EXHIBITS FOR APPLICANT
Advanced ENT Holdings of St. Matthews, LLC
2944 Breckenridge Lane

Louisville Metro Planning Commission
Case No. 17Zone1054

1) Zoning Maps

2) Aerial Photography

3) Development Plan, prepared by Land Design & Development, Inc.

4) Building Renderings and Elevations, prepared by Architectural Investments

5) Traffic Study, prepared by Traffic Engineering, LLC

6) Variance Justifications

7) Waiver Justification

8) Zoning Change Demonstration of Appropriateness

9) Zoning Change Proposed Findings of Fact

10) Proposed Additional Binding Elements

Glenn Price, Attorney for Applicant
Frost Brown Todd LLC
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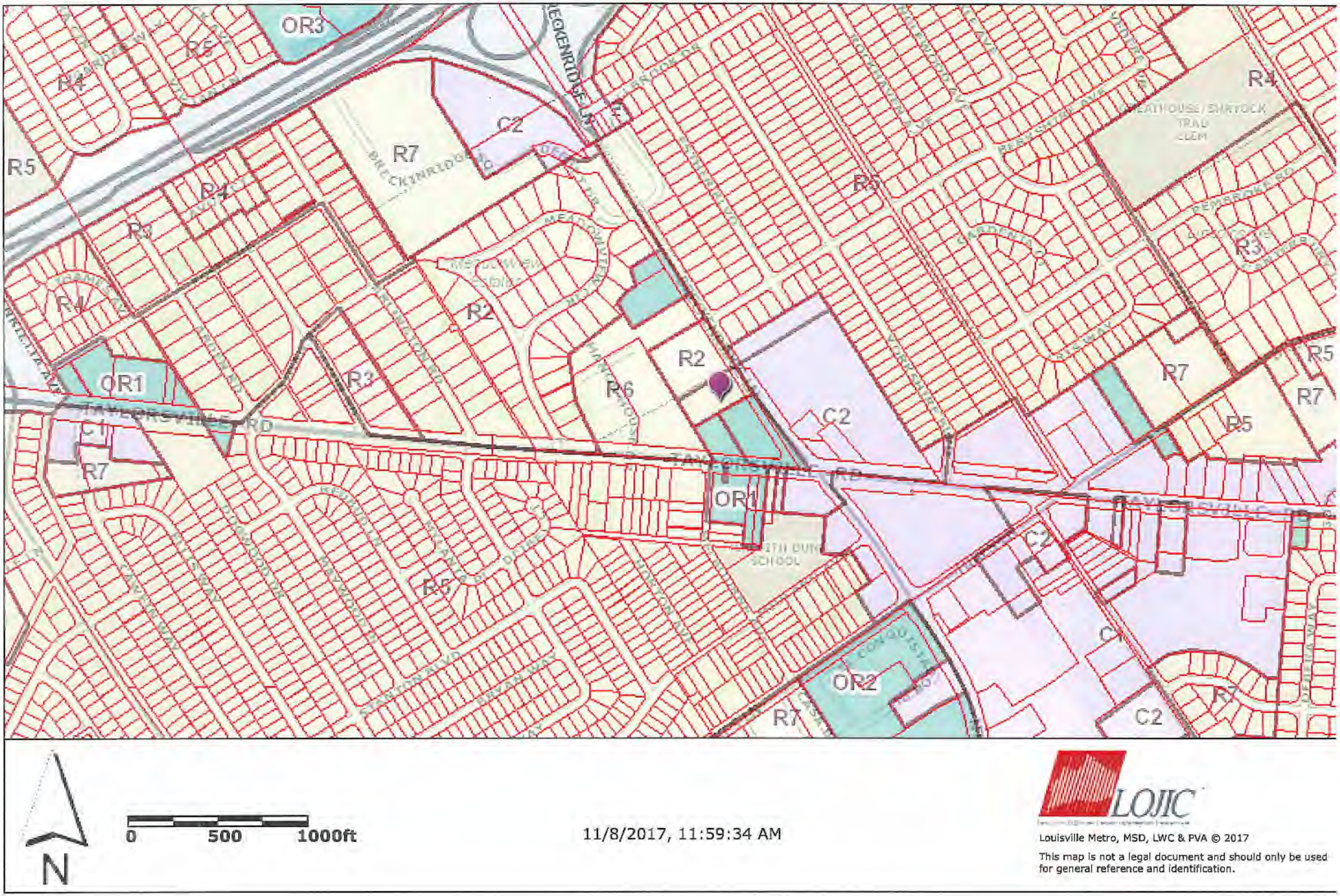

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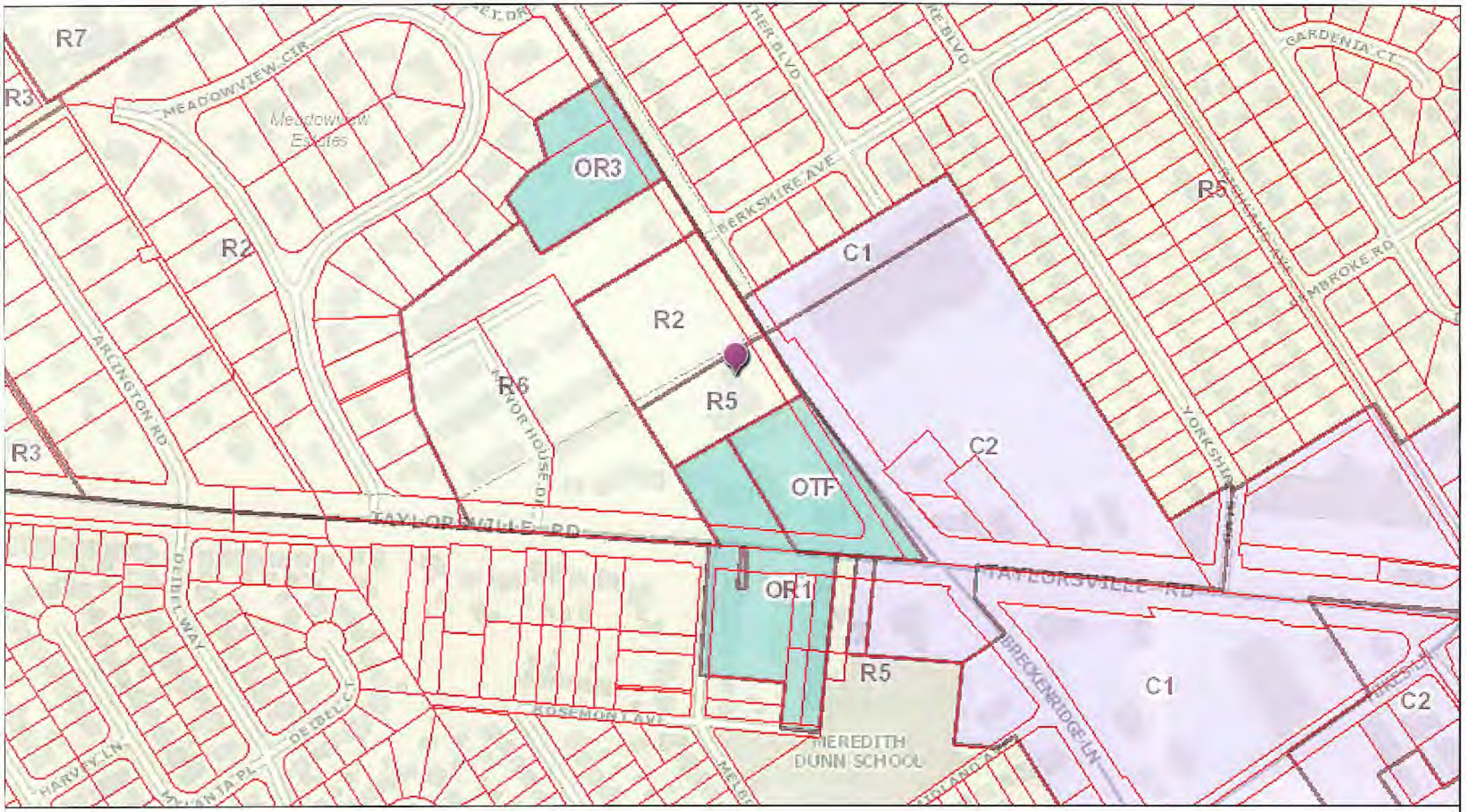
Louisville Metro, MSD, LWC & PVA © 2017

This map is not a legal document and should only be used for general reference and identification.



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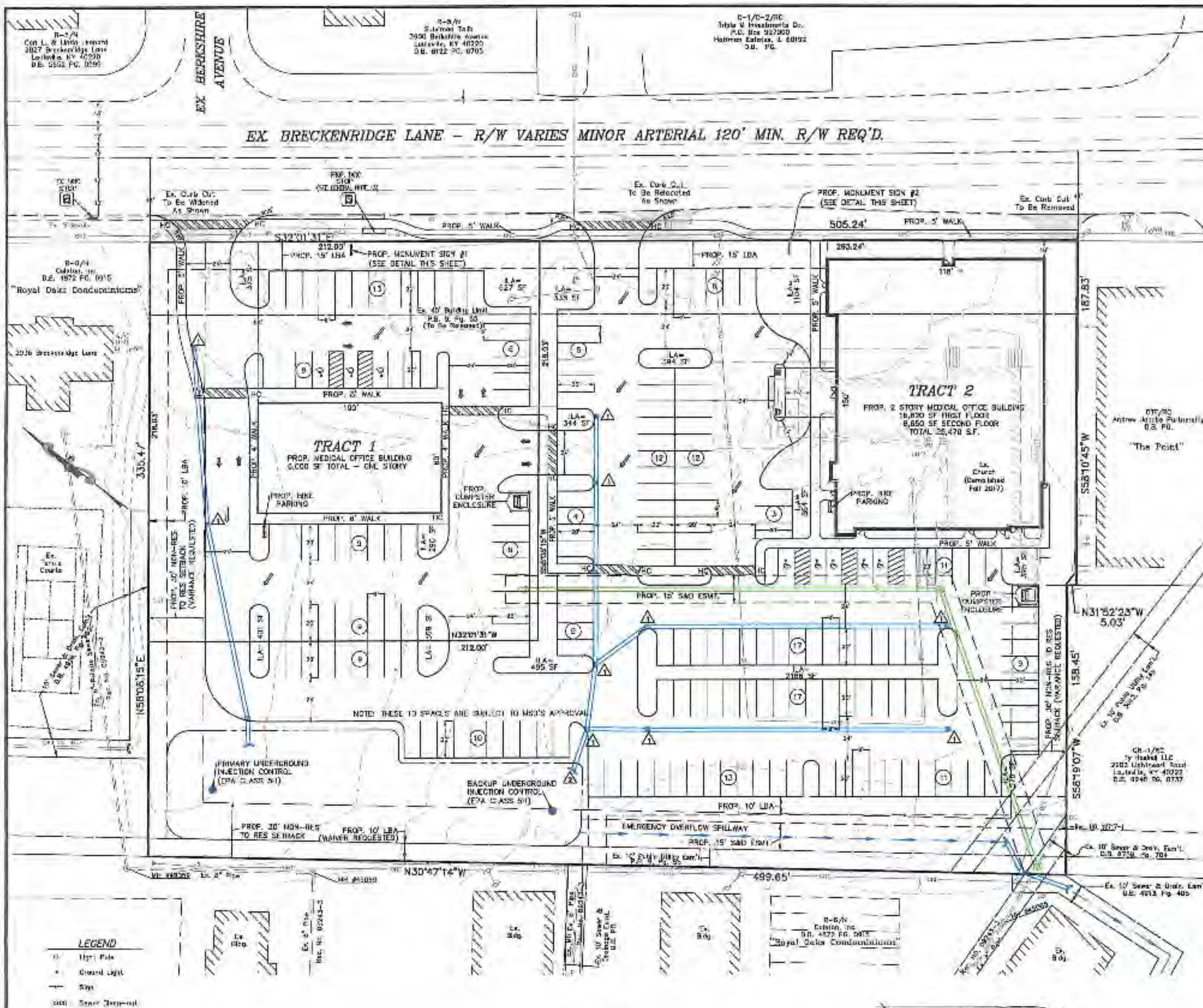


VARIANCES REQUESTED:

1. Tracts 1 and 2: Variances are requested from Section 5.1.12.B.2.a of the Louisville Metro Land Development Code to vary the Breckenridge Lane Infill Front Setback as shown.
2. Tracts 1 and 2: Variances are requested from Section 5.3.1.C.5 Table 5.3.2 of the Louisville Metro Land Development Code to vary the 30 ft. non-residential to residential setback for the encroachment of the pavement adjacent to 2935 Breckenridge Lane and the pavement and dumpster enclosure adjacent to the Ty Hoekel LLC property.
3. Tract 2: A Variance is requested from Section 5.3.1.C.5 Table 5.3.2 to vary the proposed building height.

WAIVER REQUESTED:

1. A Waiver is requested from Section 10.2.4.B.3 of The Louisville Metro Land Development Code to waive the more than 50% encroachment of the 10' Landscape Buffer Area & Utility Easements adjacent to the west (rear) property line.

LOCATION MAP
NOT TO SCALE

TRACT 1 DATA

TRACT 1 AREA	= 1.06 Ac. (46,221 S.F.)
EXISTING ZONING	= R-2
PROPOSED ZONING	= OR-3
FORM DISTRICT	= NEIGHBORHOOD
EXISTING USE	= VACANT
PROPOSED USE	= MEDICAL OFFICE
BUILDING AREA	= 6,000 SF
BUILDING HEIGHT	= 1 STORY (30 FT. MAX. ALLOWED)
F.A.R.	= 0.13 (4.0 MAX. ALLOWED)
BIKE PARKING REQUIRED/PROVIDED	= 2 SHORT TERM & 2 LONG TERM (LONG TERM PROVIDED INDOORS)
VEHICULAR USE AREA	= 26,193 SF
INTERIOR LANDSCAPE AREA REQUIRED (7.5%)	= 1,964 SF
INTERIOR LANDSCAPE AREA PROVIDED	= 2,262 SF

TRACT 2 DATA

TRACT 2 AREA	= 2.87 Ac. (125,106 SF)
EXISTING ZONING	= R-2/R-5
PROPOSED ZONING	= OR-3
EXISTING FORM DISTRICT	= NEIGHBORHOOD
EXISTING USE	= VACANT
PROPOSED USE	= MEDICAL OFFICE
BUILDING AREA	= 25,470 SF
BUILDING HEIGHT	= 2 STORY 45 FT. (30 FT. MAX. ALLOWED VARIANCE REQUESTED)
F.A.R.	= 0.20 (4.0 MAX. ALLOWED)
BIKE PARKING REQUIRED/PROVIDED	= 2 SHORT TERM & 2 LONG TERM (LONG TERM PROVIDED INDOORS)
VEHICULAR USE AREA	= 56,915 SF
INTERIOR LANDSCAPE AREA REQUIRED (7.5%)	= 4,269 SF
INTERIOR LANDSCAPE AREA PROVIDED	= 5,606 SF

COMBINED PARKING TRACTS 1 AND 2

	MIN.	MAX.
PARKING REQUIRED TRACTS 1 AND 2		
1 SP/250 SF (31,470 SF) MINIMUM	= 126 SP	
1 SP/150 SF (31,470 SF) MAXIMUM	=	210 SP
-10% TARC CREDIT	= 114 SP	210 SP
PARKING PROVIDED TRACTS 1 AND 2	= 199 SPACES (8 ADA SPACES INCLUDED)	
EXISTING IMPERVIOUS TRACTS 1 AND 2	= 59,915 SF	
PROPOSED IMPERVIOUS TRACTS 1 AND 2	= 110,528 SF (96% INCREASE)	

GENERAL NOTES:

1. Parking areas and drive lanes to be a hard and durable surface.
2. A KTC encroachment permit and bond will be required for all work done in the right-of-way prior to construction plan approval.
3. State Highway encroachment permit will be required for the entrances.
4. No increase in drainage run off to state roadways.
5. There shall be no commercial signs in the Right of Way.
6. There shall be no landscaping in the Right of Way without an encroachment permit.
7. Site lighting shall not shine in the eyes of drivers. If it does it shall be re-aimed, shielded, or turned off.
8. Construction fencing shall be erected prior to any construction or grading activities preventing compaction of root systems of trees to be preserved. The fencing shall enclose the area beneath the drip line of the tree canopy and shall remain in place. No parking, material storage, or construction activities shall be permitted within the fenced area.
9. Mitigation measures for dust control shall be in place during construction to prevent fugitive particulate emissions from reaching existing roads and neighboring properties.
10. A site visit was conducted by Ann Richard RLA on 11-01-17 and no KARST features were evident on the site.
11. Upon development or redevelopment of adjacent Colston Inc. property to the north and a unified access and circulation system shall be developed to eliminate pre-existing curb cuts and provide for vehicular movement throughout adjacent sites as determined appropriate by the Department of Public Works. A cross access agreement to run with the land and in a form acceptable to Planning Commission legal counsel shall be recorded prior to the time of construction approval for the adjacent property to be developed.
12. A shared parking and cross access agreement shall be recorded between tracts 1 and 2 shall be recorded prior to Metro Public Works granting construction plan approval.
13. The proposed TARC stop shall consist of a 12 ft. wide concrete pad between the walk and curb for the boarding area, 3 ft. deep x 12 ft. wide concrete pad with bench and trash receptacle. TARC stop shall be provided in conjunction with the Tract 1 construction plans.

