vehicle Miles of Travel (VMT)	1,226,768	1,240,883	1,254,999	1,269,114	1,283,229	1,298,229	1,374,786	148,019
Arterial Lane Miles (VMT)	153.35	155.11	156.87	158.64	160.40	162.28	171.85	18.50
Signalized Intersections	40.0	40.5	40.9	41.4	41.8	42.3	44.8	4.8

Potential Road Improvements and Cost Basis

The existing transportation infrastructure standard in the West Service Area in unincorporated Adams County is 1.24 lane-miles of unincorporated County arterial road per 10,000 VMT. The formula is 153 lane miles divided by 1,226,768 VMT divided by 10,000. To maintain the existing infrastructure standard, Adams County needs an additional 18.50 lane miles of system improvements to accommodate projected unincorporated development in the West Service Area over the next ten years.

Figure 13 contains a list of potential road projects the City may construct over the next ten years. The total estimated cost of these projects was used to determine the weighted average cost per lane mile of \$1,451,235.



Figure 13: Cost Basis Determined from Potential West Service Area Impact Fee Projects

CIP Project	Lanes	Length of Project (miles)	Lane Miles	Total Cost	County Share	County Cost per Lane Mile
York Street (Between HWY 224 to E. 78th Ave)	5.00	0.62	3.10	\$5,000,000	\$5,000,000	\$1,612,903
Dahlia Street (Hwy 224 to 70th Ave)	3.00	3.00	9.00	\$8,000,000	\$6,400,000	\$711,111
Lowell Blvd (Clear Creek and W 62nd Ave)	2.00	2.00	4.00	\$3,200,000	\$3,200,000	\$800,000
58th Ave (Between Washington and York)	5.00	1.00	5.00	\$7,000,000	\$7,000,000	\$1,400,000
York Street (58th to Hwy 224)	5.00	0.62	3.10	\$11,300,000	\$11,300,000	\$3,645,161
York Street (78th to 88th)	5.00	1.40	7.00	\$10,500,000	\$10,500,000	\$1,500,000
Pecos Street (52nd Ave to 58th Ave)	5.00	0.70	3.50	\$5,300,000	\$5,300,000	\$1,514,286
66th Ave (West of Broadway) Design	5.00	0.25	1.25	\$600,000	\$600,000	\$480,000
54th Ave (Washington to Franklin) Design	5.00	0.50	2.50	\$6,500,000	\$6,500,000	\$2,600,000
TOTAL	40.00	10.09	38.45	\$57,400,000	\$55,800,000	\$1,451,235

Revenue Credit Evaluation

As part of the transportation impact fee methodology TischlerBise has evaluated the potential for double payments through the impact fee and future revenue that may be generated to the County's Road & Bridge Fund. Given the plan-based hybrid methodology utilized for the West Service Area, based on existing infrastructure standards, with no regard for excess capacity that may exist in in the system, TischlerBise recommends a future revenue credit for the West Service Area. As shown in Figure 14, tax revenue that is generated to the County's Road & Bridge Fund include property tax, sales tax, and specific ownership (vehicle) taxes. In order to calculate the future revenue credit, TischlerBise analyzed the percentage of Road & Bridge Fund expenditures that are spent on capital (both capacity projects and road reconstruction), which was 27 percent in the FY19 adopted budget. Therefore, TischlerBise assumed 27 percent of total tax revenue is spent on capital, which is slightly overstated since the Road & Bridge Fund does receive other revenues. We then calculate the percentage of tax revenue attributable to the West Service Area (73 percent) based on the percentage of West Service Area VMT to total unincorporated County VMT. The revenue attributable to the West Service Area is then divided by the projected VMT in a given year. For example, projected tax revenue spent on capital in Year 1 is \$5,521,934. The percentage attributable to the West Service Area is \$4,031, 012. This revenue is divided by the projected VMT of 1,240,883, for a credit of \$3.25 per VMT. To account for the time value of money, annual revenue projections per VMT are discounted using a net present value formula based on a rate of 4.5 percent. The total net present value per VMT for the West Service Area is \$27.17.



Figure 14: West Service Area Future Revenue Credit

Year	Property Tax	Sales Tax	Specific Ownership Tax	Total Tax Revenue	% Spent on Capital (27%)	% Attributable to West (73%)	Projected VMT	Credit per VMT
1	\$5,058,047	\$2,777,543	\$12,616,018	\$20,451,608	\$5,521,934	\$4,031,012	1,240,883	\$3.25
2	\$5,270,010	\$2,879,757	\$12,825,625	\$20,975,392	\$5,663,356	\$4,134,250	1,254,999	\$3.29
3	\$5,510,157	\$2,985,732	\$13,045,913	\$21,541,802	\$5,816,286	\$4,245,889	1,269,114	\$3.35
4	\$5,750,303	\$3,095,607	\$13,266,201	\$22,112,112	\$5,970,270	\$4,358,297	1,283,229	\$3.40
5	\$5,990,450	\$3,209,525	\$13,486,490	\$22,686,464	\$6,125,345	\$4,471,502	1,298,229	\$3.44
6	\$6,230,596	\$3,327,635	\$13,706,778	\$23,265,009	\$6,281,552	\$4,585,533	1,313,228	\$3.49
7	\$6,470,743	\$3,450,092	\$13,927,066	\$23,847,901	\$6,438,933	\$4,700,421	1,328,227	\$3.54
8	\$6,606,511	\$3,511,504	\$14,122,794	\$24,240,808	\$6,545,018	\$4,777,863	1,343,226	\$3.56
9	\$6,742,279	\$3,574,009	\$14,318,521	\$24,634,809	\$6,651,398	\$4,855,521	1,358,225	\$3.57
10	\$6,878,046	\$3,637,626	\$14,514,249	\$25,029,921	\$6,758,079	\$4,933,397	1,374,786	\$3.59
Total	\$60 507 142	\$32 449 030	\$135 829 655	\$228 785 826	\$61 772 173	\$45 093 686		\$34.48

Discount Rate	4.5%
Net Present Value	\$27.17

Source: Revenue projections are from EPS Local Finance Study, prepared for Adams County. VMT projection from TischlerBise, as are percentages of VMT by Service Area. Percentage of capital expenditures to overall revenue from FY2018 Adams County Budget

Proposed Transportation Impact Fees: West Service Area

Input variables for West Service Area transportation impact fees are shown in the upper section of Figure 15. Inbound vehicle trips by type of development are multiplied by the capacity cost per vehicle mile of travel to yield the proposed transportation impact fees. As an example, to maintain the current infrastructure standard for unincorporated County arterials in the West Service Area, Adams County needs to spend \$26,853,695 on unincorporated County arterial transportation improvements over the next ten years. When the 10-year growth share is divided by the projected increase of 148,019 vehicle miles of travel, the net capital cost is \$154.25 per VMT. The transportation impact fee calculation is shown below using input variables for retail development, as listed in Figure 12.

37.75 weekday vehicle trip ends per 1,000 square feet

X
0.34 adjustment factor for inbound trips, including pass-by

X
4.66 average miles per trip

X
0.66 trip length adjustment factor

X
\$154.25 growth cost per VMT

\$6,089 per 1000 square feet (truncated)



The middle three columns of the table below indicate current transportation fees and the proposed increase or decrease. Proposed transportation fees decrease for industrial development but increase for retail and office/service uses. All residential units see significant increases in the impact fee amount. These residential and nonresidential increases are not surprising given it has been twenty years since the County's transportation impact fee methodology was updated.

Figure 15: Transportation Impact Fees: West Service Area

Input Variables for		Average	Miles per Trip	4.66			
Unincorporated Area	(Cost per Addition	al Lane Mile =>	\$1,451,235			
	Additional Lane M	liles Needed to M	laintain LOS =>	18.50			
	Ten-Ye	ear Growth Cost F	unded by Fees	\$26,853,695			
		VMT Increase	Over Ten Years	148,019			
		Capita	l Cost per VMT	\$181.42			
		F	Revenue Credit	(\$27.17)			
		Net Capital	Cost per VMT	\$154.25			
	Avg Wkdy Veh	Trip Rate	Trip Length	Transportation	Current	Increase or	Percent
Development Type	Trip Ends	Adjustment	Adjustment	Impact Fee	County Fee	Decrease	Change
	mp Ends	rajustilient	rajastinent	pace r cc	(1998)	Decrease	Change
Residential (per dwelling)	by Sq Ft of Finishe	d Living Space					
900 or less	5.09	61%	121%	\$2,700	\$888	\$1,812	204%
901 to 1300	7.37	61%	121%	\$3,910	\$983	\$2,927	298%
1301 to 1800	8.99	61%	121%	\$4,769	\$983	\$3,786	385%
1801 to 2400	10.63	61%	121%	\$5,639	\$1,599	\$4,040	253%
2401 or more	12.01	61%	121%	\$6,371	\$1,599	\$4,772	298%
Nonresidential (per 1,000	Square Feet of Flo	or Area)					
Retail	37.75	34%	66%	\$6,089	\$4,264	\$1,825	43%
Office/Service	9.74	50%	73%	\$2,555	\$2,357	\$198	8%
Industrial	3.93	50%	73%	\$1,031	\$1,552	(\$521)	-34%



Transportation Impact Fee: East Service Area

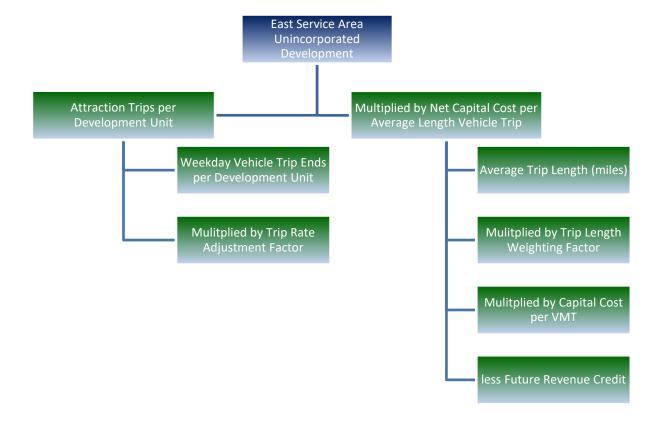
The transportation impact fees in the East Service Area are derived using a proprietary a plan-based approach. As shown in the formula and Figure 16 below, the East Area transportation impact fee is the product of Vehicle Miles of Travel (VMT) per development unit multiplied by the net capital cost per VMT for planned transportation capacity projects.

Transportation Impact Fee = VMT (vehicle miles of travel) per Development Unit x Capital Cost per VMT

VMT is equal to the trip generation rate, multiplied by primary trip adjustment factor, average trip length (in miles) and trip-length weighting factor. The capital cost per VMT is based on the projected ten-year growth-cost of transportation improvements, divided by the increase in projected VMT over ten years. Each component is described below.

A ten-year road plan developed by County staff is used as the basis for determining the transportation impact fee in the East Service Area. As discussed further in the Implementation and Administration Section, Adams County will follow expenditure guidelines to ensure benefit to fee payers.

Figure 16: East Service Area Transportation Impact Fee Methodology Chart





Trip Generation Rates: East Service Area

As an alternative to simply using the national average trip generation rate for residential development, published by the Institute of Transportation Engineers (ITE), TischlerBise derived custom trip rates using local demographic data. Key inputs needed for the analysis (i.e. vehicles available, housing units and persons) are available from American Community Survey (ACS) data for the unincorporated area of Adams County.

Unincorporated Area Control Totals

Figure 17 indicates the average number of residents per housing unit for three levels of geography. At the top are countywide data, the middle is data for the incorporated areas of the County, and the bottom of the figure provides data for the unincorporated area. Typically, unincorporated places have more persons per dwelling, this is the case for multifamily units in Adams County. However, single family units in the unincorporated areas have a slightly lower persons per housing unit compared to the countywide average. This is a result of a higher vacancy rate in the unincorporated County.