MSD NOTES:

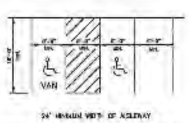
1. Construction plans and documents shall comply with the Louisville and Jefferson County Metropolitan Sewer District's Design Manual and Standard Specifications.
2. Sanitary sewer service will be provided by lateral extension and subject to applicable fees.
3. No portion of the site is within the 100 year flood plain per FIRM Map No. 21111 C 0045 E dated December 5, 2006.
4. Drainage pattern depicted by arrows (⟹) is for conceptual purposes. Final configuration and size of drainage pipes and channels shall be determined during the construction plan design process. Drainage facilities shall conform to MSD requirements.
5. If the site has thru drainage an easement plat will be required prior to MSD granting construction plan approval.
6. On-site detention will be provided. Post-developed peak flows will be limited to pre-developed peak flows for the 2,10,25 and 100 year storms or to the capacity of the downstream system, whichever is more restrictive.
7. A Downstream Facilities Capacity Request was approved on October 20th, 2017 by MSD.
8. The final design of this project must meet all MS4 water quality regulations established by MSD. Site layout may change at the design phase due to proper sizing of Green Best Management Practices.
9. Erosion & Silt Control shown is conceptual only, and final design will be determined on construction plans.
10. Prior to any construction activities on the site a Erosion & Silt Control Plan shall be provided to MSD for approval.
11. MSD Drainage Bond required prior to construction plan approval.
12. The final design of this project must identify Best Management Practices for the protection of the Underground Injection Controls.
13. A long term maintenance agreement shall be submitted and approved prior to MSD construction plan approval for maintenance of proposed class V injection wells.
14. The Class V injection wells are subject to an EPA Notice of Rule Authorization prior to MSD construction plan approval.

LEGEND

- Light Pole
- Ground Light
- Sign
- Sewer Clean-out
- Guy Anchor
- Utility Pole
- Water Meter
- Water Valve
- Gas Meter
- Curb Inlet
- Telecomm. Pedestal
- Fire Hydrant
- Sanitary Sewer Manhole
- A/C Unit: Air Conditioner Unit
- RCP: Reinforced Concrete Pipe
- Overhead Utility Lines
- PROPOSED STORM SEWER, CATCH BASIN
- PROPOSED SEWER AND MANHOLE
- PROPOSED DRAINAGE SWALE

MSD STANDARD EROSION CONTROLS

△	STONE AND CHECK DAM IN CONCRETE FLUMES
△	MIRAFI HEADWALL INLET PROTECTION



TYPICAL PARKING SPACE LAYOUT
NO SCALE

DETENTION BASIN CALCULATIONS

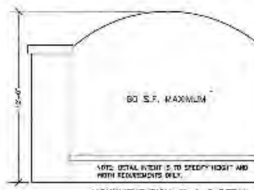
X = ΔCRA/12
ΔC = 0.85-0.48=0.37
A = 3.9 ACRES
R = 2.8INCHES
X = (0.37)(3.9)(2.8)/12 = 0.34 AC-FT.
REQUIRED X = 14,800 CU.FT.

PROVIDED BASIN = 10,080 SQ.FT. (28,500 CU. FT.)

TOTAL = 10,080 SQ.FT. @ APPROX. 3.5 FT. DEPTH = 28,500 CU.FT. > 14,800 CU.FT.

TREE CANOPY CALCULATIONS

TOTAL SITE AREA	= 171,366 SF
TOTAL TREE CANOPY AREA REQUIRED	= 20% (34,716 SF)
EXISTING TREE CANOPY TO BE PRESERVED	= 0% (0 SF)
PROPOSED TREE CANOPY TO BE PLANTED	= 20% (35,283 SF)



MONUMENT SIGN #1 & 2 DETAIL
NOT TO SCALE

GRAPHIC SCALE
(IN FEET)
1 inch = 30 ft.

SITE ADDRESS:
2944 BRECKENRIDGE LANE
TAX BLOCK 0582, LOT 0013
D.B. 10700, PG. 0878

COUNCIL DISTRICT - 26
FIRE PROTECTION DISTRICT - LOUISVILLE #24

CASE: 17ZONE1054
MSD WM# 11604

DETAILED DISTRICT DEVELOPMENT PLAN

2944 BRECKENRIDGE LANE
OWNER/DEVELOPER
ADVANCED ENT HOLDINGS OF ST. MATTHEWS, LLC
4004 DUPONT CIRCLE STE 200
LOUISVILLE, KY 40207

LD&D
LAND DESIGN & DEVELOPMENT, INC.

PROJECT DATA

ENGINEER'S SEAL

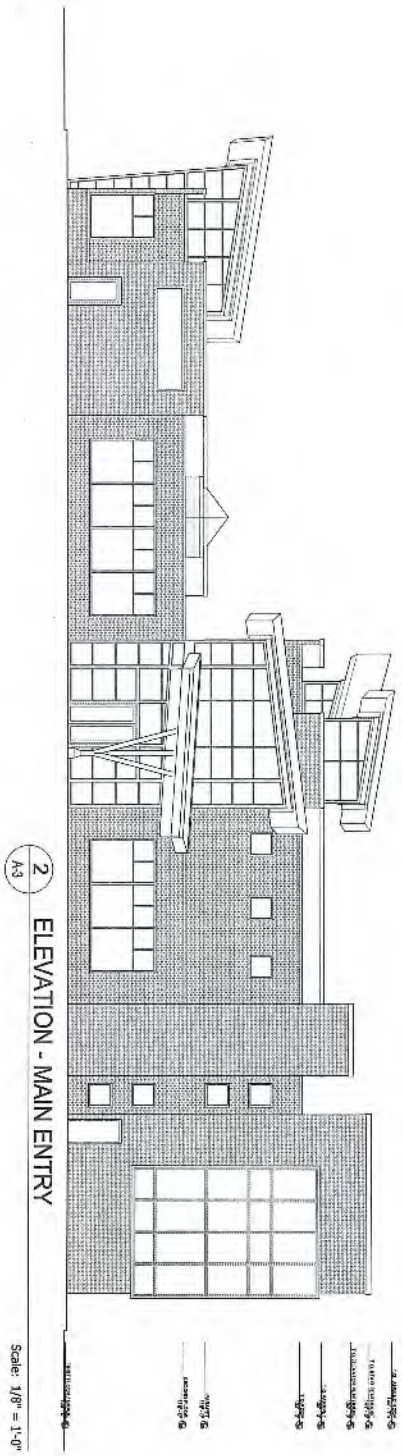
SURVEYOR'S SEAL

REVISIONS

NO.	DATE	DESCRIPTION	BY
1	3/8/18	REVISED PER DEC. 7, 2017 AGENCY COMMENTS	AER
2	3/27/18	3/21/18 AGENCIES COMMENTS	AER
3	4/16/18	REVISED PEDESTRIAN CONNECTION BETWEEN TRACTS 1 & 2	AER

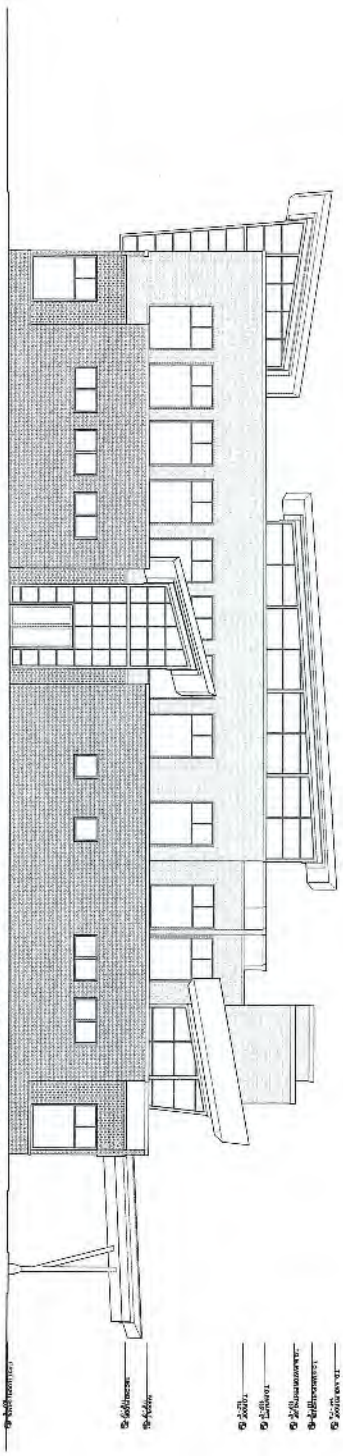
JOB NO. 16191

SHEET 1 OF 1



2 / A3 ELEVATION - MAIN ENTRY

Scale: 1/8" = 1'-0"



1 / A3 ELEVATION - BRECKINRIDGE LANE

Scale: 1/8" = 1'-0"

ELEVATIONS

Scale: 1/8" = 1'-0"

A-3

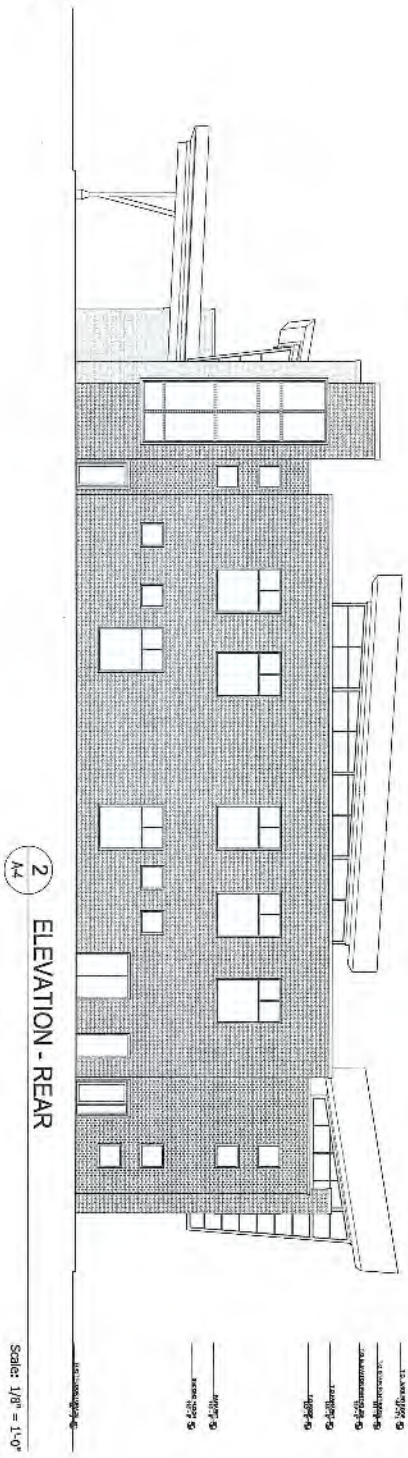
architectural investments

Advanced ENT - Meadowview
2944 Breckinridge Lane, Louisville KY

Architectural Investments

222 South First Street - Suite 206 - Louisville, Kentucky 40202-1367
tel (502) 562 9220 - fax (502) 585 1571 - www.architecturalinvestments.com

2017.11.06



2 / A4 ELEVATION - REAR

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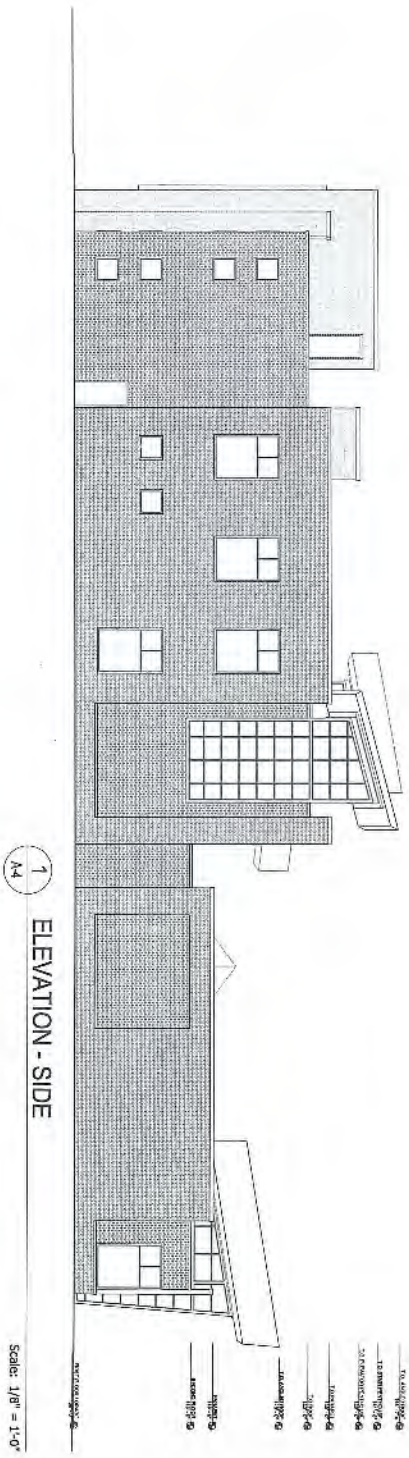

1 / A4 ELEVATION - SIDE

Scale: 1/8" = 1'-0"

ELEVATIONS

Scale: 1/8" = 1'-0"

A-4

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final report

April 9, 2018

Traffic Impact Study

Advanced ENT and Allergy
2944 Breckenridge Lane
Louisville, KY

Prepared for

Louisville Metro Planning Commission
Kentucky Transportation Cabinet

DIANE B. ZIMMERMAN
Traffic Engineering, LLC

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Prospect, KY 40059
502.648.1858
dianebzim@att.net

Table of Contents

INTRODUCTION

The development plan for Advanced ENT & Allergy at 2944 Breckenridge Lane in Louisville, KY shows two medical office buildings, one with 25,459 square feet and a second with 6,000 square feet. **Figure 1** displays a map of the site. Access to the site will be from Breckenridge Lane. The purpose of this study is to examine the traffic impacts of the development upon the adjacent highway system. For this study, the impact area was defined to be the intersections of Breckenridge Lane with Hillbrook Drive, Berkshire Avenue, Taylorsville Road, Hikes Lane, and the entrance to McMahan Plaza.