Figure 17: Persons per Housing Unit

Countywide, Adams County

Housing Type	Persons	Households	Housing Units	Persons per Housing Unit	Vacancy Rate
Single Family [1]	381,617	120,504	125,400	3.04	4%
Multifamily [2]	85,606	36,034	39,646	2.16	9%
Total	467,223	156,538	165,046	2.83	5%

[1] Includes attached and detached single family homes and mobile homes

[2] Includes all other types

Source: U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates

Incorporated Adams County

Housing Type	Persons	Households	Housing Units	Persons per Housing Unit	Vacancy Rate
Single Family [1]	298,484	94,098	97,500	3.06	3%
Multifamily [2]	73,808	31,775	35,013	2.11	9%
Total	372,292	125,873	132,513	2.81	5%

[1] Includes attached and detached single family homes and mobile homes

[2] Includes all other types

Source: U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates

Unincorporated Adams County

Housing Type	Persons	Households	Housing Units	Persons per Housing Unit	Vacancy Rate
Single Family [1]	83,133	26,406	27,900	2.98	5%
Multifamily [2]	11,798	4,259	4,633	2.55	8%
Total	94,931	30,665	32,533	2.92	6%

[1] Includes attached and detached single family homes and mobile homes

[2] Includes all other types

Source: U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates

Trip generation rates are also dependent upon the average number of vehicles available per dwelling. Figure 18 indicates vehicles available for all of Adams County, incorporated places, and the unincorporated area. As expected, the unincorporated area has more vehicles available per dwelling than housing units located within incorporated places.



Figure 18: Vehicles Available per Housing Unit

Countywide		Но			
Tenure	Vehicles Available (1)	Single Family*	Multifamily	Total	Vehicles per Household by Tenure
Owner-occupied	225,760	97,545	3,498	101,043	2.23
Renter-occupied	87,082	22,959	32,626	55,585	1.57
Total	312,842	120,504	36,124	156,628	2.00
Units per Structure	Vehicles Available	Housing Units (3)	Vehicles per Housing Unit		
Single family	253,913	125,400	2.02		
Multifamily	58,929	39,646	1.49		
Total	312,842	165,046	1.90		
Incorporated Places		Но	ouseholds (2)		
Tenure	Vehicles Available (1)	Single Unit Detached or Attached	All Other	Total	Vehicles per Household by Tenure
Owner-occupied	174,896	76,608	2,977	79,585	2.20
Renter-occupied	71,203	17,490	28,883	46,373	1.54
Total	246,099	94,098	31,860	125,958	1.95
Units per Structure	Vehicles Available	Housing Units (3)	Vehicles per Housing Unit		
Single family	195,209	97,500	2.00		
Multifamily	50,890	35,013	1.45		
Total	246,099	132,513	1.86		
Unincorporated Area		Н	ouseholds (2)		
Tenure	Vehicles Available (1)	Single Family*	Multifamily	Total	Vehicles per Household by Tenure
Owner-occupied	50,864	20,937	521	21,458	2.37
Renter-occupied	15,879	5,469	3,743	9,212	1.72
Total	66,743	26,406	4,264	30,670	2.18
	0				- 1
Units per Structure	Vehicles Available	Housing Units (3)	Vehicles per Housing Unit		
Single family	59,056	27,900	2.12		
Multifamily	7,687	4,633	1.66		
Total	66,743	32,533	2.05		

- (1) Vehicles available by tenure from Table B25046, American Community Survey, 2015.
- (2) Households by tenure and units in structure from Table B25032, American Community
- (3) Housing units from Table B25024, American Community Survey, 2015.

Demand Indicators by Dwelling Size

Custom tabulations of demographic data by bedroom range can be created from individual survey responses provided by the U.S. Census Bureau, in files known as Public Use Micro-Data Samples (PUMS).



^{*} Includes single family deattached, attached, mobile home

Because PUMs files are available for areas of roughly 100,000 persons, Adams County is included in Public Use Micro-Data Area (PUMA) 824. At the top of Figure 19, in the cells with yellow shading, are the survey results for *Eastern Adams County*. The unadjusted number of persons and vehicles available per dwelling, derived from the PUMS data, were adjusted downward to match the control totals for the unincorporated area, as documented above in Figures 17 and 18.

In comparison to the national averages based on ITE traffic studies, the unincorporated area of Eastern Adams County has fewer persons per dwelling, but a greater number of vehicles per dwelling. Rather than rely on one methodology, the recommended multipliers shown below with grey shading and bold numbers are an average of trips rates based on persons and vehicles available for all types of housing units. In the unincorporated area of Eastern Adams County, each housing unit is expected to yield an average of 10.77 Average Weekday Vehicle Trip Ends (AWVTE), compared to the national average of 9.14 trips ends per household.

Figure 19: Average Weekday Vehicle Trip Ends by Bedroom Range

East Adams	County 2015 Dat	ta							
Bedroom	Persons (1)	Vehicles	Housing	Adams Co.	Unadjusted	Adjusted	Unadjusted	Adjuste	t
Range		Available (1)	Units (1)	Hsg Mix	Persons/HU	Persons/HU (2)	VehAvl/HU	VehAvl/HU	(2)
0-1	116	100	79	4.76%	1.47	1.52	1.27		1.37
2	524	455	274	16.50%	1.91	1.97	1.66		1.79
3	1,912	1,662	748	45.03%	2.56	2.64	2.22		2.40
4+	1,927	1,437	560	33.71%	3.44	3.55	2.57		2.77
Total	4,479	3,654	1,661		2.70	2.78	2.20		2.37
National Ave	erages According	to ITE, 2017					_		
ITE	AWVTE per	AWVTE per	AWVTE per	Unincorp		Persons per		Veh Avl p	er
Code	Person	Vehicle Available	Housing Unit	Hsg Mix		Housing Unit		Housing U	nit
220 Apt	1.42	5.10	7.32	14%		5.15			1.44
210 SFD	2.65	6.36	9.44	86%		3.56			1.48
Wgtd Avg	2.48	6.18	9.14			3.78			1.47
Recommend	ded AWVTE per [Owelling by Bedroon	n Range	(1) American	Community Survey,	Public Use Microdata	Sample for CO PUM	As 824 (2015	
Bedroom	AWVTE per	AWVTE per Hsg	Unincorp Adams	Five-Year unw	eighted data).		, ,	.	
Range	Housing Unit	Unit Based on	AWVTE per			d to make the average			
	Based on	Vehicles	Housing			a, based on American C			
	Persons (3)	Available (4)	Unit (5)	(3) Adjusted p	ersons per housing	unit multiplied by nati	ional weighted aver	age trip rate	
0-1	3.77	8.47	6.12	F - F	ehicles available ne	r housing unit multipli	ed hy national weig	hted average	
2	4.89	11.06	7.98		ehicle available.	r nousing anic manapin	ca by national weig	inca average	
3	6.55	14.83	10.69	(5) Average o	f trip rates based or	persons and vehicles	available per housir	ng unit.	
4+	8.80	17.12	12.96						
Total	6.89	14.65	10.77						
AWVTE per	Dwelling by Hou	se Type							
ITE	AWVTE per	AWVTE per Hsg	Unincorp Adams						
Code	Housing Unit	Unit Based on	AWVTE per			Unincorp		Unincor	 р
	Based on	Vehicles	Housing			Adams Co.		Adams C	0.
	Persons (3)	Available (4)	Unit (5)			Persons/HU		VehAvI/H	U
220 Apt	3.93	10.26	7.10			1.59	Ī		1.66
210 SFD	5.06	13.10	9.08			2.04			2.12
All Types	6.89	14.65	10.77			2.78			2.37

Trip Generation by Floor Area

To derive average weekday vehicle trip ends by dwelling size in the East Service Area, TischlerBise matched trip generation rates and average floor area, by bedroom range, as shown in Figure 20. The logarithmic trend line formula, derived from the four actual averages in Adams County, is used to derive estimated trip ends by dwelling size. A mid-size housing unit is estimated to range from 1301-1800 square feet of finished living space. A small unit (900 square feet or less) would pay 57% of the transportation impact fee paid by a mid-size unit. A large unit of 2,401 square feet or more would pay 133% of the transportation

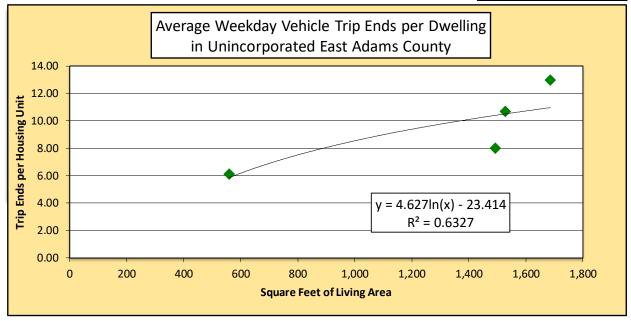


impact fee paid by a mid-size unit. If Adams County were to continue with its present practice of a "one-size-fits-all" approach, smaller housing units will be required to pay more than their proportionate share while large units will pay less than their proportionate share. TischlerBise does not recommend an average fee by house type because it makes small units less affordable and essentially subsidizes larger units.

Figure 20: Vehicle Trips by Dwelling Size: East Service Area

Average weekday vehicle trip ends per housing unit are derived from 2015 ACS PUMS data (PUMA 824). Average square feet by bedroom range derived from Adams County Assessor parcel data for new dwellings constructed in the unincorporated Eastern area during 2006 through 2016.

Adams A	verages per D	welling	Fitted-Curve	Values
Bedrooms	Square Feet	Trip Ends Sq Ft Range		Trip Ends
0-1	561	6.12	900 or less	7.52
2	1,494	7.98	901 to 1300	9.39
3	1,529	10.69	1301 to 1800	10.72
4+	1,686	12.96	1801 to 2400	12.07
			2401 or more	12.96



Adjustments for Commuting Patterns and Pass-By Trips

For residential units, the trip adjustment factor includes several components, shown below in Figure 21. According to the National Household Travel Survey (2009), home-based work trips are typically 31 percent of "production" trips, out-bound trips (which are 50 percent of all trip ends). Also, utilizing the most recent data from the Census Bureau's web application "OnTheMap", 71 percent of Adams County's workers travel outside the County for work. In combination, these factors account for 11 percent of additional production trips (0.31 x 0.50 x 0.71 = 0.11). The total adjustment factor for residential housing units includes attraction trips (50 percent of trip ends) plus the journey-to-work commuting adjustment (11 percent of production trips) for a total of 61 percent.



Figure 21: Inflow/Outflow Analysis

Employed Adams County Residents (2015)	224,122		
Adams County Residents Working in County (2015)	64,585		
Adams County Residents Commuting Outside County for Work			
Percent Commuting out of the County			
Additional Production Trips	11%		
Residential Trip Adjustment Factor	61%		

Source: U.S. Census, OnTheMap Application, 2015

For commercial development, the trip adjustment factor is less than 50% because retail development and some services, like schools and daycare, attract vehicles as they pass by on arterial and collector roads. For example, when someone stops at a convenience store on the way home from work, the convenience store is not the primary destination. For the average shopping center, ITE indicates that 34% of the vehicles that enter are passing by on their way to some other primary destination. The remaining 66% of attraction trips have the commercial site as their primary destination. Because attraction trips are half of all trips, the trip adjustment factor is 66% multiplied by 50%, or approximately 34% of the trip ends.