Figure 1. Site Map

EXISTING CONDITIONS

Breckenridge Lane (KY 1932) is a state maintained road with an estimated 2017 ADT of 30,000 vehicles per day between Taylorsville Road (KY 155) and I 264, as provided by a Kentucky Transportation Cabinet 2015 count at station 152. The road has four twelve-foot lanes, curb and gutter, and center turn lane. The speed limit is 35 mph. There are sidewalks. The intersections with Hillbrook Drive, Taylorsville Road, Hikes Lane and McMahan Plaza are controlled with a traffic signal. The intersection with Berkshire Avenue is controlled with a stop sign. Breckenridge Lane is served by TARC.

A twelve-hour turning movement count was made at the intersection of Breckenridge Lane and Berkshire Avenue on December 13, 2016. The data for the other intersections were provided by Metro Traffic Engineering from 2013 and 2015. **Figure 2** illustrates the a.m. and p.m. peak hour traffic volumes.

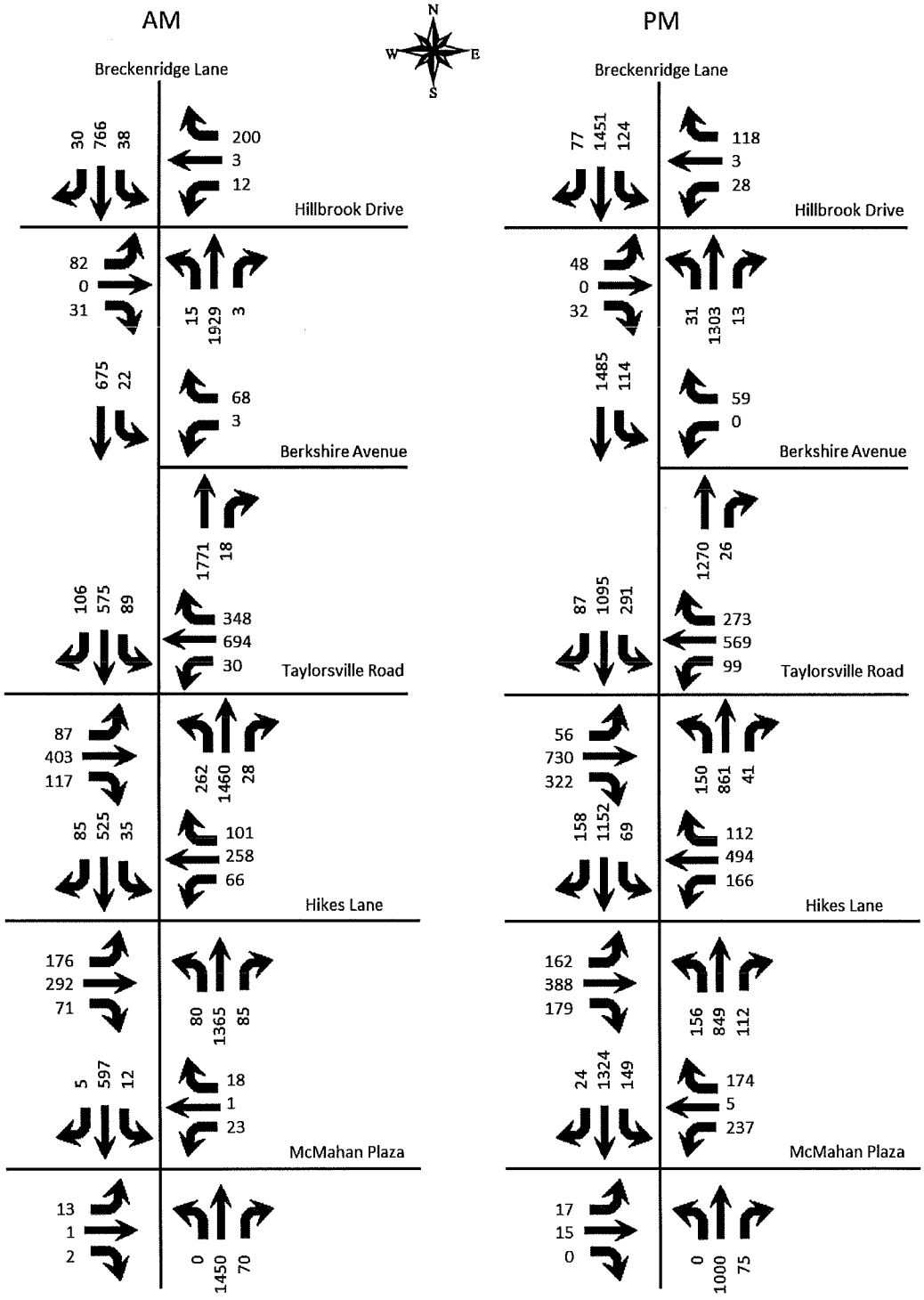

Figure 2. Existing Peak Hour Volumes

TRIP GENERATION

The Institute of Transportation Engineers Trip Generation Manual, 10th Edition contains trip generation rates for a wide range of developments. The land use of "Medical-Dental Office (720)" was reviewed and determined to be the best match. The trip generation results are listed in **Table 1**. Using the trip generation equation yields 80 a.m. peak hour trips and 109 p.m. peak hour trips. The trips were assigned to the highway network using the percentages shown in **Figure 3**. **Figure 4** shows the trips generated by this development and distributed throughout the road network during the peak hours. **Figure 5** displays the individual turning movements for the peak hours when the development is completed.

Table 1. Peak Hour Trips Generated by Site

	A.M. Peak Hour			P.M. Peak Hour		
Land Use	Trips	In	Out	Trips	In	Out
Medical-Dental Office (31,459 sq. ft.)	80	62	18	109	31	78

Figure 3. Trip Distribution Percentages

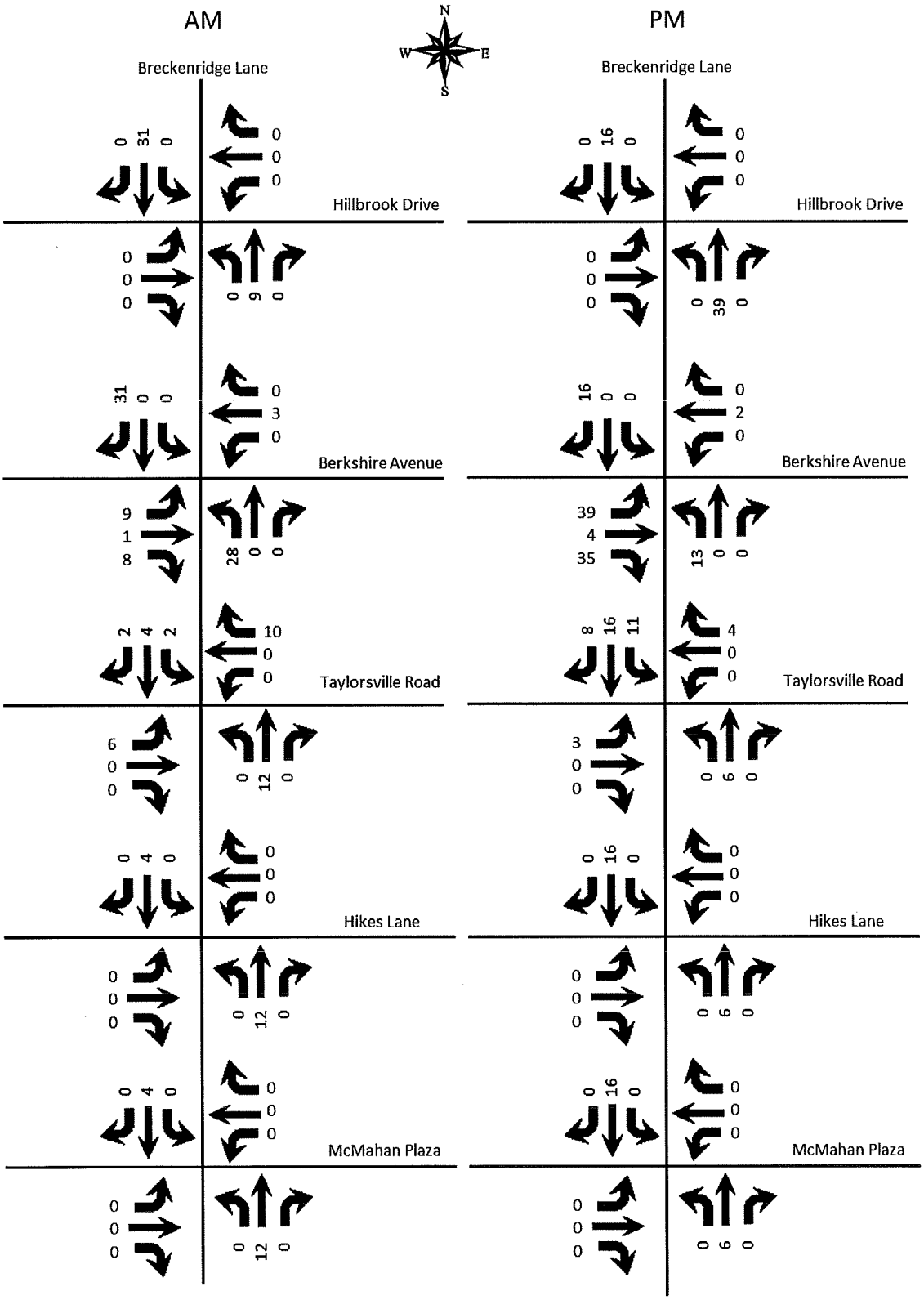

Figure 4. Peak Hour Trips Generated by Site

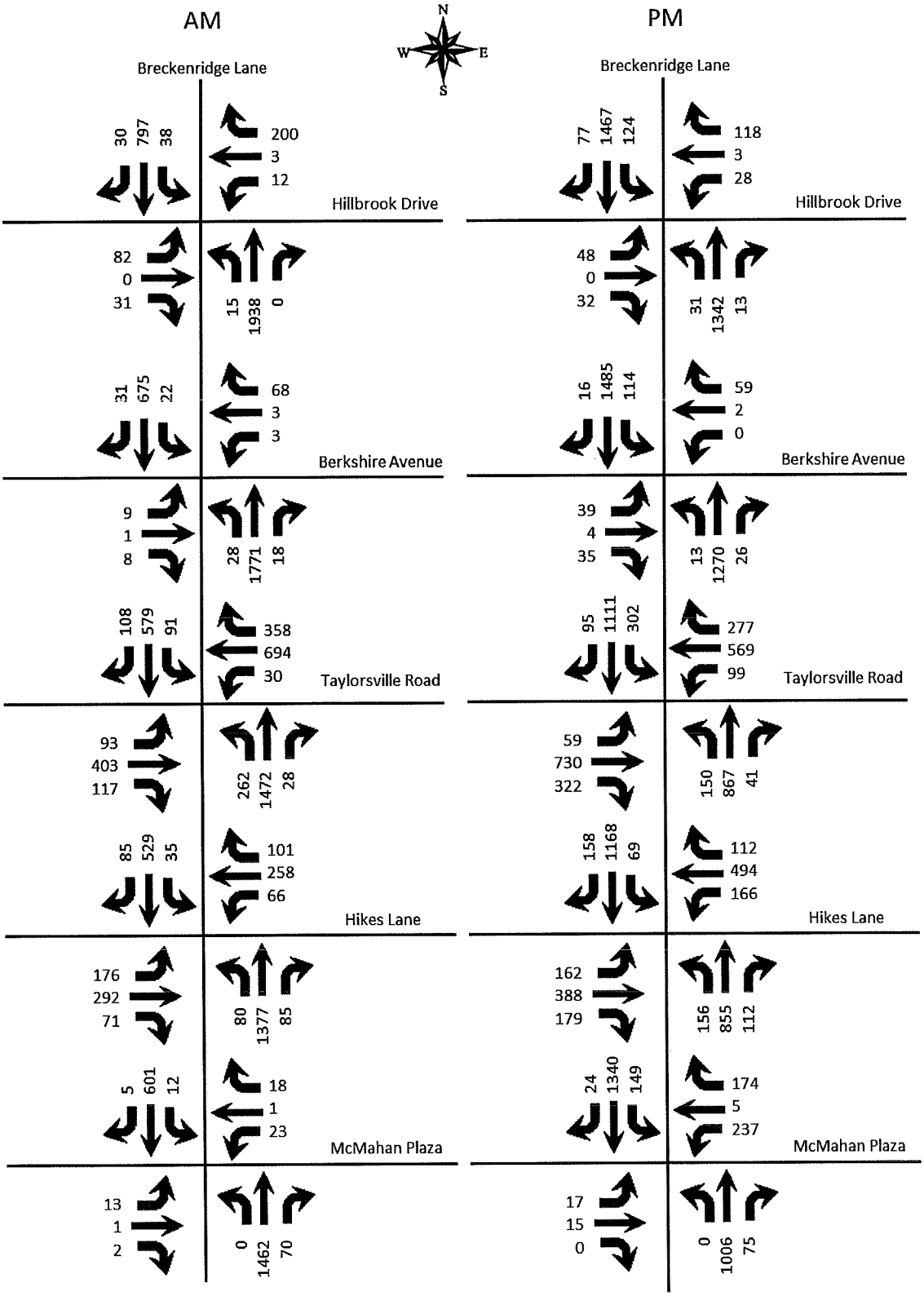

Figure 5. Build Peak Hour Trips

ANALYSIS

The qualitative measure of operation for a roadway facility or intersection is evaluated by assigning a "Level of Service". Level of Service is a ranking scale from A through F, "A" is the best operating condition and "F" is the worst. Level of Service results depend upon the facility that is analyzed. In this case, the Level of Service is based upon the total delay experienced at an intersection.

To evaluate the impact of the proposed development, the vehicle delays at the intersections were determined using procedures detailed in the Highway Capacity Manual, 6th edition. Future delays and Level of Service were determined for the intersections using Synchro (version 10.1) software. The delays and Level of Service are summarized in **Table 2**.

Traffic volumes on Breckenridge Lane have shown a decline since 2009. Therefore, the analysis years of 2019 and 2029 are the same.

Table 2. Level of Service Results

	A.M.		P.M.	
Approach	2017 No Build	2019 & 2029 Build	2017 No Build	2019 & 2029 Build
Breckenridge Lane at Hillbrook Drive	**D 42.9**	**D 43.0**	**C 34.0**	**C 34.0**
Deebet Drive Eastbound	F 125.1	F 125.1	E 68.2	E 68.2
Hillbrook Drive Westbound	F 136.2	F 136.2	E 79.4	E 79.4
Breckenridge Lane Northbound	D 38.7	D 39.2	D 47.8	D 47.1
Breckenridge Lane Southbound	B 17.7	B 17.9	B 17.5	B 17.3
Breckenridge Lane at Berkshire Drive				
Advanced ENT Eastbound	NA	D 28.3	NA	F 168.2
Berkshire Drive Westbound	C 22.2	C 22.0	C 15.5	D 27.7
Breckenridge Lane Northbound	NA	A 9.3	NA	B 13.9
Breckenridge Lane Southbound	C 17.0	C 17.2	B 14.2	B 14.5
Breckenridge Lane at Taylorsville Road	**F 103.7**	**F 104.9**	**E 71.1**	**E 71.7**
Taylorsville Road Eastbound	F 195.3	F 194.8	F 95.9	F 95.9
Taylorsville Road Westbound	F 87.8	F 90.7	D 49.8	D 50.6

	A.M.		P.M.	
Approach	2017 No Build	2019 & 2029 Build	2017 No Build	2019 & 2029 Build
Breckenridge Lane Northbound	E 59.0	E 63.4	E 71.4	E 72.2
Breckenridge Lane Southbound	E 63.1	E 59.6	E 65.4	E 66.4
Breckenridge Lane at Hikes Lane	**D 41.6**	**D 41.5**	**E 71.9**	**E 71.9**
Hikes Lane Eastbound	F 114.1	F 114.1	F 111.6	F 111.6
Hikes Lane Westbound	F 89.8	F 89.8	F 115.1	F 115.1
Breckenridge Lane Northbound	A 5.0	A 5.0	B 12.9	B 12.9
Breckenridge Lane Southbound	D 36.3	D 36.3	E 74.4	E 74.9
Breckenridge Lane at McMahon Plaza	**A 6.5**	**A 6.5**	**C 23.5**	**C 23.4**
Casa Granada Eastbound	F 88.0	F 88.0	E 73.7	E 73.7
McMahon Plaza Westbound	F 86.9	F 86.9	E 74.8	E 74.8
Breckenridge Lane Northbound	A 4.6	A 4.6	C 22.9	C 23.0
Breckenridge Lane Southbound	A 3.7	A 3.7	A 8.5	A 8.4

Key: Level of Service, Delay in seconds per vehicle

The Kentucky Transportation Cabinet evaluates the need and length of auxiliary turn lanes using the Highway Design Guidance Manual dated March, 2017. A Right turn lane is not required at either entrance.