Vehicle Miles of Travel

A Vehicle Mile of Travel (VMT) is a measurement unit equal to one vehicle traveling one mile. In the aggregate, VMT is the product of vehicle trips multiplied by the average trip length². For the purpose of transportation impact fees, the average trip length in Adams County is calibrated to existing lane miles of County arterials within the unincorporated area of the East Service Area. According to data provided by Adams County staff, there are currently has 63 lane miles of arterials in the East Service Area of unincorporated Adams County.

Lane Capacity

Transportation impact fees are based on a lane capacity standard of 6,000 vehicles per lane, which is from the 2012 Adams County Transportation Plan (minor arterial). The lane capacity standard was reviewed by Adams County staff and found to be reasonable for existing arterials within the unincorporated area.

Trip Length Weighting Factor by Type of Land Use

The transportation impact fee methodology includes a percentage adjustment, or weighting factor, to account for trip length variation by type of land use. As documented in Table 6 of the 2009 National Household Travel Survey, vehicle trips from residential development are approximately 121% of the

² Typical VMT calculations for development-specific traffic studies, along with most transportation models of an entire service area, are derived from traffic counts on particular road segments multiplied by the length of that road segment. For the purpose of impact fees, VMT calculations are based on attraction (inbound) trips to development located in the service area, with the trip length calibrated to the road network considered to be system improvements. This refinement eliminates pass-through or external-external trips, and travel on roads that are not system improvements (e.g. interstate highways).



average trip length. The residential trip length adjustment factor includes data on home-base work trips, social, and recreational purposes. Conversely, shopping trips associated with commercial development are roughly 66% of the average trip length while other nonresidential development typically accounts for trips that are 73% of the average for all trips.

Development Prototypes and Projected Travel Demand

The relationship between development in the East Service Area of unincorporated Adams County and the need for arterial transportation system improvements is documented below. Figure 22 summarizes the input variables used to determine the average trip length on unincorporated County roads in the East Service Area. In the tables below, DU means dwelling units, KSF means square feet of nonresidential development, in thousands, Institute of Transportation Engineers is abbreviated ITE, and VTE means vehicle trip ends.

Projected unincorporated County development in the East Service Area over the next ten years is shown in the middle section of Figure 22. Trip generation rates and trip adjustment factors convert projected development into average weekday vehicle trips. A typical vehicle trip, such as a person leaving their home and traveling to work, generally begins on a local street that connects to a collector street, which connects to an arterial road and eventually to a state or interstate highway. This progression of travel up and down the functional classification chain limits the average trip length determination, for the purpose of transportation impact fees, to the following question, "What is the average vehicle trip length on transportation fee system improvements (i.e. arterials in the unincorporated area of the West Service Area)?"

With 63 arterial lane miles and a lane capacity standard of 6,000 vehicles per lane, the existing network of unincorporated County roads in the East Service Area has 378,000 vehicle miles of capacity (i.e., 6,000 vehicles per lane multiplied by 63 lane miles). To derive the average utilization (i.e., average trip length expressed in miles) of the system improvements, divide vehicle miles of capacity by the vehicle trips attracted to development in the service area. As shown in the bottom-left corner of the table below, existing development attracts 17,238 average weekday vehicle trips. Dividing 378,000 vehicle miles of capacity by inbound average weekday vehicle trips *yields an un-weighted* average trip length of approximately 21.92 miles. However, the calibration of average trip length includes the same adjustment factors used in the transportation impact fee calculations (i.e., journey-to-work commuting, commercial pass-by adjustment and average trip length adjustment by type of land use). With these adjustments, TischlerBise determined the weighted-average trip length to be 19.32 miles.



Figure 22: East Service Area Unincorporated County Projected Travel Demand and Trip Length Calibration

Development	ITE	Wkdy	Dev	Trip
Туре	Code	VTE	Unit	Adj
0-1 Bedroom Residential	210	7.52	HU	55%
2 Bedrooms Residential	210	9.39	HU	55%
3 Bedrooms Residential	210	10.72	HU	55%
4+ Bedrooms Residential	210	12.07	HU	55%
Retail	820	37.75	KSF	34%
Service	710	9.74	KSF	50%
Industrial	140	3.93	KSF	50%

Avg Trip Length (miles) 19.32
Vehicle Capacity Per Lane 6,000

	2016	2017	2018	2019	2020	2021	2026	10-Year
	Base	1	2	3	4	5	10	Increase
0-1 Bedroom	16	21	27	33	39	45	75	59
2 Bedrooms	332	339	346	353	359	366	400	68
3 Bedrooms	1,498	1,569	1,640	1,712	1,783	1,854	2,211	714
4+ Bedrooms	625	666	707	747	788	829	1,034	409
Retail Floor Area (KSF)	75	80	85	90	96	101	131	56
Service Floor Area (KSF)	231	248	265	282	298	317	413	182
Industrial Floor Area (KSF)	202	215	229	242	256	271	347	145
0-1 Bedroom Trips	64	89	113	138	162	187	309	244
2 Bedrooms Trips	1,715	1,750	1,786	1,821	1,856	1,891	2,067	352
3 Bedrooms Trips	8,830	9,250	9,671	10,092	10,513	10,933	13,037	4,208
4+ Bedrooms Trips	4,147	4,419	4,690	4,962	5,233	5,505	6,863	2,716
Retail Trips	960	1,026	1,093	1,160	1,227	1,299	1,675	715
Service Trips	1,125	1,207	1,289	1,371	1,453	1,544	2,011	886
Industrial Trips	397	423	450	476	503	532	681	284
Total Vehicle Trips	17,238	18,165	19,093	20,020	20,947	21,891	26,644	9,406
Vehicle Miles of Travel (VMT)	378,607	398,564	418,522	438,479	458,437	478,619	579,998	201,391

East Service Area Capital Improvement Plan

Figure 23 summarizes a list of prioritized transportation system improvements to accommodate growth in the East Service Area of the unincorporated County over the next 10 years. Adams County staff identified a fiscally realistic list of roadway and intersection improvements for the transportation impact fee calculation. The prioritized list of projects will benefit both existing and new development and includes adding 16 new lane miles of arterial roads.

As shown in Figure 23, the total project cost is \$16 million. The estimated County share is \$15.6 million. The estimated growth share is \$5.46 million. The growth share is based on the percentage increase in VMT over the ten-year planning period. The growth-related portion (\$5.46 million) is divided by the projected increase in vehicle miles of travel (201,391), resulting in a cost per vehicle mile of travel of \$27.11.



Figure 23: East Service Area Road Plan

CIP Project	Lanes	Length of Project (miles)	Lane Miles	Total Cost	County Share	Growth Share	Growth Cost
Piggot Rd (E 29th Ave to E 56th Ave)	2.00	3.00	6.00	\$3,000,000	\$3,000,000	35%	\$1,050,000
Strasburg Rd (15th to E 48th Ave)	2.00	2.00	4.00	\$2,000,000	\$1,600,000	35%	\$560,000
Headlight Mile Rd (US 38 to E 48th)	2.00	3.00	6.00	\$3,000,000	\$3,000,000	35%	\$1,050,000
Wolf Creek Rd (E 26th to E 48th)	2.00	1.00	2.00	\$1,000,000	\$1,000,000	35%	\$350,000
E 120th Ave (Petterson Rd to Hwy 79	2.00	5.00	10.00	\$5,000,000	\$5,000,000	35%	\$1,750,000
E 38th Ave (Piggot to Headlight Mile)	2.00	2.00	4.00	\$2,000,000	\$2,000,000	35%	\$700,000
TOTAL	12.00	16.00	32.00	\$16,000,000	\$15.600.000	35%	\$5.460.000

Growth-Related Cost 10-Year VMT Increase	\$5,460,000 201,391
Average Cost per VMT	\$27.11

Source: Adams County, CO

Revenue Credit Evaluation

A credit for future Road & Bridge revenue is only necessary if there is potential double payment for transportation system improvements. In Adams County, Road & Bridge Fund tax revenue is used for maintenance of existing facilities, correcting existing deficiencies, and for capital projects that add capacity. Since a plan-based approach is utilized, and we have identified a growth share for the 10-year CIP, cumulative transportation impact fee revenue over the next ten years will roughly match the growth share East Service Area transportation system improvements. Therefore, a credit for potential double payment is not required.

Proposed Transportation Impact Fees: East Service Area

Input variables for East Service Area transportation impact fees are shown in the upper section of Figure 24. Inbound vehicle trips by type of development are multiplied by the capacity cost per vehicle mile of travel to yield the proposed transportation impact fees. As an example, to maintain the current infrastructure standard for unincorporated County arterials in the East Service Area, Adams County needs to spend \$5,460,000 on unincorporated County arterial transportation improvements over the next ten years. When the 10-year growth share is divided by the projected increase of 201,391 vehicle miles of travel, the net capital cost is \$27.11 per VMT. The transportation impact fee calculation is shown below using input variables for retail development, as listed in Figure 24.

37.75 weekday vehicle trip ends per 1,000 square feet

Х

0.34 adjustment factor for inbound trips, including pass-by

Х

19.32 average miles per trip

Χ

0.66 trip length adjustment factor



X \$27.11 growth cost per VMT

=

\$4,436 per 1000 square feet (truncated)

The middle three columns of the table below indicate current transportation fees and the proposed increase or decrease. Proposed transportation fees decrease for the office/service and industrial categories. All residential units see significant increases in the impact fee amount.

Figure 24: Transportation Impact Fees: East Service Area

Input Variables for		Average	Miles per Trip	19.32			
Unincorporated Area	Ten-Year Growth Cost Funded by Fees			\$5,460,000			
	\	/MT Increase C	Over Ten Years	201,391			
		Capital	Cost per VMT	\$27.11			
Development Type	Avg Wkdy Veh Trip Ends	Trip Rate Adjustment	Trip Length Adjustment	Transportation Impact Fee	Current County Fee (1998)	Increase or Decrease	Percent Change
Residential (per dwelling)	by Sq Ft of Finis	hed Living Spa	ce				
900 or less	7.52	61%	121%	\$2,906	\$888	\$2,018	227%
901 to 1300	9.39	61%	121%	\$3,629	\$983	\$2,646	269%
1301 to 1800	10.72	61%	121%	\$4,143	\$983	\$3,160	321%
1801 to 2400	12.07	61%	121%	\$4,665	\$1,599	\$3,066	192%
2401 or more	12.96	61%	121%	\$5,009	\$1,599	\$3,410	213%
Nonresidential (per 1,000	Square Feet of	Floor Area)					
Retail	37.75	34%	66%	\$4,436	\$4,264	\$172	4%
Office/Service	9.74	50%	73%	\$1,861	\$2,357	(\$496)	-21%
Industrial	3.93	50%	73%	\$751	\$1,552	(\$801)	-52%



IMPLEMENTATION AND ADMINISTRATION

Impact fees should be periodically evaluated and updated to reflect recent data. Adams County will continue to adjust for inflation, as specified in the Land Use Code. If cost estimates or demand indicators change significantly, the County should redo the fee calculations. A good rule of thumb for updating an impact fee program is every five years.

Colorado's enabling legislation allows local governments to "waive an impact fee or other similar development charge on the development of low or moderate income housing, or affordable employee housing, as defined by the local government."

Credits and Reimbursements

A general requirement that is common to impact fee methodologies is the evaluation of credits. A revenue credit may be necessary to avoid potential double payment situations arising from one-time impact fees plus on-going payment of other revenues that may also fund growth-related capital improvements. The determination of revenue credits is dependent upon the impact fee methodology used in the cost analysis and local government policies. A credit for future tax revenue to the Road & Bridge Fund is included in the transportation impact fee methodology.