CONCLUSIONS

Based upon the volume of traffic generated by the development there will be a minimal impact to the existing highway network. The current delays experienced at the intersections evaluated will increase within the acceptable limits. A right turn lane is not required at either proposed entrance.

APPENDIX

Traffic Counts

Study Name Breckenridge Ln & Berkshire Ave
Start Date 12/13/2016
Start Time 7:00 AM

Engineering Planning

Groundbreaking by Design.

	Southbound Approach Southbound				Northbound Approach Northbound				Westbound Approach Westbound				Eastbound Approach Eastbound				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Total
7:00 AM	0	97	7	0	0	365	0	0	24	0	0	0	0	0	0	0	469
7:15 AM	0	124	4	1	6	467	0	0	23	0	1	0	0	0	0	0	602
7:30 AM	0	183	8	0	2	463	0	0	17	0	0	0	0	0	0	0	656
7:45 AM	0	199	6	0	7	440	0	0	19	0	1	0	0	0	0	0	652
8:00 AM	0	134	3	0	5	408	0	0	23	0	2	0	0	0	0	0	550
8:15 AM	0	159	5	0	4	460	0	0	9	0	0	0	0	0	0	0	628
8:30 AM	0	156	11	0	3	457	1	0	22	0	0	0	2	0	0	0	628
8:45 AM	0	197	8	0	4	451	0	0	22	0	2	0	0	0	0	0	660
9:00 AM	0	173	9	1	2	331	0	0	16	0	1	0	0	0	0	0	516
9:15 AM	0	167	5	0	1	303	0	0	8	0	3	0	0	0	0	0	476
9:30 AM	0	173	10	0	1	294	0	0	10	0	1	0	0	0	0	0	478
9:45 AM	0	211	13	0	1	336	0	0	11	0	1	0	0	0	0	0	561
10:00 AM	0	232	5	0	1	318	0	0	13	0	0	0	0	0	0	0	556
10:15 AM	0	213	5	0	4	273	0	0	15	0	1	0	0	0	0	0	495
10:30 AM	0	229	4	0	5	291	0	0	12	0	0	0	0	0	0	0	529
10:45 AM	0	241	6	0	5	291	0	0	9	0	3	0	0	0	0	0	543
11:00 AM	0	264	5	0	1	266	0	0	16	0	1	0	0	0	0	0	536
11:15 AM	0	302	15	0	4	306	0	0	5	0	1	0	0	0	0	0	627
11:30 AM	0	290	19	0	4	301	0	0	12	0	1	0	0	0	0	0	614
11:45 AM	1	274	11	0	6	271	0	0	9	0	0	0	0	0	0	0	563
12:00 PM	0	285	13	0	4	270	0	0	14	0	0	0	0	0	0	0	572
12:15 PM	0	299	9	0	6	275	0	0	15	0	1	0	0	0	0	0	589
12:30 PM	0	294	4	1	3	315	0	0	4	0	1	0	0	0	0	0	617
12:45 PM	0	278	15	1	3	325	0	0	12	0	2	0	0	0	0	0	622
1:00 PM	0	248	18	0	1	338	0	0	13	0	1	0	0	0	0	0	605
1:15 PM	1	321	7	0	5	270	0	0	15	0	2	0	0	0	0	0	604
1:30 PM	0	250	12	0	10	343	0	0	15	0	3	0	0	0	0	0	615
1:45 PM	0	314	14	0	1	329	0	0	10	0	2	0	0	0	0	0	658
2:00 PM	0	286	14	0	2	334	0	0	12	0	1	0	0	0	0	0	636
2:15 PM	0	310	13	0	5	296	0	0	15	0	2	0	0	0	0	0	624
2:30 PM	0	351	17	1	3	305	0	0	10	0	0	0	0	0	0	0	677
2:45 PM	0	348	17	0	5	292	0	0	14	0	0	0	0	0	0	0	662
3:00 PM	0	352	23	0	7	310	1	0	8	0	0	0	0	0	0	0	693
3:15 PM	0	391	23	0	5	293	0	0	14	0	0	0	0	0	0	0	712
3:30 PM	0	370	22	0	8	276	0	0	7	0	2	0	0	0	0	0	676
3:45 PM	0	362	23	0	12	266	0	0	12	0	3	0	0	0	0	0	663
4:00 PM	0	414	24	0	7	320	0	0	14	0	1	0	0	0	0	0	765
4:15 PM	0	412	29	0	4	257	0	0	16	0	1	0	0	0	0	0	702
4:30 PM	0	401	21	0	5	294	0	0	15	0	1	0	0	0	0	0	721
4:45 PM	0	346	28	0	10	311	0	0	7	0	0	0	0	0	0	0	695
5:00 PM	0	357	27	0	9	322	0	0	10	0	0	0	0	0	0	0	715
5:15 PM	0	410	37	0	4	283	0	0	21	0	0	0	0	0	0	0	734
5:30 PM	0	372	22	0	3	354	0	0	21	0	0	0	0	0	0	0	751
5:45 PM	0	300	21	0	9	347	0	0	19	0	1	0	1	0	0	0	677
6:00 PM	0	359	23	0	3	250	0	0	13	0	0	0	0	0	0	0	635
6:15 PM	0	323	23	0	6	304	0	0	18	0	1	0	0	0	0	0	656
6:30 PM	0	293	22	0	6	238	0	0	10	0	0	0	0	0	0	0	559
6:45 PM	0	264	6	1	4	248	0	0	12	0	0	0	0	0	0	0	523

Study Name Breckenridge Ln & Berkshire Ave
Start Date 12/13/2016
Start Time 7:00 AM

Groundbreaking by Design.

	Southbound Approach Southbound				Northbound Approach Northbound				Westbound Approach Westbound				Eastbound Approach Eastbound				
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Total
7:30 AM	0	183	8	0	2	463	0	0	17	0	0	0	0	0	0	0	656
7:45 AM	0	199	6	0	7	440	0	0	19	0	1	0	0	0	0	0	652
8:00 AM	0	134	3	0	5	408	0	0	23	0	2	0	0	0	0	0	550
8:15 AM	0	159	5	0	4	460	0	0	9	0	0	0	0	0	0	0	628
AM Peak	**0**	**675**	**22**	**0**	**18**	**1771**	**0**	**0**	**68**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**2486**
4:45 PM	0	346	28	0	10	311	0	0	7	0	0	0	0	0	0	0	695
5:00 PM	0	357	27	0	9	322	0	0	10	0	0	0	0	0	0	0	715
5:15 PM	0	410	37	0	4	283	0	0	21	0	0	0	0	0	0	0	734
5:30 PM	0	372	22	0	3	354	0	0	21	0	0	0	0	0	0	0	751
PM Peak	**0**	**1485**	**114**	**0**	**26**	**1270**	**0**	**0**	**59**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2895**

SYNCHRO Reports

HCM 6th Signalized Intersection Summary
8: Breckenridge Ln/KY 1932 & Deebet Dr/Hillbrook Dr

12/06/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	0	31	12	3	200	15	1929	3	38	766	30
Future Volume (veh/h)	82	0	31	12	3	200	15	1929	3	38	766	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	85	0	32	12	3	208	16	2009	3	40	798	31
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	0	391	21	13	181	413	2267	3	116	2202	86
Arrive On Green	0.25	0.00	0.25	0.25	0.25	0.25	0.02	0.62	0.62	0.02	0.63	0.63
Sat Flow, veh/h	204	0	1585	0	53	733	1781	3641	5	1781	3487	135
Grp Volume(v), veh/h	85	0	32	223	0	0	16	980	1032	40	407	422
Grp Sat Flow(s),veh/h/ln	204	0	1585	786	0	0	1781	1777	1869	1781	1777	1846
Q Serve(g_s), s	0.0	0.0	2.8	0.0	0.0	0.0	0.6	83.6	83.7	1.5	19.7	19.7
Cycle Q Clear(g_c), s	44.4	0.0	2.8	44.4	0.0	0.0	0.6	83.6	83.7	1.5	19.7	19.7
Prop In Lane	1.00		1.00	0.05		0.93	1.00		0.00	1.00		0.07
Lane Grp Cap(c), veh/h	90	0	391	215	0	0	413	1106	1164	116	1122	1165
V/C Ratio(X)	0.94	0.00	0.08	1.04	0.00	0.00	0.04	0.89	0.89	0.34	0.36	0.36
Avail Cap(c_a), veh/h	90	0	391	215	0	0	578	1106	1164	267	1122	1165
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	76.9	0.0	52.1	64.7	0.0	0.0	12.8	28.6	28.6	35.4	15.9	15.9
Incr Delay (d2), s/veh	75.7	0.0	0.1	71.4	0.0	0.0	0.0	10.5	10.1	1.7	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	0.0	1.1	13.2	0.0	0.0	0.2	37.7	39.6	1.0	8.4	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	152.6	0.0	52.2	136.2	0.0	0.0	12.9	39.1	38.7	37.2	16.8	16.7
LnGrp LOS	F	A	D	F	A	A	B	D	D	D	B	B
Approach Vol, veh/h		117			223			2028			869	
Approach Delay, s/veh		125.1			136.2			38.7			17.7	
Approach LOS		F			F			D			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.8	118.2		51.0	9.3	119.7		51.0				
Change Period (Y+Rc), s	6.5	* 6.1		6.6	6.5	* 6.1		6.6				
Max Green Setting (Gmax), s	19.5	* 97		44.4	19.5	* 97		44.4				
Max Q Clear Time (g_c+I1), s	3.5	85.7		46.4	2.6	0.0		46.4				
Green Ext Time (p_c), s	0.1	9.2		0.0	0.0	0.0		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	42.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Diane Zimmerman	Intersection	Breckenridge at Berkshire
Agency/Co.	Diane B Zimmerman Traffic Engineering	Jurisdiction	
Date Performed	4/9/2018	East/West Street	Berkshire/Entrance
Analysis Year	2017	North/South Street	Breckenridge
Time Analyzed	AM Peak	Peak Hour Factor	0.96
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Advanced ENT		

Lanes

Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	2	0	0	1	2	0
Configuration							LR				T	TR		L	T	
Volume, V (veh/h)						3		68			1771	18		22	675	
Percent Heavy Vehicles (%)						1		1						1		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Left Only								2						

Critical and Follow-up Headways

Base Critical Headway (sec)						7.5		6.9						4.1		
Critical Headway (sec)						6.82		6.92						4.12		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.51		3.31						2.21		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							74							23		
Capacity, c (veh/h)							282							324		
v/c Ratio							0.26							0.07		
95% Queue Length, Q_{95} (veh)							1.0							0.2		
Control Delay (s/veh)							22.2							17.0		
Level of Service, LOS							C							C		
Approach Delay (s/veh)						22.2								0.5		
Approach LOS						C										

HCS7™ TWSC Version 7.4
AM Build Existing.xtw

Generated: 4/9/2018 1:43:44 PM

HCM 6th Signalized Intersection Summary
504: Breckenridge Ln & Taylorsville Rd

12/06/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR	NWR2
Lane Configurations												
Traffic Volume (veh/h)	87	403	117	30	694	348	89	575	106	262	1460	28
Future Volume (veh/h)	87	403	117	30	694	348	89	575	106	262	1460	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No		No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	91	420	122	31	723	362	93	93	0	273	0	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	110	311	139	366	823	367	111	111		466		
Arrive On Green	0.06	0.09	0.09	0.21	0.23	0.23	0.06	0.06	0.00	0.26	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1781	1585	1781	0	0
Grp Volume(v), veh/h	91	420	122	31	723	362	93	93	0	273	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1781	1585	1781	0	0
Q Serve(g_s), s	9.1	15.8	13.7	2.5	35.3	40.9	9.3	9.3	0.0	24.1	0.0	0.0
Cycle Q Clear(g_c), s	9.1	15.8	13.7	2.5	35.3	40.9	9.3	9.3	0.0	24.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.00	0.00
Lane Grp Cap(c), veh/h	110	311	139	366	823	367	111	111		466		
V/C Ratio(X)	0.83	1.35	0.88	0.08	0.88	0.99	0.83	0.83		0.59		
Avail Cap(c_a), veh/h	175	843	376	366	823	367	153	153		466		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.98	0.98	0.98	1.00	1.00	0.00	0.57	0.00	0.00
Uniform Delay (d), s/veh	83.5	82.1	81.2	57.8	66.7	68.9	83.5	83.5	0.0	57.9	0.0	0.0
Incr Delay (d2), s/veh	16.3	162.4	15.8	0.1	10.5	42.6	23.7	23.7	0.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	14.3	6.2	1.2	17.2	20.9	5.0	5.0	0.0	11.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	99.9	244.5	97.0	57.9	77.2	111.4	107.2	107.2	0.0	59.0	0.0	0.0
LnGrp LOS	F	F	F	E	E	F	F	F		E		
Approach Vol, veh/h		633			1116		692	692	A	273	A	A
Approach Delay, s/veh		195.3			87.8		63.1	63.1		59.0		
Approach LOS		F			F		E	E		E		

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.8	95.9	43.3	22.1	54.6	60.0	17.4	48.0
Change Period (Y+Rc), s	7.5	7.5	* 6.3	* 6.3	7.5	7.5	* 6.3	* 6.3
Max Green Setting (Gmax), s	15.5	77.5	* 17	* 43	40.5	52.5	* 18	* 42
Max Q Clear Time (g_c+I1), s	11.3	0.0	4.5	15.7	26.1	0.0	11.1	42.9
Green Ext Time (p_c), s	0.1	0.0	0.0	0.1	0.7	0.0	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	103.7
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NWR2, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
533: Hikes Ln & Breckenridge Ln

12/06/2017

Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	80	1365	85	35	525	85	176	292	71	66	258	101
Future Volume (veh/h)	80	1365	85	35	525	85	176	292	71	66	258	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	83	1422	89	36	547	89	183	304	74	69	269	105
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	336	2139	133	47	1430	232	159	468	112	86	311	118
Arrive On Green	0.38	1.00	1.00	0.03	0.47	0.47	0.09	0.16	0.16	0.05	0.12	0.12
Sat Flow, veh/h	1781	3397	212	1781	3061	496	1781	2843	681	1781	2517	958
Grp Volume(v), veh/h	83	742	769	36	317	319	183	188	190	69	188	186
Grp Sat Flow(s),veh/h/ln	1781	1777	1832	1781	1777	1781	1781	1777	1748	1781	1777	1698
Q Serve(g_s), s	5.8	0.0	0.0	3.6	20.8	20.9	16.1	17.8	18.3	6.9	18.7	19.4
Cycle Q Clear(g_c), s	5.8	0.0	0.0	3.6	20.8	20.9	16.1	17.8	18.3	6.9	18.7	19.4
Prop In Lane	1.00		0.12	1.00		0.28	1.00		0.39	1.00		0.56
Lane Grp Cap(c), veh/h	336	1119	1154	47	830	832	159	293	288	86	219	210
V/C Ratio(X)	0.25	0.66	0.67	0.77	0.38	0.38	1.15	0.64	0.66	0.80	0.86	0.89
Avail Cap(c_a), veh/h	336	1119	1154	189	830	832	159	366	360	159	366	350
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.85	0.85	0.85	0.86	0.86	0.86	1.00	1.00	1.00	0.87	0.87	0.87
Uniform Delay (d), s/veh	47.3	0.0	0.0	87.1	31.1	31.1	81.9	70.2	70.4	84.8	77.3	77.6
Incr Delay (d2), s/veh	0.3	2.6	2.6	20.1	1.1	1.2	116.8	2.6	3.1	13.8	8.8	12.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.8	0.8	1.9	9.3	9.4	12.6	8.3	8.5	3.5	9.1	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.6	2.6	2.6	107.2	32.2	32.3	198.8	72.8	73.5	98.6	86.2	90.2
LnGrp LOS	D	A	A	F	C	C	F	E	E	F	F	F
Approach Vol, veh/h		1594			672			561			443	
Approach Delay, s/veh		5.0			36.3			114.1			89.8	
Approach LOS		A			D			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	39.9	90.0	14.6	35.5	10.6	119.2	22.0	28.1
Change Period (Y+Rc), s	* 5.9	* 5.9	* 5.9	* 5.9	* 5.9	* 5.9	* 5.9	* 5.9
Max Green Setting (Gmax), s	* 19	* 84	* 16	* 37	* 19	* 84	* 16	* 37
Max Q Clear Time (g_c+I1), s	7.8	22.9	8.9	20.3	5.6	2.0	18.1	21.4
Green Ext Time (p_c), s	0.1	1.6	0.1	0.8	0.0	5.1	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	41.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
552: Breckenridge Ln & McMahon Ctr

12/06/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	1	2	23	1	18	0	1450	70	12	597	5
Future Volume (veh/h)	13	1	2	23	1	18	0	1450	70	12	597	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	1	2	24	1	19	0	1510	73	12	622	5
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	21	42	88	3	60	1	2951	142	18	3238	26
Arrive On Green	0.04	0.04	0.04	0.04	0.04	0.04	0.00	0.86	0.86	0.01	0.90	0.90
Sat Flow, veh/h	1392	557	1113	1308	78	1585	1781	3451	166	1781	3613	29
Grp Volume(v), veh/h	14	0	3	25	0	19	0	775	808	12	306	321
Grp Sat Flow(s),veh/h/ln	1392	0	1670	1386	0	1585	1781	1777	1840	1781	1777	1865
Q Serve(g_s), s	1.8	0.0	0.3	3.0	0.0	2.1	0.0	20.2	20.4	1.2	3.9	3.9
Cycle Q Clear(g_c), s	5.1	0.0	0.3	3.3	0.0	2.1	0.0	20.2	20.4	1.2	3.9	3.9
Prop In Lane	1.00		0.67	0.96		1.00	1.00		0.09	1.00		0.02
Lane Grp Cap(c), veh/h	67	0	63	91	0	60	1	1519	1574	18	1592	1672
V/C Ratio(X)	0.21	0.00	0.05	0.27	0.00	0.32	0.00	0.51	0.51	0.67	0.19	0.19
Avail Cap(c_a), veh/h	275	0	313	305	0	297	143	1519	1574	143	1592	1672
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.94	0.94	0.94
Uniform Delay (d), s/veh	87.4	0.0	83.5	85.0	0.0	84.4	0.0	3.4	3.4	88.8	1.2	1.2
Incr Delay (d2), s/veh	1.5	0.0	0.3	1.6	0.0	3.0	0.0	1.2	1.2	34.1	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.1	1.2	0.0	0.9	0.0	6.2	6.5	0.7	0.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.9	0.0	83.8	86.6	0.0	87.4	0.0	4.6	4.6	122.9	1.4	1.4
LnGrp LOS	F	A	F	F	A	F	A	A	A	F	A	A
Approach Vol, veh/h		17			44			1583			639	
Approach Delay, s/veh		88.0			86.9			4.6			3.7	
Approach LOS		F			F			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.4	159.5		13.1	0.0	166.9		13.1
Change Period (Y+Rc), s	5.6	5.6		* 6.3	5.6	5.6		* 6.3
Max Green Setting (Gmax), s	14.4	114.4		* 34	14.4	114.4		* 34
Max Q Clear Time (g_c+I1), s	3.2	0.0		5.3	0.0	0.0		7.1
Green Ext Time (p_c), s	0.0	0.0		0.1	0.0	0.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	6.5
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
8: Breckenridge Ln/KY 1932 & Deebet Dr/Hillbrook Dr

04/09/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	0	31	12	3	200	15	1938	3	38	797	30
Future Volume (veh/h)	82	0	31	12	3	200	15	1938	3	38	797	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	85	0	32	12	3	208	16	2019	3	40	830	31
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	0	391	21	13	181	399	2267	3	115	2206	82
Arrive On Green	0.25	0.00	0.25	0.25	0.25	0.25	0.02	0.62	0.62	0.02	0.63	0.63
Sat Flow, veh/h	204	0	1585	0	53	733	1781	3641	5	1781	3493	130
Grp Volume(v), veh/h	85	0	32	223	0	0	16	985	1037	40	422	439
Grp Sat Flow(s),veh/h/ln	204	0	1585	786	0	0	1781	1777	1869	1781	1777	1847
Q Serve(g_s), s	0.0	0.0	2.8	0.0	0.0	0.0	0.6	84.5	84.6	1.5	20.7	20.7
Cycle Q Clear(g_c), s	44.4	0.0	2.8	44.4	0.0	0.0	0.6	84.5	84.6	1.5	20.7	20.7
Prop In Lane	1.00		1.00	0.05		0.93	1.00		0.00	1.00		0.07
Lane Grp Cap(c), veh/h	90	0	391	215	0	0	399	1106	1164	115	1122	1166
V/C Ratio(X)	0.94	0.00	0.08	1.04	0.00	0.00	0.04	0.89	0.89	0.35	0.38	0.38
Avail Cap(c_a), veh/h	90	0	391	215	0	0	565	1106	1164	265	1122	1166
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	76.9	0.0	52.1	64.7	0.0	0.0	12.9	28.8	28.8	36.0	16.0	16.0
Incr Delay (d2), s/veh	75.7	0.0	0.1	71.4	0.0	0.0	0.0	10.8	10.4	1.8	1.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	0.0	1.1	13.2	0.0	0.0	0.2	38.2	40.1	1.1	8.8	9.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	152.6	0.0	52.2	136.2	0.0	0.0	13.0	39.6	39.2	37.8	17.0	17.0
LnGrp LOS	F	A	D	F	A	A	B	D	D	D	B	B
Approach Vol, veh/h		117			223			2038			901	
Approach Delay, s/veh		125.1			136.2			39.2			17.9	
Approach LOS		F			F			D			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.8	118.2		51.0	9.3	119.7		51.0				
Change Period (Y+Rc), s	6.5	* 6.1		6.6	6.5	* 6.1		6.6				
Max Green Setting (Gmax), s	19.5	* 97		44.4	19.5	* 97		44.4				
Max Q Clear Time (g_c+I1), s	3.5	86.6		46.4	2.6	0.0		46.4				
Green Ext Time (p_c), s	0.1	8.5		0.0	0.0	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			43.0									
HCM 6th LOS			D									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Diane Zimmerman	Intersection	Breckenridge at Berkshire
Agency/Co.	Diane B Zimmerman Traffic Engineering	Jurisdiction	
Date Performed	4/9/2018	East/West Street	Berkshire/Entrance
Analysis Year	2017	North/South Street	Breckenridge
Time Analyzed	AM Peak	Peak Hour Factor	0.95
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Advanced ENT		

Lanes

Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	1	0		0	1	0	0	1	2	0	0	1	2	0
Configuration		L		TR			LTR			L	T	TR		L	T	TR
Volume, V (veh/h)		9	1	8		3	3	68		28	1771	18		22	675	31
Percent Heavy Vehicles (%)		1	1	1		1	1	1		1				1		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5	6.5	6.9		7.5	6.5	6.9		4.1				4.1		
Critical Headway (sec)		7.52	6.52	6.92		7.52	6.52	6.92		4.12				4.12		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.51	4.01	3.31		3.51	4.01	3.31		2.21				2.21		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		9		9			78			29				23		
Capacity, c (veh/h)		98		618			289			867				319		
v/c Ratio		0.10		0.02			0.27			0.03				0.07		
95% Queue Length, Q_{95} (veh)		0.3		0.0			1.1			0.1				0.2		
Control Delay (s/veh)		45.8		10.9			22.0			9.3				17.2		
Level of Service, LOS		E		B			C			A				C		
Approach Delay (s/veh)		28.3				22.0				0.1				0.5		
Approach LOS		D				C										

HCS7™ TWSC Version 7.4
AM Build Medical.xtw

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HCM 6th Signalized Intersection Summary
504: Breckenridge Ln & Taylorsville Rd

04/09/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR	NWR2
Lane Configurations												
Traffic Volume (veh/h)	93	403	117	30	694	358	91	579	108	262	1472	28
Future Volume (veh/h)	93	403	117	30	694	358	91	579	108	262	1472	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No		No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	97	420	122	31	723	373	95	95	0	273	0	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	311	139	373	823	367	113	113		460		
Arrive On Green	0.07	0.09	0.09	0.21	0.23	0.23	0.06	0.06	0.00	0.26	0.00	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1781	1585	1781	0	0
Grp Volume(v), veh/h	97	420	122	31	723	373	95	95	0	273	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1781	1585	1781	0	0
Q Serve(g_s), s	9.7	15.8	13.7	2.5	35.3	41.7	9.5	9.5	0.0	24.2	0.0	0.0
Cycle Q Clear(g_c), s	9.7	15.8	13.7	2.5	35.3	41.7	9.5	9.5	0.0	24.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.00	0.00
Lane Grp Cap(c), veh/h	116	311	139	373	823	367	113	113		460		
V/C Ratio(X)	0.84	1.35	0.88	0.08	0.88	1.02	0.84	0.84		0.59		
Avail Cap(c_a), veh/h	175	843	376	373	823	367	153	153		460		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.98	0.98	0.98	1.00	1.00	0.00	0.56	0.00	0.00
Uniform Delay (d), s/veh	83.2	82.1	81.2	57.3	66.7	69.2	83.3	83.3	0.0	58.5	0.0	0.0
Incr Delay (d2), s/veh	19.1	162.4	15.8	0.1	10.5	50.5	24.6	24.6	0.0	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	14.3	6.2	1.2	17.2	22.0	5.2	5.2	0.0	11.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	102.3	244.5	97.0	57.4	77.2	119.7	108.0	108.0	0.0	59.6	0.0	0.0
LnGrp LOS	F	F	F	E	E	F	F	F		E		
Approach Vol, veh/h		639			1127		698	698	A	273	A	A
Approach Delay, s/veh		194.8			90.7		63.4	63.4		59.6		
Approach LOS		F			F		E	E		E		

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	95.0	43.9	22.1	54.0	60.0	18.0	48.0
Change Period (Y+Rc), s	7.5	7.5	* 6.3	* 6.3	7.5	7.5	* 6.3	* 6.3
Max Green Setting (Gmax), s	15.5	77.5	* 17	* 43	40.5	52.5	* 18	* 42
Max Q Clear Time (g_c+I1), s	11.5	0.0	4.5	15.7	26.2	0.0	11.7	43.7
Green Ext Time (p_c), s	0.1	0.0	0.0	0.1	0.7	0.0	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	104.9
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NWR2, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
533: Hikes Ln & Breckenridge Ln

04/09/2018

Movement	NBL	NBT	NBR	SBL	SBT	SBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	80	1377	85	35	529	85	176	292	71	66	258	101
Future Volume (veh/h)	80	1377	85	35	529	85	176	292	71	66	258	101
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	83	1434	89	36	551	89	183	304	74	69	269	105
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	336	2140	132	47	1432	231	159	468	112	86	311	118
Arrive On Green	0.19	0.63	0.63	0.03	0.47	0.47	0.09	0.16	0.16	0.05	0.12	0.12
Sat Flow, veh/h	1781	3399	210	1781	3065	493	1781	2843	681	1781	2517	958
Grp Volume(v), veh/h	83	747	776	36	319	321	183	188	190	69	188	186
Grp Sat Flow(s),veh/h/ln	1781	1777	1833	1781	1777	1782	1781	1777	1748	1781	1777	1698
Q Serve(g_s), s	7.1	48.4	48.9	3.6	21.0	21.1	16.1	17.8	18.3	6.9	18.7	19.4
Cycle Q Clear(g_c), s	7.1	48.4	48.9	3.6	21.0	21.1	16.1	17.8	18.3	6.9	18.7	19.4
Prop In Lane	1.00		0.11	1.00		0.28	1.00		0.39	1.00		0.56
Lane Grp Cap(c), veh/h	336	1119	1154	47	830	832	159	293	288	86	219	210
V/C Ratio(X)	0.25	0.67	0.67	0.77	0.38	0.39	1.15	0.64	0.66	0.80	0.86	0.89
Avail Cap(c_a), veh/h	336	1119	1154	189	830	832	159	366	360	159	366	350
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	0.86	0.86	0.86	1.00	1.00	1.00	0.87	0.87	0.87
Uniform Delay (d), s/veh	62.1	21.3	21.4	87.1	31.1	31.2	81.9	70.2	70.4	84.8	77.3	77.6
Incr Delay (d2), s/veh	0.3	2.6	2.6	20.1	1.2	1.2	116.8	2.6	3.1	13.8	8.8	12.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	20.7	21.6	1.9	9.4	9.5	12.6	8.3	8.5	3.5	9.1	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.4	23.9	24.0	107.2	32.3	32.3	198.8	72.8	73.5	98.6	86.2	90.2
LnGrp LOS	E	C	C	F	C	C	F	E	E	F	F	F
Approach Vol, veh/h		1606			676			561			443	
Approach Delay, s/veh		25.9			36.3			114.1			89.8	
Approach LOS		C			D			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	39.9	90.0	14.6	35.5	10.6	119.2	22.0	28.1
Change Period (Y+Rc), s	* 5.9	* 5.9	* 5.9	* 5.9	* 5.9	* 5.9	* 5.9	* 5.9
Max Green Setting (Gmax), s	* 19	* 84	* 16	* 37	* 19	* 84	* 16	* 37
Max Q Clear Time (g_c+I1), s	9.1	23.1	8.9	20.3	5.6	50.9	18.1	21.4
Green Ext Time (p_c), s	0.1	1.6	0.1	0.8	0.0	5.1	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	51.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
552: Breckenridge Ln & McMahon Ctr 04/09/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	1	2	23	1	18	0	1462	70	12	601	5
Future Volume (veh/h)	13	1	2	23	1	18	0	1462	70	12	601	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	1	2	24	1	19	0	1523	73	12	626	5
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	145	23	46	166	2	66	3	2313	110	21	2784	22
Arrive On Green	0.04	0.04	0.04	0.04	0.04	0.04	0.00	0.67	0.67	0.01	0.77	0.77
Sat Flow, veh/h	1392	557	1113	1314	55	1585	1781	3453	165	1781	3613	29
Grp Volume(v), veh/h	14	0	3	25	0	19	0	781	815	12	308	323
Grp Sat Flow(s),veh/h/ln	1392	0	1670	1368	0	1585	1781	1777	1841	1781	1777	1865
Q Serve(g_s), s	0.6	0.0	0.1	1.1	0.0	0.7	0.0	16.4	16.6	0.4	3.0	3.0
Cycle Q Clear(g_c), s	1.8	0.0	0.1	1.2	0.0	0.7	0.0	16.4	16.6	0.4	3.0	3.0
Prop In Lane	1.00		0.67	0.96		1.00	1.00		0.09	1.00		0.02
Lane Grp Cap(c), veh/h	145	0	69	168	0	66	3	1190	1233	21	1369	1437
V/C Ratio(X)	0.10	0.00	0.04	0.15	0.00	0.29	0.00	0.66	0.66	0.56	0.22	0.22
Avail Cap(c_a), veh/h	873	0	942	914	0	894	121	1190	1233	124	1369	1437
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.5	0.0	29.1	29.7	0.0	29.4	0.0	6.2	6.2	31.1	2.0	2.0
Incr Delay (d2), s/veh	0.3	0.0	0.3	0.4	0.0	2.4	0.0	2.8	2.8	20.9	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.4	0.0	0.3	0.0	4.7	4.9	0.3	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.8	0.0	29.4	30.1	0.0	31.8	0.0	9.0	9.0	52.0	2.4	2.4
LnGrp LOS	C	A	C	C	A	C	A	A	A	D	A	A
Approach Vol, veh/h		17			44			1596			643	
Approach Delay, s/veh		30.6			30.8			9.0			3.3	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.4	48.0		8.9	0.0	54.4		8.9				
Change Period (Y+Rc), s	5.6	5.6		* 6.3	5.6	5.6		* 6.3				
Max Green Setting (Gmax), s	4.4	42.4		* 36	4.3	42.5		* 36				
Max Q Clear Time (g_c+I1), s	2.4	0.0		3.2	0.0	0.0		3.8				
Green Ext Time (p_c), s	0.0	0.0		0.1	0.0	0.0		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	8.0
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
8: Breckenridge Ln & Deebet Dr/Hillbrook Dr & KY 1932