Policies and procedures related to site-specific credits should be addressed in the resolution or ordinance that establishes the transportation impact fees. Project-level improvements, required as part of the development approval process, are not eligible for credits against impact fees. If a developer constructs a system improvement included in the fee calculations, it will be necessary to either reimburse the developer or provide a credit against the fees due from that particular development. The latter option is more difficult to administer because it creates unique fees for specific geographic areas.

Service Areas

Two transportation impact fee service areas are recommended. These service areas are shown in Figures 1 and 3 of the Report. The East and West Service Area include only land in unincorporated Adams County. The two Service Areas will be used to track transportation impact fee revenues and expenditures. Impact fee expenditures are limited to the Service Areas that generated the fee revenue.

Expenditure Guidelines

To ensure benefit to fee payers, Adams County will distinguish system improvements (funded by transportation impact fees) from project-level improvements, such as paving a dirt road within a residential subdivision. TischlerBise recommends limiting transportation impact fee expenditures to arterials and collectors. Acceptable system improvements that are eligible for transportation impact fee funding include:

- 1. Improving a road surface from gravel to chip seal or asphalt pavement
- 2. A carrying-capacity enhancement to existing chip seal or asphalt roads, such as widening and/or reconstructing to add greater road depth



Adding lanes or constructing new County arterial or collector, or a County arterial with another County arterial or collector.

Development Categories

Proposed transportation fees for residential development are by square feet of finished living space, excluding unfinished basement, attic, and garage floor area.

The three general nonresidential development categories in the proposed transportation fee schedule can be used for all new construction within each Service Area. Nonresidential development categories represent general groups of land uses that share similar average weekday vehicle trip generation rates, as documented in the Report and Appendix A.

- "Industrial" includes the processing or production of goods, along with warehousing, transportation, communications, and utilities.
- "Commercial" includes retail development and eating/drinking places, along with entertainment uses often located in a shopping center (e.g. movie theater).
- "Office & Other Services" includes offices, health care and personal services, business services
 (e.g. banks) and lodging. Public and quasi-public buildings that provide educational, social
 assistance, or religious services are also included in this category.

The proposed transportation impact fee schedule is designed to provide a reasonable fee amount for general types of development. For unique developments, the County may allow or require an independent assessment. An applicant may submit an independent study to document unique demand indicators for a particular unique development. The independent study must be prepared by a professional engineer or certified planner and use the same type of input variables as those in this transportation impact fee update. For residential development, the fees are based on average weekday vehicle trip ends per housing unit. For nonresidential development, the fees are based on average weekday vehicle trips ends per 1,000 square feet of floor area. The independent fee study will be reviewed by County staff and can be accepted as the basis for a unique impact fee calculation. If the County's Impact Fee Administrator determines the independent fee study is not reasonable, the applicant may appeal the administrative decision to Adams County elected officials for their consideration.



APPENDIX A: DEMOGRAPHIC DATA AND DEVELOPMENT PROJECTIONS

As part of our Work Scope, TischlerBise prepared documentation on demographic data and development projections that will be used to update Transportation Impact Fees. An impact fee is authorized by Colorado's Impact Fee Act (see CRS 29-20-104.5). The demand for growth-related infrastructure from various types of development is a function of additional service units such as population, housing units, jobs, and nonresidential floor area.

In contrast to the County's Comprehensive Plan that has a long-range horizon, impact fees have a short-range focus. Typically, impact fee studies look out five to ten years, with the expectation that fees will be periodically updated (e.g. every 5 years). Infrastructure standards are calibrated using the latest available data and the first projection year is fiscal year 2019. In Adams County the fiscal year begins on January 1.

Population and Housing Characteristics

According to the U.S. Census Bureau, a household is a housing unit that is occupied by year-round residents. Impact fees often use per capita standards and persons per housing unit or persons per household to derive proportionate-share fee amounts. When persons per housing unit are used in the fee calculations, infrastructure standards are derived using year-round population. When persons per household are used in the fee calculations, the fee methodology assumes all housing units will be occupied, thus requiring seasonal or peak population to be used when deriving infrastructure standards. TischlerBise recommends that fees for residential development in the Adams County be imposed according to the number of year-round residents per housing unit. Persons per housing unit (PPHU) is an important demographic factor that helps account for variations in service demand by type of housing. Persons per housing unit will be held constant over the projection period since the impact fees represent a "snapshot approach" of current levels of service and costs.

Based on household characteristics, TischlerBise recommends using two housing unit categories for the impact fee study: (1) Single Family and (2) Multifamily. Figure A1 shows the US Census, American Community Survey 2015 5-Year Estimates data for the unincorporated area of Adams County. Single family units have 2.98 persons per unit and multifamily units have 2.55 persons per unit.

Figure A1: Unincorporated Adams County Persons per Housing Unit

Housing Type	Persons	Housing Units	Persons per Housing Unit
Single Family [1]	83,133	27,900	2.98
Multifamily [2]	11,798	4,633	2.55

[1] Includes attached and detached single family homes and mobile homes

[2] Includes all other types

Source: U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates



Recent Residential Construction

To estimate current housing units in unincorporated Adams County, TischlerBise obtained building permit data from staff. Residential building permit trends for the unincorporated county by type of housing unit are shown below in Figure A2. From 2012 to 2016, unincorporated Adams County added an average of 291 single family housing units and 1 multifamily unit per year.

Figure A2: Residential Building Permits in the Unincorporated Adams County, 2012-2016

Type of Unit	2012	2013	2014	2015	2016	Average
Single Family	108	234	358	376	378	291
Multifamily	2	1	2	0	2	1
Total	110	235	360	376	380	292

Source: Adams County

Current Estimate of Housing Units

By using the housing stock data available for 2015 from the US Census Bureau and include the building permit data for 2016, a housing unit totals for the Base Year is calculated. Illustrated in Figure A3, it is assumed that there are 28,278 single family housing units and 4,635 multifamily housing units in unincorporated Adams County.

Figure A3: Unincorporated Adams County 2016 Housing Units

	2015	2016	2016		
Type of Unit	Housing Units	Housing Permits	Housing Totals		
Single Family	27,900	378	28,278		
Multifamily	4,633	2	4,635		
Total	32,533	380	32,913		

Source: US Census Bureau, ACS 2015; Adams County

Current Estimate of Population

Applying the persons per housing unit factors found in Figure A1 to the housing unit totals in the Base Year calculates the population for Unincorporated Adams County. It is assumed that there are 96,062 residents in the unincorporated areas of the county, a majority of them in single family housing units.

Figure A4: Unincorporated Adams County 2016 Population

Type of Unit	Housing Units	Persons Per Housing Unit	Population
Single Family	28,278	2.98	84,259
Multifamily	4,635	2.55	11,803
Total	32,913		96,062

Source: TischlerBise



According to Adams County's 2016 Comprehensive Annual Financial Report, the entire county has a population of 498,187. As a result, 19.3 percent of the population in Adams County reside in the unincorporated areas. This is consistent with County staff estimates of 20 percent.

Unincorporated Population and Housing Unit Projections

Population and housing unit projections are used for the purpose of understanding the possible future pace of service demands, revenues, and expenditures. The projections are driven by housing unit development, which is assumed to grow by the 5-year building permit annual average of 292. The population is calculated by utilizing the persons per housing unit factors with the corresponding housing type. Through 2036, it is projected that the unincorporated areas of Adams County will grow by 17,401 residents and 5,844 housing units. That is an overall increase of 18 percent in housing units from the Base Year.

Figure A5: Unincorporated Adams County Annual Residential Development Projections

							5-Year Inc	rements		
	Base Year	1	2	3	4	5	10	15	20	Total
	2016	2017	2018	2019	2020	2021	2026	2031	2036	Increase
Population	96,062	96,932	97,803	98,673	99,543	100,413	104,763	109,113	113,464	17,401
Housing Type										
Single Family	28,278	28,569	28,860	29,150	29,441	29,732	31,186	32,640	34,094	5,816
Multifamily	4,635	4,636	4,638	4,639	4,641	4,642	4,649	4,656	4,663	28
Total	32,913	33,205	33,497	33,790	34,082	34,374	35,835	37,296	38,757	5,844

Source: Adams County; TischlerBise

Population and Housing Projection by Service Area

As discussed earlier, there are two service areas for this traffic impact fee study, East and West. The East Service Area is far less developed compared to the West Service Area. After consulting with County staff, there is an average housing growth of 125 units in the East (all single family units) and 167 units in the West (166 single family units and 1 multifamily unit). Of the total assumed development in the unincorporated area of Adams County, 2,500 new housing units will be development in the East and 3,344 housing units will be development in the West. All the multifamily housing unit growth will reside in the West as well. In total, 43 percent of the development occurs in the East Service Area and 57 percent of the development occurs in the West Service Area.



Figure A6: Service Area Annual Residential Development Projections

					ŗ	5-Year Inc	rements		
	1	2	3	4	5	10	15	20	15-Year
	2017	2018	2019	2020	2021	2026	2031	2036	Increase
EAST SERVICE ARE	Α								
Population	372	745	1,117	1,490	1,862	3,725	5,587	7,449	7,449
Housing Type									
Single Family	125	250	375	500	625	1,250	1,875	2,500	2,500
Multifamily	0	0	0	0	0	0	0	0	0
Total	125	250	375	500	625	1,250	1,875	2,500	2,500
WEST SERVICE AR	EA								
Population	498	995	1,493	1,990	2,488	4,976	7,464	9,952	9,952
Housing Type									
Single Family	166	332	497	663	829	1,658	2,487	3,316	3,316
Multifamily	1	3	4	6	7	14	21	28	28
Total	167	334	502	669	836	1,672	2,508	3,344	3,344

Source: Adams County; TischlerBise

Current Employment and Nonresidential Floor Area

Nonresidential trends are an important component to an impact fee study. Utilizing DRCOG's employment data at the Traffic Analysis Zone (TAZ) level, Figure A7 illustrates the job growth in Unincorporated Adams County. Data is provided in 5-year increments, so a straight-line approach is used to estimate the job totals for the remaining years. In 2016, it is estimated that there are 55,369 jobs in Unincorporated Adams County.

Figure A7: Employment Trends in Unincorporated Adams County

	2010	2011	2012	2013	2014	2015	2016	Total Increase
Jobs	46,485	47,940	49,394	50,849	52,303	53,758	55,369	8,884
Percent Increase		3.1%	3.0%	2.9%	2.9%	2.8%	3.0%	

Source: DRCOG, TAZ Database

Additionally, according to DRCOG, the leading industry sector for jobs in Adams County is Industrial, followed by the Service industry. The Service Industry includes service providing jobs such as office and institutional. Figure A8 lists the total jobs by each sector. The Other industry sector includes contract and self-employment.

Figure A8: Jobs by Sector, Unincorporated Adams County



Industry Sector	Jobs	%
Retail	6,167	11%
Service [1]	17,760	32%
Industrial	23,750	43%
Other [2]	7,692	14%
Total	55,369	100%

^[1] Includes office and institutional jobs

Source: DRCOG, TAZ Database

Nonresidential Employment and Floor Area Factors

To estimate the Base Year nonresidential floor area, the factors provided by the Institute of Transportation Engineers in Trip Generation (2017) are utilized. The factors are used to project employment growth and trip generation as well. It is assumed that the Other industry sector does not generate any nonresidential floor area or traffic generation because the industry includes contract work and self-employment. In Figure A9, the highlighted land uses represent the Industrial, Service, and Retail industry sectors in this analysis. TischlerBise calculated the employee per demand unit by dividing the employee trip factor by the demand unit trip factor. The square feet per employee factor is calculated by dividing the demand unit (1,000 square feet) by the employee per demand unit factor.