12/06/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR	NWR2
Lane Configurations												
Traffic Volume (veh/h)	48	0	32	28	3	118	124	1451	77	31	1303	13
Future Volume (veh/h)	48	0	32	28	3	118	124	1451	77	31	1303	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No		No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	50	0	33	29	3	123	129	129	80	32	14	14
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	128	0	273	43	18	140	236	236	128	228	25	25
Arrive On Green	0.17	0.00	0.17	0.17	0.17	0.17	0.03	0.03	0.70	0.01	0.23	0.23
Sat Flow, veh/h	511	0	1585	109	102	813	1781	1781	183	1781	36	36
Grp Volume(v), veh/h	50	0	33	155	0	0	129	129	803	32	728	728
Grp Sat Flow(s),veh/h/ln	511	0	1585	1024	0	0	1781	1781	1837	1781	1864	1864
Q Serve(g_s), s	0.0	0.0	3.2	8.9	0.0	0.0	3.9	3.9	42.1	1.0	62.5	62.5
Cycle Q Clear(g_c), s	19.3	0.0	3.2	28.2	0.0	0.0	3.9	3.9	42.1	1.0	62.5	62.5
Prop In Lane	1.00		1.00	0.19		0.79	1.00	1.00	0.10	1.00	0.02	0.02
Lane Grp Cap(c), veh/h	128	0	273	200	0	0	236	236	1284	228	1279	1279
V/C Ratio(X)	0.39	0.00	0.12	0.77	0.00	0.00	0.55	0.55	0.63	0.14	0.57	0.57
Avail Cap(c_a), veh/h	257	0	435	358	0	0	417	417	1284	431	1279	1279
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.6	0.0	62.9	73.2	0.0	0.0	23.6	23.6	14.5	12.9	46.0	46.0
Incr Delay (d2), s/veh	1.9	0.0	0.2	6.2	0.0	0.0	2.0	2.0	2.3	0.3	1.8	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	1.3	7.5	0.0	0.0	2.9	2.9	17.9	0.4	32.1	32.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.5	0.0	63.1	79.4	0.0	0.0	25.6	25.6	16.8	13.2	47.8	47.8
LnGrp LOS	E	A	E	E	A	A	C	C	B	B	D	D
Approach Vol, veh/h		83			155		1720	1720		1403		
Approach Delay, s/veh		68.2			79.4		17.5	17.5		47.1		
Approach LOS		E			E		B	B		D		

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.7	129.6		37.7	10.5	131.9		37.7
Change Period (Y+Rc), s	6.5	* 6.1		6.6	6.5	* 6.1		6.6
Max Green Setting (Gmax), s	24.5	* 87		49.4	24.5	* 87		49.4
Max Q Clear Time (g_c+I1), s	5.9	64.5		21.3	3.0	0.0		30.2
Green Ext Time (p_c), s	0.3	9.7		0.3	0.0	0.0		0.8

Intersection Summary	
HCM 6th Ctrl Delay	34.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Diane Zimmerman	Intersection	Breckenridge at Berkshire
Agency/Co.	Diane B Zimmerman Traffic Engineering	Jurisdiction	
Date Performed	4/9/2018	East/West Street	Berkshire/Entrance
Analysis Year	2017	North/South Street	Breckenridge
Time Analyzed	AM Peak	Peak Hour Factor	0.96
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Advanced ENT		

Lanes

Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	2	0	0	1	2	0
Configuration							LR				T	TR		L	T	
Volume, V (veh/h)						3		68			1771	18		22	675	
Percent Heavy Vehicles (%)						1		1						1		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Left Only								2						

Critical and Follow-up Headways

Base Critical Headway (sec)						7.5		6.9						4.1		
Critical Headway (sec)						6.82		6.92						4.12		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.51		3.31						2.21		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							74							23		
Capacity, c (veh/h)							282							324		
v/c Ratio							0.26							0.07		
95% Queue Length, Q_{95} (veh)							1.0							0.2		
Control Delay (s/veh)							22.2							17.0		
Level of Service, LOS							C							C		
Approach Delay (s/veh)						22.2								0.5		
Approach LOS						C										

HCS7™ TWSC Version 7.4
AM Build Existing.xtw

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HCM 6th Signalized Intersection Summary
504: Breckenridge Ln & Taylorsville Rd

12/06/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	730	322	99	569	273	150	861	41	291	1095	87
Future Volume (veh/h)	56	730	322	99	569	273	150	861	41	291	1095	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	58	760	335	103	593	284	156	897	0	303	1141	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	74	785	350	121	879	392	296	1342		321	1392	
Arrive On Green	0.04	0.22	0.22	0.14	0.49	0.49	0.05	0.12	0.00	0.18	0.39	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3647	0	1781	3554	1585
Grp Volume(v), veh/h	58	760	335	103	593	284	156	897	0	303	1141	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	0	1781	1777	1585
Q Serve(g_s), s	5.8	38.1	37.6	10.2	22.8	25.4	15.3	43.4	0.0	30.2	51.8	0.0
Cycle Q Clear(g_c), s	5.8	38.1	37.6	10.2	22.8	25.4	15.3	43.4	0.0	30.2	51.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	74	785	350	121	879	392	296	1342		321	1392	
V/C Ratio(X)	0.79	0.97	0.96	0.85	0.67	0.72	0.53	0.67		0.94	0.82	
Avail Cap(c_a), veh/h	165	843	376	165	879	392	296	1342		341	1392	
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.99	0.99	0.99	0.74	0.74	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	85.5	69.5	69.2	76.9	40.0	40.6	78.2	68.0	0.0	72.8	49.1	0.0
Incr Delay (d2), s/veh	16.7	22.7	34.1	25.4	2.0	6.4	1.3	2.0	0.0	33.2	5.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	19.8	18.5	5.2	8.7	9.1	7.5	21.3	0.0	16.8	24.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	102.2	92.1	103.3	102.4	42.0	47.1	79.5	70.0	0.0	106.1	54.6	0.0
LnGrp LOS	F	F	F	F	D	D	E	E		F	D	
Approach Vol, veh/h		1153			980			1053	A		1444	A
Approach Delay, s/veh		95.9			49.8			71.4			65.4	
Approach LOS		F			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	40.0	75.5	18.5	46.1	37.4	78.0	13.7	50.8
Change Period (Y+Rc), s	7.5	7.5	* 6.3	* 6.3	7.5	7.5	* 6.3	* 6.3
Max Green Setting (Gmax), s	34.5	58.5	* 17	* 43	22.5	70.5	* 17	* 43
Max Q Clear Time (g_c+I1), s	32.2	45.4	12.2	39.6	17.3	0.0	7.8	27.4
Green Ext Time (p_c), s	0.2	2.5	0.1	0.2	0.2	0.0	0.1	0.3

Intersection Summary	
HCM 6th Ctrl Delay	71.1
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
533: Breckenridge Ln & Hikes Ln

12/06/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	162	388	179	166	494	112	156	849	112	69	1152	158
Future Volume (veh/h)	162	388	179	166	494	112	156	849	112	69	1152	158
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	169	404	186	173	515	117	162	884	117	72	1200	165
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	453	206	159	550	124	206	1697	225	90	1484	203
Arrive On Green	0.09	0.19	0.19	0.09	0.19	0.19	0.23	1.00	1.00	0.02	0.16	0.16
Sat Flow, veh/h	1781	2373	1080	1781	2879	651	1781	3155	418	1781	3140	430
Grp Volume(v), veh/h	169	301	289	173	317	315	162	498	503	72	677	688
Grp Sat Flow(s),veh/h/ln	1781	1777	1676	1781	1777	1753	1781	1777	1795	1781	1777	1793
Q Serve(g_s), s	16.1	29.7	30.3	16.1	31.6	31.9	15.4	0.0	0.0	7.3	66.2	66.7
Cycle Q Clear(g_c), s	16.1	29.7	30.3	16.1	31.6	31.9	15.4	0.0	0.0	7.3	66.2	66.7
Prop In Lane	1.00		0.64	1.00		0.37	1.00		0.23	1.00		0.24
Lane Grp Cap(c), veh/h	159	339	320	159	339	335	206	956	966	90	840	848
V/C Ratio(X)	1.06	0.89	0.90	1.09	0.93	0.94	0.79	0.52	0.52	0.80	0.81	0.81
Avail Cap(c_a), veh/h	159	356	336	159	356	352	206	956	966	159	840	848
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	0.83	0.83	0.83	0.83	0.83	0.83	0.60	0.60	0.60
Uniform Delay (d), s/veh	81.9	70.9	71.2	81.9	71.7	71.8	67.1	0.0	0.0	87.6	68.0	68.2
Incr Delay (d2), s/veh	88.4	22.1	25.6	89.7	27.0	28.7	15.3	1.7	1.7	9.5	5.1	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.3	15.6	15.3	11.4	16.9	17.0	7.2	0.4	0.4	3.7	33.1	33.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	170.3	93.0	96.7	171.6	98.6	100.5	82.4	1.7	1.7	97.1	73.0	73.4
LnGrp LOS	F	F	F	F	F	F	F	A	A	F	E	E
Approach Vol, veh/h		759			805			1163			1437	
Approach Delay, s/veh		111.6			115.1			12.9			74.4	
Approach LOS		F			F			B			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.7	91.0	22.0	40.3	15.0	102.8	22.0	40.3
Change Period (Y+Rc), s	* 5.9	* 5.9	* 5.9	* 5.9	* 5.9	* 5.9	* 5.9	* 5.9
Max Green Setting (Gmax), s	* 19	* 85	* 16	* 36	* 16	* 88	* 16	* 36
Max Q Clear Time (g_c+I1), s	17.4	68.7	18.1	32.3	9.3	2.0	18.1	33.9
Green Ext Time (p_c), s	0.1	3.9	0.0	0.7	0.1	2.8	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	71.9
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
552: Breckenridge Ln & McMahon Ctr

12/06/2017

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	15	0	237	5	174	0	1000	75	149	1324	24
Future Volume (veh/h)	17	15	0	237	5	174	0	1000	75	149	1324	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	16	0	247	5	181	0	1042	78	155	1379	25
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	388	0	316	6	329	1	2003	150	174	2594	47
Arrive On Green	0.21	0.21	0.00	0.21	0.21	0.21	0.00	0.60	0.60	0.20	1.00	1.00
Sat Flow, veh/h	1198	1870	0	1331	27	1585	1781	3351	251	1781	3571	65
Grp Volume(v), veh/h	18	16	0	252	0	181	0	552	568	155	686	718
Grp Sat Flow(s),veh/h/ln	1198	1870	0	1358	0	1585	1781	1777	1825	1781	1777	1859
Q Serve(g_s), s	2.7	1.2	0.0	31.5	0.0	18.4	0.0	32.7	32.7	15.3	0.0	0.0
Cycle Q Clear(g_c), s	35.4	1.2	0.0	32.7	0.0	18.4	0.0	32.7	32.7	15.3	0.0	0.0
Prop In Lane	1.00		0.00	0.98		1.00	1.00		0.14	1.00		0.03
Lane Grp Cap(c), veh/h	71	388	0	321	0	329	1	1062	1091	174	1291	1350
V/C Ratio(X)	0.25	0.04	0.00	0.78	0.00	0.55	0.00	0.52	0.52	0.89	0.53	0.53
Avail Cap(c_a), veh/h	80	402	0	332	0	341	93	1062	1091	291	1291	1350
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.41	0.41	0.41
Uniform Delay (d), s/veh	86.7	57.0	0.0	70.1	0.0	63.8	0.0	21.1	21.1	71.5	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.0	0.0	11.4	0.0	1.8	0.0	1.8	1.8	8.0	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.6	0.0	12.4	0.0	7.7	0.0	14.2	14.6	6.8	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.6	57.1	0.0	81.4	0.0	65.6	0.0	23.0	22.9	79.5	0.6	0.6
LnGrp LOS	F	E	A	F	A	E	A	C	C	E	A	A
Approach Vol, veh/h		34			433			1120			1559	
Approach Delay, s/veh		73.7			74.8			22.9			8.5	
Approach LOS		E			E			C			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	23.2	113.2		43.7	0.0	136.3		43.7				
Change Period (Y+Rc), s	5.6	5.6		* 6.3	5.6	5.6		* 6.3				
Max Green Setting (Gmax), s	29.4	94.4		* 39	9.4	114.4		* 39				
Max Q Clear Time (g_c+I1), s	17.3	0.0		34.7	0.0	0.0		37.4				
Green Ext Time (p_c), s	0.3	0.0		0.6	0.0	0.0		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	23.5
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
8: Breckenridge Ln & Deebet Dr/Hillbrook Dr & KY 1932

04/09/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SBL2	SBL	SBR	NWL	NWR	NWR2
Lane Configurations												
Traffic Volume (veh/h)	48	0	32	28	3	118	124	1432	77	31	1303	13
Future Volume (veh/h)	48	0	32	28	3	118	124	1432	77	31	1303	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No		No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	50	0	33	29	3	123	129	129	80	32	14	14
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	128	0	273	43	18	140	236	236	129	233	25	25
Arrive On Green	0.17	0.00	0.17	0.17	0.17	0.17	0.03	0.03	0.70	0.01	0.23	0.23
Sat Flow, veh/h	511	0	1585	109	102	813	1781	1781	185	1781	36	36
Grp Volume(v), veh/h	50	0	33	155	0	0	129	129	794	32	728	728
Grp Sat Flow(s),veh/h/ln	511	0	1585	1024	0	0	1781	1781	1837	1781	1864	1864
Q Serve(g_s), s	0.0	0.0	3.2	8.9	0.0	0.0	3.9	3.9	41.3	1.0	62.5	62.5
Cycle Q Clear(g_c), s	19.3	0.0	3.2	28.2	0.0	0.0	3.9	3.9	41.3	1.0	62.5	62.5
Prop In Lane	1.00		1.00	0.19		0.79	1.00	1.00	0.10	1.00	0.02	0.02
Lane Grp Cap(c), veh/h	128	0	273	200	0	0	236	236	1283	233	1279	1279
V/C Ratio(X)	0.39	0.00	0.12	0.77	0.00	0.00	0.55	0.55	0.62	0.14	0.57	0.57
Avail Cap(c_a), veh/h	257	0	435	358	0	0	417	417	1283	436	1279	1279
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.6	0.0	62.9	73.2	0.0	0.0	23.6	23.6	14.4	12.7	46.0	46.0
Incr Delay (d2), s/veh	1.9	0.0	0.2	6.2	0.0	0.0	2.0	2.0	2.2	0.3	1.8	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	1.3	7.5	0.0	0.0	2.9	2.9	17.5	0.4	32.1	32.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.5	0.0	63.1	79.4	0.0	0.0	25.6	25.6	16.6	12.9	47.8	47.8
LnGrp LOS	E	A	E	E	A	A	C	C	B	B	D	D
Approach Vol, veh/h		83			155		1701	1701		1403		
Approach Delay, s/veh		68.2			79.4		17.3	17.3		47.1		
Approach LOS		E			E		B	B		D		