Figure A9: Nonresidential Demand Factors, Unincorporated Adams County

ITE		Demand	Wkdy Trip Ends	Wkdy Trip Ends	Emp Per	Sq Ft
Code	Land Use	Unit	Per Dmd Unit	Per Employee	Dmd Unit	Per Emp
110	Light Industrial	1,000 Sq Ft	4.96	3.05	1.63	615
130	Industrial Park	1,000 Sq Ft	3.37	2.91	1.16	864
140	Manufacturing	1,000 Sq Ft	3.93	2.47	1.59	628
150	Warehousing	1,000 Sq Ft	1.74	5.05	0.34	2,902
254	Assisted Living	bed	2.60	4.24	0.61	na
320	Motel	room	3.35	25.17	0.13	na
520	Elementary School	1,000 Sq Ft	19.52	21.00	0.93	1,076
530	High School	1,000 Sq Ft	14.07	22.25	0.63	1,581
540	Community College	student	1.15	14.61	0.08	na
550	University/College	student	1.56	8.89	0.18	na
565	Day Care	student	4.09	21.38	0.19	na
610	Hospital	1,000 Sq Ft	10.72	3.79	2.83	354
620	Nursing Home	1,000 Sq Ft	6.64	2.91	2.28	438
710	General Office (avg size)	1,000 Sq Ft	9.74	3.28	2.97	337
760	Research & Dev Center	1,000 Sq Ft	11.26	3.29	3.42	292
770	Business Park	1,000 Sq Ft	12.44	4.04	3.08	325
820	Shopping Center (avg size)	1,000 Sq Ft	37.75	16.11	2.34	427

Source: <u>Trip Generation</u>, Institute of Transportation Engineers, 10th Edition (2017).



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Current Nonresidential Floor Area

By combining the Base Year employment data and the square feet per employee factors, the Base Year nonresidential floor area is estimated. In total, there is 23,539,742 square feet of nonresidential floor area in the unincorporated areas of Adams County. Found in Figure A10, the Industrial industry sector accounts for the majority. As noted before, it is assumed that the jobs in the Other industry sector do not generate nonresidential floor area.



Figure A10: Nonresidential Floor Area, Unincorporated Adams County

		Square Feet	Nonresidential
Industry Sector	Jobs	per Employee	Floor Area
Retail	6,167	427	2,631,798
Service [1]	17,760	337	5,980,848
Industrial	23,750	628	14,927,096
Other [2]	7,692	-	-
Total	55,369		23,539,742

[1] Includes office and institutional jobs

[2] Includes contract and self employment

Source: DRCOG, TAZ Database; *Trip Generation*, Institute of Transportation Engineers, 10th Edition (2017).

Nonresidential Floor Area and Employment Projections

According to the Denver Regional Council of Governments' (DRCOG) employment projections, there is going to be considerable growth in the region through 2036. Utilizing DRCOG's employment forecasts from the Traffic Analysis Zone (TAZ) level database, Figure A11 illustrates the nonresidential growth in unincorporated Adams County. The nonresidential floor area is estimated by applying the ITE square feet per employee factors. By the end of the projection period, the Industrial sector observes the most job and floor area growth, however, the Service sector has a significant increase in job generation as well.

Figure A11: Nonresidential Floor Area and Employment Projections in Unincorporated Adams County

							5-Year Inci	rements		
	Base Year	1	2	3	4	5	10	15	20	Total
	2016	2017	2018	2019	2020	2021	2026	2031	2036	Increase
UNINCORPORATED A	ADAMS COUN	ITY								
Jobs										
Retail	6,167	6,389	6,611	6,833	7,055	7,300	8,563	9,985	11,407	5,240
Service	17,760	18,282	18,805	19,327	19,849	20,424	23,398	26,760	30,122	12,362
Industrial	23,750	24,358	24,965	25,573	26,180	26,849	30,303	34,200	38,098	14,347
Other	7,692	7,951	8,211	8,470	8,730	9,019	10,509	12,176	13,843	6,152
Total	55,369	56,980	58,592	60,203	61,814	63,592	72,774	83,122	93,471	38,102
Nonresidential Square Feet (1,000s)										
Retail	2,632	2,727	2,821	2,916	3,011	3,115	3,654	4,261	4,868	2,236
Service	5,981	6,157	6,333	6,508	6,684	6,878	7,880	9,012	10,144	4,163
Industrial	14,927	15,309	15,691	16,072	16,454	16,874	19,045	21,495	23,944	9,017
Total	23,540	24,192	24,844	25,497	26,149	26,868	30,579	34,768	38,956	15,417

Source: DRCOG; ITE; Tischler Bise

By utilizing the spatial distribution of the job projections from DRCOG, the growth is able to be allocate to the East and West Service Areas. Figure A12 illustrates the level of growth that is projected for each Service Area. Over 90 percent of the job and nonresidential floor area that is projected for unincorporated Adams County is in the West.



Figure A12: Nonresidential Floor Area and Employment Projections by Service Area

EAST SERVICE AREA	4									
Jobs	7	-								_
Retail	175	187	200	212	224	237	306	385	464	289
Service	686	736	786	836	886	941	1,226	1,548	1,870	1,184
Industrial	321	343	364	386	407	430	552	689	827	505
Other	511	545	578	612	646	684	878	1,093	1,308	797
Total	1,693	1,811	1,928	2,046	2,163	2,293	2,962	3,715	4,469	2,775
Nonresidential Squ	are Feet (1,00	Os)								
Retail	75	80	85	90	96	101	131	164	198	123
Service	231	248	265	282	298	317	413	521	630	399
Industrial	202	215	229	242	256	271	347	433	519	317
Total	508	543	579	614	650	689	890	1,119	1,347	839
WEST SERVICE ARE	Α									
Jobs										
Retail	5,992	6,202	6,411	6,621	6,831	7,063	8,258	9,601	10,944	4,952
Service	17,074	17,546	18,019	18,491	18,963	19,483	22,172	25,212	28,252	11,178
Industrial	23,429	24,015	24,601	25,187	25,773	26,418	29,751	33,511	37,271	13,842
Other	7,181	7,407	7,632	7,858	8,084	8,335	9,631	11,083	12,535	5,355
Total	53,676	55,170	56,663	58,157	59,651	61,299	69,812	79,407	89,002	35,326
Nonresidential Squ	are Feet (1,00	Os)								
Retail	2,557	2,647	2,736	2,826	2,915	3,014	3,524	4,097	4,670	2,113
Service	5,750	5,909	6,068	6,227	6,386	6,561	7,467	8,490	9,514	3,764
Industrial	14,725	15,093	15,462	15,830	16,198	16,604	18,698	21,062	23,425	8,700
Total	23,032	23,649	24,266	24,883	25,499	26,179	29,689	33,649	37,609	14,577

Source: DRCOG; ITE; TischlerBise





STUDY SESSION AGENDA ITEM

DATE:	February 26, 2019
SUBJECT:	Traffic Signal System Central Software Selection
FROM:	Kristin Sullivan, Director of Community and Economic Development & Public Works Interim Director Brian Staley, Public Works Deputy Director Jeremy Reichert, Public Works Operations Manager
AGENCY/DEPARTMENT:	Public Works
ATTENDEES:	Kristin Sullivan, Brian Staley, Jeremy Reichert
PURPOSE OF ITEM:	Present Traffic Signal System Central Software Selection
STAFF RECOMMENDATION:	The Public Works Department recommends that the Board of County Commissioners authorize the purchase of the TransCore traffic signal control software system, Transuite [®] , as part of the grant-funded Traffic Signal Cabinet Upgrade project.

BACKGROUND:

As part of the Transportation Improvement Program (TIP), administered by the Denver Regional Council of Governments (DRCOG), Adams County received grant funds for a Traffic Signal Cabinet Upgrade project. This project includes procurement of a central control system for the traffic signal network.

The Adams County Public Works team recommends that we participate in the regional procurement for the TransSuite® software package, which was completed by the City and County of Denver (CCD) with support from the Colorado Department of Transportation (CDOT). This central control software meets our needs for access and control of the traffic signals owned and operated by the County. This software is currently used by key neighboring jurisdictions including CCD, CDOT, and the City of Thornton, which will be helpful with future inter-agency cooperation for access and control of signals across jurisdictional boundaries, an on-going regional effort known as Center-to-Center (C2C) communications.

AGENCIES, DEPARTMENTS OR OTHER OFFICES INVOLVED:

Adams County Public Works
City and County of Denver
Colorado Department of Transportation
Denver Regional Council of Governments

Page 1 of 2 Revised: 2018-Jan05

ATTACHED DOCUMENTS: PowerPoint presentation TransSuite Quote FISCAL IMPACT: Please check if there is no fiscal impact . If there is fiscal impact, please fully complete the section below. Fund: 00013 Cost Center: 3056 Object Account Subledger Amount Current Budgeted Revenue: 5590 1,425,521 Additional Revenue not included in Current Budget: Total Revenues: Object Account Subledger Amount Current Budgeted Operating Expenditure: 9130 30561836 1,425,521 Add'l Operating Expenditure not included in Current Budget: Current Budgeted Capital Expenditure: Add'l Capital Expenditure not included in Current Budget: Total Expenditures: New FTEs requested: YES ⊠ no **Future Amendment Needed:** YES ⊠ NO Additional Note: APPROVAL SIGNATURES: Raymond H. Gonzales, County Manager Alisha Reis, Deputy County Manager Bryan Ostler, Deputy County Manager

Page 2 of 2

Budget

APPROVAL OF FISCAL IMPACT:

Revised: 2018-Jan05



Traffic Signal System







Central Software Selection



Grant-Funded Signal Project

- Traffic Signal Cabinet Upgrade Project
 - Grant Funded (\$1.425M)
 - 25 Signal Cabinets on Pecos St. & Washington St.
 - Advanced Transportation Controller (ATC)
 - Radio Communications
 - Battery Back-Up & Power Conditioning System
 - Central Control Software
 - **–** \$152,185.06
 - » Includes first 5-years Software Licensing



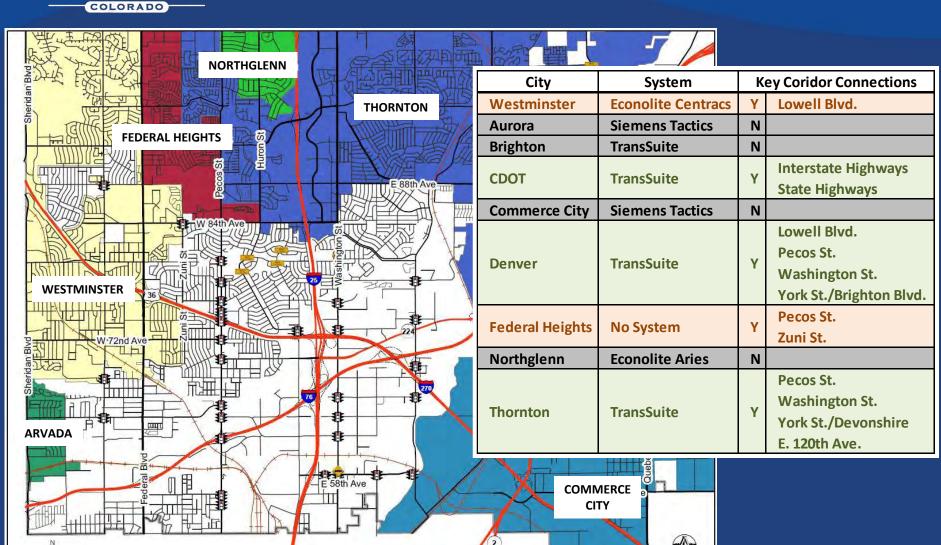






CITY AND COUNTY OF DENVER

Primary Corridor Connections





Recommendations



- Public Works and Purchasing will engage with the City and County of Denver's Regional Procurement of the TransSuite Central System Software
- System will be integrated and brought online in coordination with the installation of ATC Controllers and the ITi Department



January 23, 2019

Ms. Shannon Sprague, CPPB &

Mr. Brian Staley

Adams County, Colorado

Re: TransSuite TCS Deployment for Adams County

Dear Ms. Sprague and Mr. Staley:

This quote is provided by TransCore to deploy TransSuite TCS for Adams County, Colorado.

ASSUMPTIONS

The following assumptions are included in this quote:

- Services and Cost Schedule to be provided by TransCore are detailed in the contract between TransCore and The
 City and County of Denver with Contract Number PWADM-201314013-00 and its's two amendments: PWADM201314013-01 & PWADM-201314013-02. These contract documents have been provided to Adams County.
- Delivery and installation delay of approximately six (6) months will be afforded to the County as the County needs additional time to prepare for the TransSuite deployment. Once ready for deployment the City will issue a formal NTP to TransCore.
- Cost Schedule Line Item 15 is system software maintenance for Year 2 5 in the total amount of \$41,437.59. This County can pre-pay for these services as a lump sum or each year, TransCore will invoice the County for the amount for the corresponding year.
- Cost Schedule Line Item 20 Training provides a quantity of two (2) training sessions with the County. The first to be conducted immediately after TransSuite has been deployed. The second to be conducted at a date selected by the County, after users have had a chance to work with the system and require more in-depth training. Both training sessions will be 2 days in length.
- Cost Schedule Line Item 20.2 Extra Training provides an additional week-long training course for County Staff to be executed based on County needs. This training is an optional addition to the cost schedule. This service can be provided at any time for the County at the same price.

PRICING

Transcore provides the following pricing to provide the services detailed in the attached Statement of Work:

Item	Description	Cost (based on <= 50 signal controllers)	notes
1	project management	\$15,000.00	
3	furnish and install central system software, including database, middleware, and other 3rd party software.	\$45,855.00	
4	software license fee	\$0.00	License fee covered by City and County of Denver Contract
-5	software licensing fee for database, middleware, and other third-party software	\$ 9,957.00	optional item - required if County does not provide SQL database
6	System Configuration and integration	\$21,798.00	THE COLOR OF THE C



Item	Description	Cost (based on <= 50 signal controllers)	notes
7	data backup system, cabling and networking hardware	\$7,328.00	optional item - not required if County IT establishes system backups
11	generate databases, maps, intersection graphics, configuration files and integration	\$6,603.97	
13	system documentation	\$11,520.00	
14	Central System software warranty (1st year)	\$0.00	included as part of initial deployment
15	Year 2 - limited system software maintenance	\$5,606.66	
15	Year 3 - limited system software maintenance	\$5,830.93	
15	Year 4 - limited system software maintenance	\$10,000.00	
15	Year 5 - limited system software maintenance	\$10,000.00	
20	Training	\$10,000.00	provides quantity of 2 - 2-day long training courses
20.2	Training (central system) Regional Sessions - Extra 1- week Training Session	\$9,970.50	optional item - additional week-long training course
24-28	Software Escrow account (years 1-5)	\$0.00	covered under existing Denver Contract, escrow agreement applies to all TransSuite users

Feel free to contact me with any questions at 801-808-5190 or email ryan.saville@transcore.com

Sincerely, TRANSCORE

Ryan Saville, PE, PTOE Associate Vice President



STUDY SESSION AGENDA ITEM

DATE: February 26, 2019 SUBJECT: Hoffman Drainageway Project Kristin Sullivan, Interim Director of Public Works FROM: Brian Staley, PE, PTOE, Deputy Director of Public Works Rene Valdez, Captial Improvements Program Manager Russell T. Nelson, PE, Stormwater Engineer AGENCY/DEPARTMENT: Public Works ATTENDEES: Kristin Sullivan, Brian Staley, Rene Valdez, Russ Nelson PURPOSE OF ITEM: Update Board of Commissioners on Agreements Associated with Hoffman **Drainageway Project** STAFF RECOMMENDATION: That the Board of County Commissioners approve the various agreements listed below.

BACKGROUND:

The Hoffman Drainagway Project begins just south of the intersection of East 88th Avenue and Hoffman Way (T-intersection), continues in a southeasterly and easterly direction, crossing under Rainbow Avenue, Devonshire Boulevard, RTD North Metro Line, Welby Road Company's access, the Colorado Agricultural Ditch, Steele Street, and the Lower Clear Creek Ditch. The Hoffman Drainageway Project terminates approximately 400 feet east of Steele Street, being approximately 150 feet east of the Lower Clear Creek Ditch ("Project"). The Project has a total length of approximately 4,800 feet. The Project consists of excavation along the channel; removal of a failing corrugated metal pipe; installation of erosion protection; construction of five crossing structures (Rainbow Avenue, Devonshire Boulevard, Welby Road Company's access with accommodations for the Colorado Agricultural Ditch crossing, Steele Street and a structure for the Lower Clear Creek Ditch crossing. This project improves the conveyance capacity of the Hoffman Drainageway enough to contain the 100-year storm within the channel improvements. Upon completion of the project, the floodplain will have been redefined to eliminate the need for many structures to purchase flood insurance.

Urban Drainage and Flood Control District Amendment to Intergovernmental Agreement
Adams County and the Urban Drainage and Flood Control District (UDFCD) executed an
Intergovernmental Agreement (IGA) dated December 31, 1997, titled: "Agreement Regarding Right-OfWay Acquisition for Drainage and Flood Control Improvements on Hoffman Drainageway, Adams
County, UDFCD Agreement No. 97-09.01". The Parties wish to amend said agreement, continue
collaboration, dedicate resources and combine funds toward the goal of completing the Hoffman
Drainageway improvements for the benefit of all Adams County citizens. The Project will design and
construct Hoffman Drainageway by providing capacity improvements as needed to accommodate a 100-

Page 1 of 4 Revised: 2018-Jan05

year design storm. Improvements will begin just south of the intersection of E 88th Avenue and Hoffman Way, and connect to the improved section of Hoffman Drainageway, being approximately 500 feet east of Steele Street, where capacity is available.

This amendment will provide the funding necessary to complete the Hoffman Drainageway from E 88th Avenue and Hoffman Way to just east of Steele Street. It will also address impacts to E 86th Avenue from Welby Road to Steele Street caused by the implementation of the Hoffman Drainageway improvements.

Welby Road Company License Agreement

The Project impacts property owned by Welby Road Company (WRC). As such, an agreement is needed to acquire the necessary property rights from WRC to complete the Hoffman Drainageway channel improvements. Permanent easements and right-of-way are needed from WRC.

The attached License Agreement provides the approval necessary to complete the Hoffman Drainageway improvements on and adjacent to the WRC property. This agreement provides the mechanism to allow Welby to equitably share in the costs of betterments requested by Welby.

License Agreement between Colorado Agricultural Ditch Company and Adams County for the East 86th Avenue Crossing

The Colorado Agricultural Ditch, owned and operated by the Colorado Agricultural Ditch Company, a Colorado mutual ditch company (referred to as "the Ditch Company"), crosses over the Hoffman Drainageway and crosses under East 86th Avenue immediately west of Welby Road. The Ditch Company claims to have prescriptive easement rights that existed prior to the dedication of East 86th Avenue. With the Ditch having prior rights requires permission from the Ditch Company to cross the ditch and their prescriptive rights. Public Works staff found no definitive evidence that supports or refutes the Ditch Company's claim of prior rights and as such believe the best interests of the County are to not contest the Ditch Company claim of prior rights. Should prior rights be determined, this issue will need to be reevaluated.

Future Agreement Between Colorado Agricultural Ditch Company, Adams County, Urban Drainage and Flood Control District, and Regional Rail Partners, Joint Venture for the Hoffman Drainageway Project This Amendment stipulates the County and the Ditch Company have one year to negotiate an agreement regarding ownership, maintenance, and replacement of the ditch improvements constructed by the Project.

This agreement will be reviewed by the County Attorney and presented to the Board at Public Hearing following negotiations between staff for the Parties.

Future Agreements between Lower Clear Creek Ditch Company, Adams County, Urban Drainage and Flood Control District, and Regional Rail Partners, Joint Venture for the Hoffman Drainageway Project This Amendment stipulates the County and the Ditch Company have one year to negotiate an agreement regarding ownership, maintenance, and replacement of the ditch improvements constructed by the Project.

This agreement will be reviewed by the County Attorney and presented to the Board at Public Hearing following negotiations between staff for the Parties.

AGENCIES, DEPARTMENTS OR OTHER OFFICES INVOLVED:

Adams County Public Works, Office of County Attorney

Page 2 of 4 Revised: 2018-Jan05

ATTACHED DOCUMENTS:

Presentation

|--|

Please check if there is no fiscal impact ⊠. If there section below.	is fiscal impact, please fully complete the
Fund:	
Cost Center:	
	Object Subledger Amount Account
Current Budgeted Revenue:	
Additional Revenue not included in Current Budget:	
Total Revenues:	<u> </u>
	Object Subledger Amount Account
Current Budgeted Operating Expenditure:	
Add'l Operating Expenditure not included in Current Bud	get:
Current Budgeted Capital Expenditure:	
Add'l Capital Expenditure not included in Current Budget	
Total Expenditures:	
New FTEs requested: YES	NO
Future Amendment Needed: YES	NO
Additional Note:	

Page 3 of 4 Revised: 2018-Jan05

APPROVAL SIGNATURES:

Raymond H. Gonzales, County Manager

Alisha Reis, Deputy County Manager

Bryan Ostler, Deputy County Manager

APPROVAL OF FISCAL IMPACT:

Budget



Hoffman Drainageway Existing and Proposed Floodplain





Hoffman Drainageway

Agreements

- 1. Urban Drainage and Flood Control District
 - (Amendment to Intergovernmental Agreement)
- 2. Welby Road Company, LLC
 - (Property Rights Acquired, Betterments Requested, Financial Summary)
- 3. Colorado Agricultural Ditch Company
 - (License Agreement to Cross Ditch with E 86th Avenue)
- 4. Future Agreements for Colorado Agricultural Ditch
 - and Lower Clear Creek Ditch Companies
 - (Regarding Ownership, Maintenance and Replacement)



Hoffman Drainageway Urban Drainage and Flood Control District

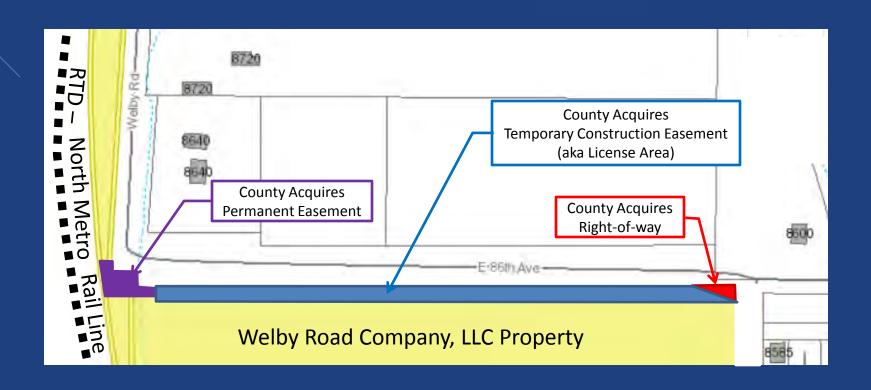
(Amendment to Intergovernmental Agreement)