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.7	129.6		37.7	10.5	131.9		37.7				
Change Period (Y+Rc), s	6.5	* 6.1		6.6	6.5	* 6.1		6.6				
Max Green Setting (Gmax), s	24.5	* 87		49.4	24.5	* 87		49.4				
Max Q Clear Time (g_c+I1), s	5.9	64.5		21.3	3.0	0.0		30.2				
Green Ext Time (p_c), s	0.3	9.7		0.3	0.0	0.0		0.8				

Intersection Summary	
HCM 6th Ctrl Delay	34.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	Diane Zimmerman	Intersection	Breckenridge at Berkshire
Agency/Co.	Diane B Zimmerman Traffic Engineering	Jurisdiction	
Date Performed	4/9/2018	East/West Street	Berkshire/Entrance
Analysis Year	2017	North/South Street	Breckenridge
Time Analyzed	PM Peak	Peak Hour Factor	0.96
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Advanced ENT		

Lanes

Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	1	0		0	1	0	0	1	2	0	0	1	2	0
Configuration		L		TR			LTR			L	T	TR		L	T	TR
Volume, V (veh/h)		39	4	35		0	2	59		13	1302	26		114	1498	16
Percent Heavy Vehicles (%)		1	1	1		1	1	1		1				1		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Left Only								1						

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		41		41			64			14				119		
Capacity, c (veh/h)		40		166			221			418				497		
v/c Ratio		1.02		0.24			0.29			0.03				0.24		
95% Queue Length, Q_{95} (veh)		4.0		0.9			1.1			0.1				0.9		
Control Delay (s/veh)		303.3		33.1			27.7			13.9				14.5		
Level of Service, LOS		F		D			D			B				B		
Approach Delay (s/veh)		168.2				27.7				0.1				1.0		
Approach LOS		F				D										

HCS7™ TWSC Version 7.4
PM Build Medical.xtw

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HCM 6th Signalized Intersection Summary
504: Breckenridge Ln & Taylorsville Rd

04/09/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	730	322	99	569	277	150	867	41	302	1111	95
Future Volume (veh/h)	59	730	322	99	569	277	150	867	41	302	1111	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	760	335	103	593	289	156	903	0	315	1157	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	785	350	121	872	389	296	1320		332	1392	
Arrive On Green	0.04	0.22	0.22	0.14	0.49	0.49	0.05	0.12	0.00	0.19	0.39	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3647	0	1781	3554	1585
Grp Volume(v), veh/h	61	760	335	103	593	289	156	903	0	315	1157	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	0	1781	1777	1585
Q Serve(g_s), s	6.1	38.1	37.6	10.2	22.9	26.3	15.3	43.8	0.0	31.5	52.9	0.0
Cycle Q Clear(g_c), s	6.1	38.1	37.6	10.2	22.9	26.3	15.3	43.8	0.0	31.5	52.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	77	785	350	121	872	389	296	1320		332	1392	
V/C Ratio(X)	0.79	0.97	0.96	0.85	0.68	0.74	0.53	0.68		0.95	0.83	
Avail Cap(c_a), veh/h	165	843	376	165	872	389	296	1320		341	1392	
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.99	0.99	0.99	0.73	0.73	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	86.3	69.5	69.2	76.9	40.4	41.3	78.2	68.9	0.0	72.3	49.4	0.0
Incr Delay (d2), s/veh	16.3	22.7	34.1	25.4	2.1	7.4	1.3	2.1	0.0	34.8	5.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	19.8	18.5	5.2	8.8	9.5	7.5	21.5	0.0	17.6	24.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	101.6	92.1	103.3	102.4	42.5	48.7	79.4	71.0	0.0	107.2	55.3	0.0
LnGrp LOS	F	F	F	F	D	D	E	E		F	E	
Approach Vol, veh/h		1156			985			1059	A		1472	A
Approach Delay, s/veh		95.9			50.6			72.2			66.4	
Approach LOS		F			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	41.1	74.3	18.5	46.1	37.4	78.0	14.1	50.5
Change Period (Y+Rc), s	7.5	7.5	* 6.3	* 6.3	7.5	7.5	* 6.3	* 6.3
Max Green Setting (Gmax), s	34.5	58.5	* 17	* 43	22.5	70.5	* 17	* 43
Max Q Clear Time (g_c+I1), s	33.5	45.8	12.2	39.6	17.3	0.0	8.1	28.3
Green Ext Time (p_c), s	0.1	2.5	0.1	0.2	0.2	0.0	0.1	0.3

Intersection Summary	
HCM 6th Ctrl Delay	71.7
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
533: Breckenridge Ln & Hikes Ln

04/09/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	162	388	179	166	494	112	156	855	112	69	1168	158
Future Volume (veh/h)	162	388	179	166	494	112	156	855	112	69	1168	158
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	169	404	186	173	515	117	162	891	117	72	1217	165
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	453	206	159	550	124	206	1699	223	90	1487	201
Arrive On Green	0.09	0.19	0.19	0.09	0.19	0.19	0.23	1.00	1.00	0.02	0.16	0.16
Sat Flow, veh/h	1781	2373	1080	1781	2879	651	1781	3158	415	1781	3146	425
Grp Volume(v), veh/h	169	301	289	173	317	315	162	501	507	72	685	697
Grp Sat Flow(s),veh/h/ln	1781	1777	1676	1781	1777	1753	1781	1777	1796	1781	1777	1794
Q Serve(g_s), s	16.1	29.7	30.3	16.1	31.6	31.9	15.4	0.0	0.0	7.3	67.1	67.7
Cycle Q Clear(g_c), s	16.1	29.7	30.3	16.1	31.6	31.9	15.4	0.0	0.0	7.3	67.1	67.7
Prop In Lane	1.00		0.64	1.00		0.37	1.00		0.23	1.00		0.24
Lane Grp Cap(c), veh/h	159	339	320	159	339	335	206	956	966	90	840	848
V/C Ratio(X)	1.06	0.89	0.90	1.09	0.93	0.94	0.79	0.52	0.52	0.80	0.82	0.82
Avail Cap(c_a), veh/h	159	356	336	159	356	352	206	956	966	159	840	848
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	0.83	0.83	0.83	0.83	0.83	0.83	0.58	0.58	0.58
Uniform Delay (d), s/veh	81.9	70.9	71.2	81.9	71.7	71.8	67.1	0.0	0.0	87.6	68.4	68.6
Incr Delay (d2), s/veh	88.4	22.1	25.6	89.7	27.0	28.7	15.3	1.7	1.7	9.2	5.2	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.3	15.6	15.3	11.4	16.9	17.0	7.2	0.5	0.5	3.7	33.5	34.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	170.3	93.0	96.7	171.6	98.6	100.5	82.4	1.7	1.7	96.9	73.5	73.9
LnGrp LOS	F	F	F	F	F	F	F	A	A	F	E	E
Approach Vol, veh/h		759			805			1170			1454	
Approach Delay, s/veh		111.6			115.1			12.9			74.9	
Approach LOS		F			F			B			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.7	91.0	22.0	40.3	15.0	102.8	22.0	40.3
Change Period (Y+Rc), s	* 5.9	* 5.9	* 5.9	* 5.9	* 5.9	* 5.9	* 5.9	* 5.9
Max Green Setting (Gmax), s	* 19	* 85	* 16	* 36	* 16	* 88	* 16	* 36
Max Q Clear Time (g_c+I1), s	17.4	69.7	18.1	32.3	9.3	2.0	18.1	33.9
Green Ext Time (p_c), s	0.1	3.9	0.0	0.7	0.1	2.8	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	71.9
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
552: Breckenridge Ln & McMahon Ctr

04/09/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	15	0	237	5	174	0	1006	75	149	1340	24
Future Volume (veh/h)	17	15	0	237	5	174	0	1006	75	149	1340	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	16	0	247	5	181	0	1048	78	155	1396	25
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	388	0	316	6	329	1	2004	149	174	2595	46
Arrive On Green	0.21	0.21	0.00	0.21	0.21	0.21	0.00	0.60	0.60	0.20	1.00	1.00
Sat Flow, veh/h	1198	1870	0	1331	27	1585	1781	3353	249	1781	3572	64
Grp Volume(v), veh/h	18	16	0	252	0	181	0	555	571	155	694	727
Grp Sat Flow(s),veh/h/ln	1198	1870	0	1358	0	1585	1781	1777	1825	1781	1777	1859
Q Serve(g_s), s	2.7	1.2	0.0	31.5	0.0	18.4	0.0	32.9	32.9	15.3	0.0	0.0
Cycle Q Clear(g_c), s	35.4	1.2	0.0	32.7	0.0	18.4	0.0	32.9	32.9	15.3	0.0	0.0
Prop In Lane	1.00		0.00	0.98		1.00	1.00		0.14	1.00		0.03
Lane Grp Cap(c), veh/h	71	388	0	321	0	329	1	1062	1091	174	1291	1350
V/C Ratio(X)	0.25	0.04	0.00	0.78	0.00	0.55	0.00	0.52	0.52	0.89	0.54	0.54
Avail Cap(c_a), veh/h	80	402	0	332	0	341	93	1062	1091	291	1291	1350
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.40	0.40	0.40
Uniform Delay (d), s/veh	86.7	57.0	0.0	70.1	0.0	63.8	0.0	21.2	21.2	71.5	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.0	0.0	11.4	0.0	1.8	0.0	1.8	1.8	7.8	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.6	0.0	12.4	0.0	7.7	0.0	14.3	14.7	6.8	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.6	57.1	0.0	81.4	0.0	65.6	0.0	23.0	23.0	79.3	0.6	0.6
LnGrp LOS	F	E	A	F	A	E	A	C	C	E	A	A
Approach Vol, veh/h		34			433			1126			1576	
Approach Delay, s/veh		73.7			74.8			23.0			8.4	
Approach LOS		E			E			C			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	23.2	113.2		43.7	0.0	136.3		43.7				
Change Period (Y+Rc), s	5.6	5.6		* 6.3	5.6	5.6		* 6.3				
Max Green Setting (Gmax), s	29.4	94.4		* 39	9.4	114.4		* 39				
Max Q Clear Time (g_c+I1), s	17.3	0.0		34.7	0.0	0.0		37.4				
Green Ext Time (p_c), s	0.3	0.0		0.6	0.0	0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			23.4									
HCM 6th LOS			C									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

VARIANCE JUSTIFICATION ADDENDUM
2944 Breckenridge Lane
Advanced ENT Holdings of St. Matthews, LLC, Applicant

Variance Request. A Variance is requested from Land Development Code §5. 1.12.B.2.a to vary the Breckenridge Lane Infill Front Setback to allow the medical office building on Tract 2 to be situated 10 feet back from the front (Breckinridge Lane) right-of-way line, as opposed to being situated a distance between (1) the adjacent office building to the south, which is 25-feet from the Breckinridge Lane right-of-way, and (2) the Royal Oaks Condominiums building to the north, which is 40-feet from the Breckinridge Lane right-of-way.

1. **Explain how the variance will not adversely affect the public health, safety or welfare.**

   The infill setback would be between 25 and 40 feet from Breckenridge Lane as established by the adjacent office building in "The Point" [the Andrew Jacobs Partnership property shown on the development plan] and the adjacent Royal Oaks Condominium building, which is 40 feet from Breckinridge Lane. The proposed variance will have no effect on the public health, safety or welfare because the distance the proposed building lies from Breckinridge Lane poses no issues affecting the public health, the public safety or the general welfare of the public. Moreover, placing the building as close to Breckinridge Lane as possible means that it will be located as far away from the Royal Oaks Condominium development as possible, which promotes the public welfare.

2. **Explain how the variance will not alter the essential character of the general vicinity.**

   The variance for the office building will not alter the essential character of the general vicinity because much of the existing vicinity, including the office complex to the south is used for non-residential purposes. Hence, the variance will not alter the essential character of the general vicinity.

3. **Explain how the variance will not cause a hazard or a nuisance to the public.**

   The variance will not cause a hazard or nuisance to the public because the office setback will not create a hazardous circumstance or a nuisance to the public because the building will be setback a typical distance from the street.

4. **Explain how the variance will not allow an unreasonable circumvention of the requirements of the zoning regulations.**

   The variance will not allow an unreasonable circumvention of the requirements of the zoning regulations because a typical setback from Breckenridge Lane will be observed.

Additional considerations

1. **Explain how the variance arises from special circumstances, which do not generally apply to land in the general vicinity (please specify/identify).**

   The location of the proposed medical office building has been determined, in large part, by the desire to keep the primary medical office building of the development as far as possible away from residences in the immediate vicinity. As such, the variance arises from special circumstances which do not apply to land in the general vicinity.

2. **Explain how the strict application of the provisions of the regulation would deprive the applicant of the reasonable use of the land or would create unnecessary hardship.**

   The strict application of the regulation would prevent the Applicant from locating a medical office building at this location, which would both deprive the Applicant of sufficient parking area for patients of the Applicant. As such, this would deprive the Applicant of the reasonable use of the land and would create an unnecessary hardship on the Applicant [because it would prevent having adequate number of parking spaces on-site].

3. **Are the circumstances the result of actions of the applicant taken subsequent to the adoption of the regulation from which relief is sought?**

   No. The circumstances giving rise to the variance application are the result of the necessity to have a sufficient number of parking spaces on the site for medical patients, and to keep the primary medical office building as far away from adjacent residential uses as possible. These circumstances do not arise as a result of actions of the Applicant taken subsequent to the adoption of the regulations.

-VARIANCE JUSTIFICATION ADDENDUM
2944 Breckenridge Lane
Advanced ENT Holdings of St. Matthews, LLC, Applicant

Variance Requests. Variances are requested from Land Development Code §5.3.1.C.5 Table 5.3.2 to vary the 30-foot non-residential-to-residential setback for (1) the encroachment of the pavement adjacent to 2936 Breckinridge Lane on the north side of the property, and (2) the encroachment of the pavement and dumpster enclosure adjacent to the Ty Haskell LLC property [2903 Lightheart Road].

1. **Explain how the variances will not adversely affect the public health, safety or welfare.**

   Tract 1. The variance will reduce the 30-foot setback by only about 10 feet to accommodate the driveway of the development.

   Tract 2. The variance will reduce the 30-foot setback by only about 10 feet to accommodate the dumpster enclosure and pavement. The reduced setback will abut a rear parking area on the Ty Haskell LLC property.

   Because of where they are situated these proposed variances will have no effect on the public health, safety or welfare because the smaller setback does not present any issue affecting public health, safety or the general welfare of the public.

2. **Explain how the variances will not alter the essential character of the general vicinity.**

   The variances are not of sufficient magnitude to alter the essential character of the general vicinity.

3. **Explain how the variance will not cause a hazard or a nuisance to the public.**

   The variances will not cause a hazard or nuisance to the public because the reduced setbacks are not of a sufficient magnitude to create a hazardous circumstance or a nuisance to the public.

4. **Explain how the variance will not allow an unreasonable circumvention of the requirements of the zoning regulations.**

   The variance will not allow an unreasonable circumvention of the requirements of the zoning regulations because the encroachment into the setbacks do not impact adjacent property owners and they are minimal encroachments.