2018 UDFCD Contribution	\$350,000.00
2019 UDFCD Contribution	\$300,000.00
Total	\$650,000.00



Hoffman Drainageway Welby Road Company, LLC

(Property Rights Acquired)



County Acquires Property Rights from WRC Total: \$194,461.79



Hoffman Drainageway Welby Road Company, LLC

(Betterments Requested)



Betterments Requested by WRC Total: \$344,043.35



Hoffman Drainageway Welby Road Company, LLC

(Financial Summary)

Financial Summary

County Acquires Property Rights from WRC Total	\$194,461.79
Betterments Requested by WRC Total	\$344,043.35
Amount County will collect from WRC	\$149,581.56



Hoffman Drainageway Colorado Agricultural Ditch Company

(License Agreement to Cross Ditch with E 86th Avenue)





Hoffman Drainageway Future Agreements for

Colorado Agricultural and Lower Clear Creek Ditch Companies

(Regarding Ownership, Maintenance and Replacement)



BEFORE → After





BEFORE → After



Lower Clear Creek Ditch

Colorado Agricultural Ditch



STUDY SESSION AGENDA ITEM

DATE:	February 26, 2019
SUBJECT:	Request to use Tax Increment Financing - Aurora Urban Renewal Authority
FROM:	County Standing Urban Renewal Review Committee (SURRC)
	Bryan Ostler, Deputy County Manager
	Kristin Sullivan, Director of Community & Economic Development
	Ben Dahlman, Finance Director
	Nancy Duncan, Budget Director
AGENCY/DI Development	EPARTMENT: Finance, Budget, County Manager's Office, Community & Economic
ATTENDEE	S: Ben Dahlman, Kristin Sullivan, Nancy Duncan
	OF ITEM: Brief the BOCC on the proposal by the Aurora Urban Renewal Authority use county incremental property taxes

BACKGROUND:

Aurora Urban Renewal Authority (AURA) has recently notified Adams County of its intent to move forward with a new urban renewal area for a property at 1725 Peoria. The urban renewal plan will be called the Fitzsimmons West Urban Renewal Plan. The plan area is located at 17th Ave. and Peoria and the proposed project for this site is a 96-unit mixed-use, multi-family building with commercial uses on the ground floor and residential units above. AURA is proposing a 20% shareback of the incremental County property tax revenues. AURA has submitted an short impact report with some basic facts about the project.

The Colorado General Assembly approved HB 1348 in the 2015 legislative session and urban renewal law now requires that any taxing entity whose incremental taxes are proposed for use in new urban renewal project be included in a stakeholder process. Through this stakeholder process, a written agreement on the use of county incremental taxes will be required. If a written agreement cannot be reached, HB 1348 requires that the parties participate in mediation. At the end of mediation, they can either accept the recommendation of the mediator or recommence negotiations.

During this study session, the AURA staff will present to the Board. The review committee will provide analysis related to the likely County impacts related to the urban renewal proposal, Finally, staff will solicit input on the next steps in the negotiations with AURA.

DEPARTMENTS OR OTHER OFFICES INVOLVED:

City of Aurora, Community & Economic Development, Finance, County Attorney

ATTACHED DOCUMENTS:

Peoria Impact Study (materials provided by Aurora Urban Renewal Authority)

FISCAL IMPACT:	
Please check if there is no fiscal impact \(\subseteq \). If there is fis section below.	scal impact, please fully complete the
Fund:	
Cost Center:	
	Object Subledger Amount
Current Budgeted Revenue:	
Additional Revenue not included in Current Budget:	
Total Revenues:	Object Subledger Amour
Current Budgeted Operating Expenditure:	
Add'l Operating Expenditure not included in Current Budget:	
Current Budgeted Capital Expenditure:	
Add'l Capital Expenditure not included in Current Budget:	
Total Expenditures:	
New FTEs requested:	
Future Amendment Needed: YES NO	

Additional Note:

Future County property taxes may be pledged to support the project. The specific fiscal impacts have not been fully quantified at this time.

APPROVAL SIGNATURES: Raymond W. Gonzales, County Manager Alisha Reis, Deputy County Manager Bryan Ostler, Deputy County Manager APPROVAL OF FISCAL IMPACT: Dudget Budget



Aurora Urban Renewal Authority

15151 E. Alameda Pkwy., Suite 2300 • Aurora, CO 80012 (303) 739-7497 • Fax: (303) 739-7136

VIA E-MAIL

January 9, 2019

Attn: Ms. Mary Hodge, Chair Adams County Board of Commissioners Adams County 4430 S Adams County Parkway, 5th Floor, Ste. C5000A Brighton, CO. 80601

Re: Fitzsimons West Urban Renewal Plan and 1725 Peoria Redevelopment Project

Dear Commissioners:

In accordance with the requirements of Section 31-25-107(3.5), C.R.S., House Bill 15-1348 and the Board of County Commissioners for Adams County Resolution No. 2016-557, the Aurora Urban Renewal Authority (AURA) is submitting to the Adams County Board of Commissioners, the attached urban renewal Impact Report concerning the future Fitzsimons West Urban Renewal Plan (the Plan) and the proposed Tax Increment Area for the 1725 Peoria Redevelopment Project. The Impact Report addresses the questions adopted by Resolution No. 2016-557 to be considered by the Standing Urban Renewal Review Committee (SURRC) in their evaluation process. We believe that the project will eliminate significant blighting conditions and will have an advantageous effect on the County.

The site of the proposed 1725 Peoria redevelopment project is located within the existing Fitzsimons Urban Renewal Area, which expires in 2026. Given the limited length of time remaining on the existing Fitzsimons TIF area, the Authority is proposing to create a new urban renewal area (Fitzsimons West URA), located west of Peoria Street and north of E. Colfax Avenue. At this time, only one new Tax Increment Area (1725 Peoria Street project) will be created with the adoption of the new Plan, in order to potentially incentivize the 1725 Peoria project. A conditions survey was conducted and AURA staff has nearly completed a public outreach process involving a series of property owner, resident and business owner meetings, in order to gather information from the immediate community that will shape the goals and vision of the Fitzsimons West Urban Renewal Plan.

In accordance with HB15-1348, the submission of the Impact Report will begin the negotiation process that governs the sharing of incremental property tax revenue generated by the project. Provided that an Intergovernmental Agreement with the County is completed, AURA staff will then take the Fitzsimons-West Urban Renewal Plan forward through our City Council process in order to consider adoption of the new URA and Tax Increment Area via a public hearing. Council would vote on a resolution(s) to remove the parcels that are currently located within the Fitzsimons Urban Renewal area from that area, declare the Fitzsimons West area as blighted and appropriate for urban renewal and adopt the new urban renewal and tax increment area.

If you have any specific questions or comments regarding the Impact Report, please feel free to contact me directly. We look forward to our future conversations and building a positive rapport with you and the County staff.

Sincerely,

Andrea Amonick

Development Services/ AURA Manager

andrew S. amorical

CC: Ms. Mary Hodge, County Commissioner (District 5);

Ms. Eva J. Henry, County Commissioner (District 1);

Mr. Steve O'Dorisio, County Commissioner (District 4);

Ms. Emma Pinter, County Commissioner (District 3);

Mr. Charles Tedesco, County Commissioner (District 2);

Mr. Ray Gonzales, County Manager

Ms. Kristen Sullivan, Director of Community and Economic Development

Enclosures

Impact Report for 1725 Peoria Street Project and Fitzsimons West Urban Renewal Plan Adams County, CO.

In accordance with the requirements of Section 31-25-107(3.5), C. R.S. and the requirements of House Bill 15-1348, the Aurora Urban Renewal Authority is submitting to the Adams County Board of Commissioners the following urban renewal impact report concerning the future Fitzsimons West Urban Renewal Plan (the Plan) and the proposed Tax Increment Area (TIF) for the 1725 Peoria redevelopment project.

The 1725 Peoria site is located within the existing Fitzsimons Urban Renewal Area, which expires in 2026. Given the limited length of time remaining on the existing Fitzsimons TIF area, the Authority is proposing to create a new urban renewal area (Fitzsimons West URA), located west of Peoria Street and north of E. Colfax Avenue. At this time, the Plan would include the creation of only one small TIF area, associated with the 1725 Peoria project. Authority staff has been conducting a series of business and resident outreach meetings in order to collect feedback that will be a part of the future urban renewal plan. That Plan will be considered for approval and adoption by the Aurora City County in early 2019.

The 1725 Peoria project (rendering attached), is a planned 96-unit, eight-story, mixed-use rental multifamily development, which will include three levels of structured parking, with five levels of residential above, in addition to 4,000 square feet of retail/commercial space within the ground floor level. The unit mix will include 30 studio units, 43 one bedroom units and 23 two bedroom units, along with upscale, urban-type amenities. The Developer's projected average rent is approximately \$2.06 per square foot. The targeted tenant base includes a large proportion of students and childless working professionals associated with both the nearby Medical and Innovation campuses, in addition to a mix of tenants who choose to live in a new apartment project that is close to two light rail stops, the airport and downtown.

1. What is the public purpose of the project, and how will this development benefit Adams County?

The site of this project has been blighted for years, including crime, drug and disturbance incidents associated with the former Shep's bar and restaurant, which was closed upon purchase of the property by the Developer/owner. The Authority commissioned a 3rd party conditions survey for the larger study area that incorporates this site. The conditions survey, which was completed in September of 2018, found eight out of eleven possible factors of blight. Implementation of this project will serve to eliminate blighting conditions and prevent their reoccurrence, as well as to create a positive image at this prominent location, just west of the entrance to the Anschutz Medical Campus.

While the area located south of E. Colfax Avenue and across from the medical campus (Fitzsimons Boundary Area II Urban Renewal Area) has seen significant redevelopment activity over the past few years, the corridor located along Peoria Street, west of the campus, has lagged with little to no redevelopment up to this point. The 1725 Peoria site is considered a catalyst location to promote further redevelopment within the Fitzsimons-West area.

- a. Number of jobs created (including those jobs at or above the median income level, and temporary vs. permanent jobs). Tax base benefits, Housing benefits, Transportation benefits, Environmental benefits, etc.
 - Number of Jobs Created. Approximately 40 to 50 temporary or shorter-term construction jobs are estimated to be generated during the course of the project construction period. The salary for these jobs will vary according to job function and trade type, with some being above the area median income (AMI), while others falling below it. An estimated three to four long term, full time positions will be generated in association with the residential building operations, which will also be both at both above and below the AMI. The 4,000 square feet of retail space will generate new jobs, however; the number of positions is unknown until more information is available regarding specific retail tenants.
 - Tax Base Benefits. The existing tax base for this parcel, which is improved with a 3,331 square foot vacant building, constructed in 1948, is not being utilized to the highest and best use. Improving the site with a \$25 million dollar mixed-use residential building will significantly increase the property tax base. The housing portion of the project will be taxed at a 7.2% property tax rate, and the retail portion will be taxed at the 29% commercial rate.
 - Housing Benefits. As the Medical Campus, Innovation Campus to the north, and surrounding neighborhoods continue to grow, demand still exists for new, quality housing that is convenient to the campus with modern amenities and features. The 1725 Peoria project will provide a mix of new studio, one and two bedrooms units.

The Fitzsimons West Urban Renewal Plan will place an emphasis on providing a diverse mix of housing options, including low and moderate income housing. The City's Community Development division donated a parcel of land that is located directly west of the 1725 Peoria site, which is currently being redeveloped with a 39-unit affordable housing project. The project, Paris Family Apartments, will offer a mix of two and three bedroom units at rents falling within 50% or less of area median income. The project will give preference to veterans and offer onsite services to promote self-sufficiency.

• Transportation Benefits. While the development of the 1725 Peoria project will result in an increase in the number of people/residents within the project area, the parking ratio for the residential building was approved by the Aurora Planning Commission at a one to one ratio, whereby only one parking space is allotted per unit. The tenant base is expected to be comprised of a large number of students associated with the Medical Campus, as well as young professionals and others working at both the Medical and Innovation campuses. Many of these residents will not own cars, or will have a need to own fewer cars.

There is a bus stop located across the street from the project and also south of 17th Street, both on Peoria Street. The Colfax and Fitzsimons light rail stations are both nearby and roughly equidistant apart from the project. In 2017 the 23rd

Avenue bike/pedestrian path was implemented at Fitzsimons Station, which consists of a 12-foot wide concrete multi-use, bi-directional and protected bicycle/pedestrian facility along the south side of Fitzsimons Parkway, extending from the light rail station to Ursula Street and south to east 23rd Avenue. The provision of multi-modal transit will be a goal of the Fitzsimons West Urban Renewal Plan.

Environmental Benefits. The building construction and design will meet the
National Green Building Standard for the bronze category. This broadly translates
to improved resource, water and energy efficiencies, an improvement in indoor
environmental quality, the implementation of sustainable construction and more
environmental friendly site development, as well as operation, maintenance and
building Owner Education.

2. Why is public financing (TIF) needed for the project?

The smaller size of the 1725 Peoria site/project results in a number of fixed development costs associated with the infrastructure work and construction that are prohibitive, causing the project to bear a financial gap. In order to accommodate parking for the residents, the eight-story building will include two levels of structured/podium parking, which is a costly improvement (estimated at \$2.4 million).

In addition, a rental market gap still exists for new, market-rate multifamily development in this submarket, although demand continues to be strong. The Developer's projected average rent of \$2.06 per square foot, falls short of the rent required to generate the investment returns required to attract sufficient financial capital to the project. The ongoing increases in construction costs have also contributed to a financial gap.

3. What is the proposed revenue sharing structure for the project?

AURA is proposing a revenue share of twenty percent (20%) of available incremental revenues distributed to Adams County. This amount is estimated at a total future Value of \$996,000 million (\$456,000 PV). (See attached).

4. What, if any, private funding will be allocated to the project?

The Developer is in the application process for a HUD 221 (D) (4) loan, which covers approximately 77 percent of the project cost (\$19.1 million). It includes demolition of the existing building and construction, and then transitions to a 40-year fixed loan upon project completion. The equity requirement is 23 percent (\$5.8 million), which will be supplied by the Development entity and other equity sources.

5. What is the total cost of the project?

The total project cost is estimated at \$25 million dollars.

6. What is the anticipated timeframe for project completion?

The estimated timeframe for completion is from 18 to 24 months. The project is currently in the City's Development Review process and had received site plan approval from the City of Aurora Planning Commission.

7. What is the term (length) of the TIF and related financing?

The TIF will be in existence for a period of twenty-five years from the time that it is established. The Developer's HUD 221 (D) (4) loan is for a period of 40 years.

8. What risks does the project pose to the County?

The project does not pose any risk to the County.

- a. What are the plans for mitigating those risks? NA.
- 9. How do the plans for this project compare to similar projects completed in the County?

The design of the 1725 Peoria Project is similar to that of the Fitzsimons 21 residential complexes, including structured parking, and elevator-served building, upscale amenities and some retail on the first level. Other similar, new market-rate multifamily projects within County include the Solana Stapleton project that is under construction, located at Peoria Street and 25th Avenue.

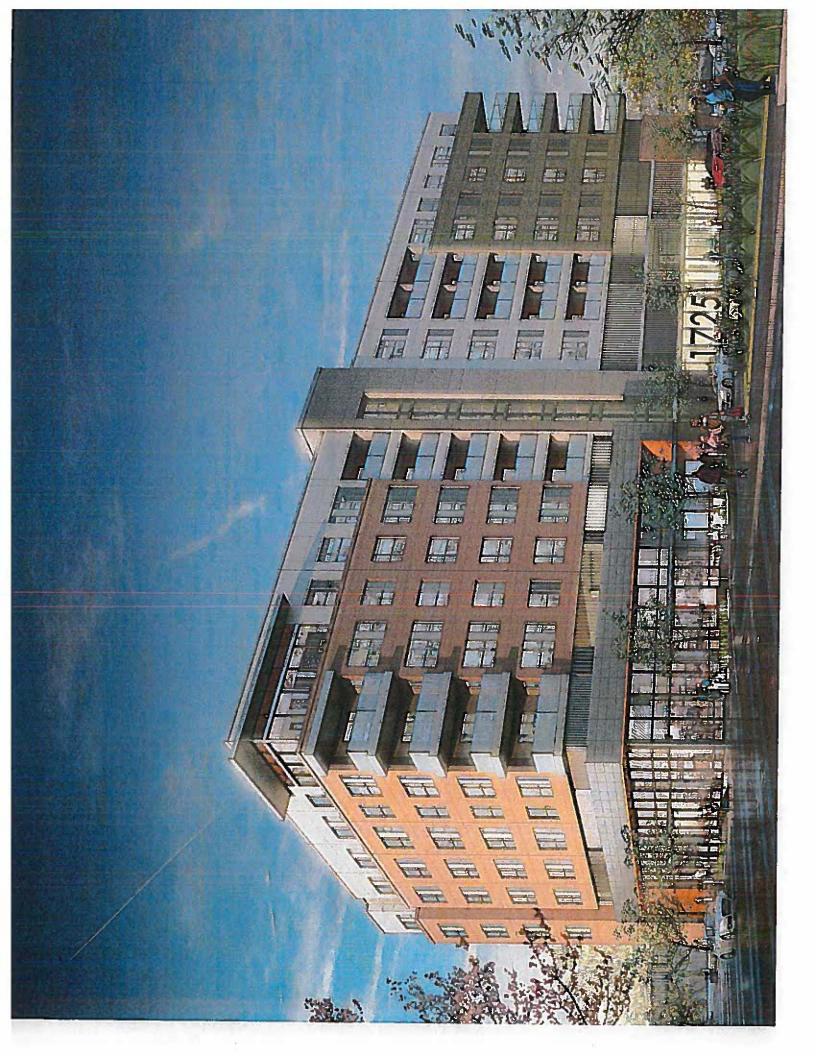
- 10. How will this project impact any other publicly financed projects in the County? The Authority is proposing a 20% share back to the County, which could provide financing for other publicly funded projects.
- 11. How will this project impact current residents/ businesses in the project area? City of Aurora Development Services staff held a resident and business public outreach meeting on December 20, 2018 to obtain feedback and input considered to be essential to the creation of the Fitzsimons-West Urban Renewal Plan. A central theme heard from area residents and businesses was a concern regarding crime and a feeling of lack of safety in the project area. The 1725 Peoria redevelopment project, by replacing the former Shep's bar and grill with an attractive mixed-use, multifamily project, will result in the elimination of blighting conditions on the site, and could bring an improvement in safety for the residents and businesses within the project area by providing at least 96 new residents and associated activity to the immediate area.

The additional 4,000 square feet of 1st floor retail space in the project will offer area residents additional retail choices, something that was also requested from residents at the recent public outreach meeting.

12. How will this project impact current public services in the County?

The redevelopment of the currently vacant and underutilized site will increase the tax base for the County, which can serve to offset any additional services provided as a result of the addition of 96 residential uses. Generally, we are not expecting a direct increase in County services as a result of this redevelopment.

13. How will this project impact the tax base of the area surrounding the project? The construction of the 1725 Peoria Project will serve to improve a blighted site that is currently developed with a dilapidated and boarded-up building. The redevelopment will likely have a positive impact by serving as a catalyst development for future development within the surrounding project area, resulting in a stronger and healthier tax base.



1725 Peoria Street Redevelopment Project Analysis City of Aurora, Colorado Projection of Tax Increment Revenue - MF & Retail For: Adam's County Impact Report

ADAM'S COUNTY SHARE @ 20%

	Year	Year #	A	Base ssessed Value	Projected Personal Property Assessed Value	Ad V Ass	Projected Ad Valorem Assessed Value	Property Tax TIF		Cannibalized Taxable Sales		Projected Taxable Sales		Sales Tax TIF		Taxable Construction Materials	Use Tax Collections	TIF Collections @ 20% share	Cumulativa NPV @ 20% Share
							105.965					3.50%		上		3,50%		5.25%	
Base year	2018	0	\$	200,000			200,000							-				-	
	2019	1	\$	260,000		13.	260,000		-	1					١.			-	
	2020	2	5	260,000			274,468			1.				- Cu - C - C -	\$	B,365,726	292,800		
	2021	3		275,600			791,742		112,056	S	245,000	757,703		15,945				22,411	18,263
	2022	4	1	275,600			791,742		164,988	5	245,000	772,857		16,475	1			32,998	43,812
	2023	5	1	292,136			899,540		164,760	S	245,000	788,314		17,016			•	32,952	68,053
	2024	6		292,136			999,540		174,203	S	245,000	804,080		17,568		-	-	34,841	92,405
	2025	7	1	309,664			013,512		173,975	5	245,000	820,162		18,131		*		34,795	115,512
	2026	8	1	309,664			013,512		183,967	S	245,000	836,565		18,705		-	-	38,793	138,727
1	2027	9		328,244			134,323		183,739	\$	245,000	853,296		19,290				36,748	160,756
	2028	10		328,244			134,323		194,344	\$	245,000	870,362		19,888		4		38,869	182,895
	2029	11	1	347,939	23,657	\$ 2,2	262,382	5	194,116	S	245,000	887,769		20,497				38,823	203,905
	2030	12		347,939	21,506	\$ 2,2	282,382	5	205,371	\$	245,000	905,525	5	21,118				41,074	225,025
	2031	13	1	347,939	19,358	\$ 2,3	398,125	5	205,143	S	245,000	923,635		21,752				41,029	245,068
	2032	14		368,815	17,205	\$ 2,3	398,125	\$	219,299	\$	245,000	942,108	\$	22,399				43,860	265,426
	2033	15	1	368,815	15,054	\$ 2,5	542,013	\$	216,859	5	245,000	960,950	S	23,058				43,572	284,554
	2034	16		390,944	12,904	\$ 2,5	542,013	\$	231,878	S	245,000	980,169	S	23,731				46,376	303,986
	2035	17	1	390,944	10,753	\$ 2,8	694,534	S	229,305	S	245,000	999,772	S	24,417				45,881	322,243
	2036	18		414,400	8,603	\$ 2,5	694,534	\$	245,239	S	245,000	1,019,768		25,117		-		49,048	340,796
	2037	19	1	414,400	6,452	\$ 2,8	856,206	5	242,526	S	245,000	1,040,163	\$	25,831				48,505	358,228
	2038	20	1	439,265	4,301	\$ 2,8	856,206	\$	259,430	S	245,000	1,060,966	\$	26,559				51,886	375,944
	2039	21	1	439,265	2,151	\$ 3,0	027,578	\$	256,567	5	245,000	1,082,186	\$	27,302				51,313	392,592
	2040	22		465,620	0	\$ 3,0	027,578	S	274,499	5	245,000	1,103,829	S	28,059				54,900	409,514
	2041	23	1	465,620		\$ 3,2	209,233	\$	271,478	S	245,000	1,125,906	S	28,832				54,298	425,415
	2042	24		493,558		\$ 3,2	209,233	\$	290,727	5	245,000	1,148,424	5	29,620	-			58,145	441,595
	2043	25		523,171			401,786		287,766	S	245,000	1,171,393	S	30,424				57,553	456,811
	TOTAL		-					\$	4,694,467	+-			S	521,732	+		5 292,800	5 996,447	\$ 456,811