Additional considerations

1. **Explain how the variances arise from special circumstances, which do not generally apply to land in the general vicinity (please specify/identify).**

   The location of the proposed medical office building has been determined, in large part, by the desire to keep the primary medical office building of the development as far as possible away from residences in the immediate vicinity. This requires the placement of the dumpster enclosure at a location away from residential neighbors and away from public view. The variance on Tract 1 is not substantial. As such, the variances arise from special circumstances which do not apply to land in the general vicinity.

2. **Explain how the strict application of the provisions of the regulation would deprive the applicant of the reasonable use of the land or would create unnecessary hardship.**

   The strict application of the regulation would prevent the Applicant from locating a medical office building at this location, which would both deprive the Applicant of sufficient parking area for patients of the Applicant. As such, this would deprive the Applicant of the reasonable use of the land and would create an unnecessary hardship on the Applicant [because it would prevent having adequate number of parking spaces on-site].

3. **Are the circumstances the result of actions of the applicant taken subsequent to the adoption of the regulation from which relief is sought?**

   No. The circumstances giving rise to the variance application are the result of the necessity to have a sufficient number of parking spaces on the site for medical patients, and to keep the primary medical office building as far away from adjacent residential uses as possible. These circumstances do not arise as a result of actions of the Applicant.

-VARIANCE JUSTIFICATION ADDENDUM
2944 Breckenridge Lane
Advanced ENT Holdings of St. Matthews, LLC, Applicant

Variance Request. A variance is requested from Land Development Code §5.3.1.C.5 Table 5.3.2 to vary the building height of the medical office building on Tract 2 to allow the peak of the building to be 45-feet tall instead of the prescribed maximum of 30-feet tall.

1. **Explain how the variances will not adversely affect the public health, safety or welfare.**

   The proposed building's architectural elements will not substantially exceed the maximum height. Moreover, the building is set back from Breckinridge Lane and from adjacent residential areas. In addition, the architecture and height add to the visual interest of the building and allows space for necessary medical-related mechanical facilities.

2. **Explain how the variances will not alter the essential character of the general vicinity.**

   The variances are not of sufficient magnitude to alter the essential character of the general vicinity.

3. **Explain how the variance will not cause a hazard or a nuisance to the public.**

   The variances will not cause a hazard or nuisance to the public because the height variance is insubstantial, and the building is not located near other buildings.

4. **Explain how the variance will not allow an unreasonable circumvention of the requirements of the zoning regulations.**

   The variance will not allow an unreasonable circumvention of the requirements of the zoning regulations because the height variance will be insubstantial.

Additional considerations

1. **Explain how the variances arise from special circumstances, which do not generally apply to land in the general vicinity (please specify/identify).**

   It is difficult to design and build a medical office building without providing a *per-floor* height of 15.5 feet. Typical ceiling heights are 10-feet. Typical interstitial space for mechanical, electric, and structural to accommodate typical VAV requirements will

require a *per floor* height of 14'-6" to 15'-6". Because this building is the primary medical office building in the vicinity this situation constitutes a special circumstance not generally applying to land in the general vicinity.

2. **Explain how the strict application of the provisions of the regulation would deprive the applicant of the reasonable use of the land or would create unnecessary hardship.**

   The strict application of the regulation would prevent the Applicant from constructing its medical office building at this location, which would both deprive the Applicant of its ability to construct the building. This would deprive the Applicant of the reasonable use of the land and would create an unnecessary hardship on the Applicant.

3. **Are the circumstances the result of actions of the applicant taken subsequent to the adoption of the regulation from which relief is sought?**

   No. The circumstances giving rise to the variance application are the result of the necessity to have sufficient height for a modern medical office building. These circumstances do not arise as a result of actions of the Applicant.

WAIVER REQUEST
Land Development Code §10.2.4
Advanced ENT Holdings of St. Matthews, LLC, Applicant

The Applicant, Advanced ENT Holdings of St. Matthews, LLC, respectfully requests a waiver from Land Development Code §10.2.4 to waive the encroachment of proposed pavement into the 35-foot Landscape Buffer Area (north side of site).

1. **Will the waiver adversely affect adjacent property owners?**

   No. The only property affected by this request is the adjacent property owned by Colston, Inc. [DB 4872, P 915], which has one residential condominium building and a tennis court. This property is presently being held for sale for commercial purposes.

2. **Will the waiver violate the Comprehensive Plan?**

   No. The applicable Policy of the Comprehensive Plan in question is Compatibility Guideline 3, Policy 22 "Buffers," which recommends mitigating impacts when incompatible developments occur adjacent to one another. Because the abutting property is likely to be commercial a reduced width buffer on the subject site is appropriate.

3. **Is the extent of the waiver of the regulation the minimum necessary to afford relief to the applicant?**

   Yes. The extent of the waiver is only driven by the necessity to provide vehicular access along the northern portion of the site, and that is the extent of the waiver request.

4. **Has either (a) the applicant incorporated other design measures that exceed the minimums of the district and compensate for non-compliance with the requirements to be waived (net beneficial effect) or would (b) the strict application of the provisions of the regulation deprive the applicant of the reasonable use of the land or would create an unnecessary hardship on the applicant?**

   The strict application of the provisions of the regulation would deprive the applicant of the reasonable use of the land and would create an unnecessary hardship on the applicant. The purpose of the drive aisle along the north side of Tract 1 is to provide access to and from the traffic signal (in front of Tract 1 across from Berkshire Avenue) (a) to provide safe entry and exit for patients and employees of the medical office building on Tract 2, and (b) to provide safe entry and exit for customers and employees of the gas/C-store on Tract 1.

DEMONSTRATION OF APPROPRIATENESS
[Revised May 3, 2018]
2944 Breckenridge Lane
Proposal for Zone Change: R-2 and R-5 to OR-3
Advanced ENT Holdings of St. Matthews, LLC, Owner/Developer

Advanced ENT Holdings of St. Matthews, LLC ("Owner/Developer") proposes a map amendment (zone change), a waiver and two (2) variances to permit a 6,000 square foot ("SF") medical office building on Tract 1 and a 25,470 SF medical office building on Tract 2. The map amendment seeks a change from R-2 and R-5 to OR-3 Office/Residential District on the properties which are the subject of this zone change request "Subject Properties").

The proposed map amendment (the "Proposal") conforms to KRS 100.213 because it is in agreement with the Comprehensive Plan, as detailed in this Demonstration of Appropriateness. Conformance with specific Goals, Objectives, Guidelines and Policies are discussed hereinbelow.

Community Form Guideline 1. The Proposal conforms to Community Form Guideline 1 and all applicable Policies adopted thereunder, including Policy 1.B.3. because the site lies within the Neighborhood Form District and the Proposal is consistent therewith. The proposal is adjacent to a large activity center. It directly abuts office use, commercial and multi-family uses and zones. The proposed scale of the development is appropriate for the area because the activity center contains a mixture of scales supporting large and small retail uses. Breckenridge Lane is a minor arterial roadway.

Centers Guideline 2. The Proposal conforms to Centers Guideline 2 and all applicable Policies adopted thereunder, including Policies 2, 3, 4, 5, 6, 13, 15 and 16. The Proposal is adjacent to a large activity center, and it abuts an office development, commercial and multi-family uses and zones. The subject site is in the Neighborhood Form District and the adjacent center is in the Regional Center Form District. The vicinity of this Proposal has a sufficient population base. Residential neighborhoods surround the existing activity center. The proposed land uses are compact, and they utilize most of the land for parking, structures and detention; appropriate landscape buffers will be provided. The proposed parking facilities will be shared; however, spaces are provided on each tract.

Compatibility Guideline 3. The Proposal conforms to Compatibility Guideline 3 and all applicable Policies adopted thereunder, including Policies 1, 2, 4, 5, 6, 7, 8, 9, 12, 21, 22, 23, 24 and 28. Building materials for the medical office building will be brick, glass and EIFS. These building materials will be compatible with other buildings on Breckenridge Lane and will be compatible with residential areas generally to the west of the Subject Properties. The Proposal will have a minimal impact on abutting residential areas and the residential area across Breckenridge Lane behind the Old K-Mart building. Landscaping will be employed as required by Land Development Code Chapter 10. The western property line (at the rear of Tract 1) will provide additional buffer to enhance the

existing buffer between Royal Oaks Condominiums (the abutting multi-family development). All site lighting will conform to Land Development Code ("LDC") Part 4 and will be directed away from adjacent residential areas. Breckenridge Lane is a transit corridor and is served by Transit Authority of River City ("TARC") Route 53 Express and Route 62. Landscaping will be provided as required by LDC Article 10. Except for the variance requests, the Proposal conforms to all setback requirements. Free-standing signs will be monument in style. There will be no changing-image signs.

Open Space Guideline 4. The Proposal conforms to Open Space Guideline 4. The Proposal does not require open space. Nevertheless, the Owner/Developer will work to save all mature trees that can be saved.

Natural Areas and Scenic and Historic Resources Guideline 5. The Proposal conforms to Natural Areas and Scenic and Historic Resources Guideline 5 and all applicable Policies adopted thereunder, including Policies 1, 2, 3, 4, and 6. The site is not located in an area with natural, cultural or historic features. The site has no soils or slopes that would make development difficult or otherwise be prone to soil erosion.

Economic Growth and Sustainability Guideline 6. The Proposal conforms to Economic Growth and Sustainability Guideline 6 and all applicable Policies adopted thereunder, including Policy 6. The development will provide medical office buildings in or adjacent to an activity center.

Circulation Guideline 7. The Proposal conforms to Circulation Guideline 7 and all applicable Policies adopted thereunder, including Policy 1, 2, 3, 6, 9, 10, 13 and 16. The site can accommodate traffic generated to and from the site. Pedestrian facilities are provided to accommodate walkers and transit riders. Bicycle storage facilities will be provided on-site. A pedestrian connection is proposed through the parking lot to connect the office buildings.

Bicycle, Pedestrian and Transit Guideline 9. The Proposal conforms to Bicycle, Pedestrian and Transit Guideline 9 and all applicable Policies adopted thereunder, including Policy 1, 2, 3 and 4. Sidewalks are located along Breckenridge Lane and are proposed to connect the office buildings. Bicycle storage facilities will be provided on both Tract 1 and Tract 2. Breckenridge Lane is a transit route, on which TARC provides service for Route 53 Express and Route 62.

Flooding and Stormwater Guideline 10. The Proposal conforms to Flooding and Stormwater Guideline 10 and all applicable Policies adopted thereunder, including Policies 1, 3, 6, 7, 10 and 11. Surface water management has been analyzed using a watershed-wide model. Impervious surfaces have been minimized wherever possible. A large detention area to the rear of the site has been provided. The Metropolitan Sewer District has approved the development, which indicates, among other things, that stormwater run-off has been adequately accommodated, that "through" drainage systems have been accommodated, and that peak stormwater run-off rates or volumes after

development will be consistent with regional or watershed plans or are being mitigated on-site.

Air Quality Guideline 12. The Proposal conforms to Air Quality Guideline 12 and all applicable Policies adopted thereunder, including Policies 1, 2, 3 and 8. The Louisville Air Pollution Control District has approved the Proposal, which indicates that sufficient measures have been taken to reduce the impacts of air pollution, including the use of alternate modes of transportation such as walking and biking.

Landscape Character Guideline 13. The Proposal conforms to Landscape Character Guideline 13 and all applicable Policies adopted thereunder, including Policies 2, 5 and 6. The site will be landscaped pursuant to the requirements of LDC Article 10. Native plant species will be utilized for buffering and screening and an adequate tree canopy will be provided.

Infrastructure Guideline 14. The Proposal conforms to Infrastructure Guideline 14 and all applicable Policies adopted thereunder, including Policies 2, 3, 4, 6 and 7. An adequate supply of potable water and water for fire-fighting purposes will be provided. Sewer service will be provided by the Metropolitan Sewer District. Utilities will be provided in easements as designated by each utility.

Community Facilities Guideline 15. The Proposal conforms to Community Facilities Guideline 15 and all applicable Policies adopted thereunder, including Policy 9. The site will be adequately served by fire-fighting services of the McMahan Fire Department.

PROPOSED FINDINGS OF FACT
Submitted by:
Advanced ENT Holdings of St. Matthews, LLC, Owner/Developer

WHEREAS, The Planning Commission Finds That the Proposal to change the applicable zoning district on the Subject Properties from R-2 and R-5 to OR-3 Office/Residential District to allow for two medical office buildings conforms to KRS 100.213 because it is in agreement with the Comprehensive Plan, as detailed in these Findings of Fact; and

WHEREAS, The Planning Commission Further Finds That the Proposal conforms to Community Form Guideline 1 and all applicable Policies adopted thereunder, including Policy 1.B.3. because the site lies within the Neighborhood Form District and the Proposal is consistent therewith; because the proposal is adjacent to a large activity center and directly abuts office uses and multi-family uses and zones; because the proposed scale of the development is appropriate for the area in that the activity center contains a mixture of scales supporting large and small retail uses; and because Breckenridge Lane is a minor arterial roadway; and

WHEREAS, The Planning Commission Further Finds That the Proposal conforms to Centers Guideline 2 and all applicable Policies adopted thereunder, including Policies 2, 3, 4, 5, 6, 13, 15 and 16 because the Proposal is adjacent to a large activity center, and it abuts an office development and multi-family uses and zones; because the Subject Properties are in the Neighborhood Form District and an adjacent activity center is in the Regional Center Form District; because the vicinity of this Proposal has a sufficient population base for the development; because residential neighborhoods surround the existing activity center; because the proposed land uses are compact, and they utilize most of the land for parking, structures and detention; because appropriate landscape buffers will be provided; and because the proposed parking facilities will be shared; and

WHEREAS, The Planning Commission Further Finds That the Proposal conforms to Compatibility Guideline 3 and all applicable Policies adopted thereunder, including Policies 1, 2, 4, 5, 6, 7, 8, 9, 12, 21, 22, 23, 24 and 28 because building materials for the medical office building will be brick, glass and EIFS; because these building materials will be compatible with other buildings on Breckenridge Lane and will be compatible with residential areas generally to the west of the Subject Properties; because the Proposal will have a minimal impact on abutting residential areas and the residential area across Breckenridge Lane behind the Old K-Mart building; because landscaping will be employed as required by Land Development Code Chapter 10; because; because all site lighting will conform to Land Development Code ("LDC") Part 4 and will be directed away from adjacent residential areas; because Breckenridge Lane is a transit corridor and is served by Transit Authority of River City ("TARC") Route 53 Express and Route 62; because landscaping will be provided as required by LDC Article 10; because except for the variance requests, the Proposal conforms to all setback requirements; and because free-standing signs will be monument in style and there will be no changing-image signs; and

WHEREAS, The Planning Commission Further Finds That the Proposal conforms to Open Space Guideline 4 because the Proposal does not require open space; and

WHEREAS, The Planning Commission Further Finds That the Proposal conforms to Natural Areas and Scenic and Historic Resources Guideline 5 and all applicable Policies adopted thereunder, including Policies 1, 2, 3, 4, and 6, because the site is not located in an area with natural, cultural or historic features and it has no soils or slopes that would make development difficult or otherwise be prone to soil erosion; and

WHEREAS, The Planning Commission Further Finds That the Proposal conforms to Economic Growth and Sustainability Guideline 6 and all applicable Policies adopted thereunder, including Policy 6 because the development will provide medical services in office buildings in or adjacent to an activity center; and

WHEREAS, The Planning Commission Further Finds That the Proposal conforms to Circulation Guideline 7 and all applicable Policies adopted thereunder, including Policy 1, 2, 3, 6, 9, 10, 13 and 16 because the site can accommodate traffic generated to and from the site; because pedestrian facilities are provided to accommodate walkers and transit riders; because bicycle storage facilities will be provided on-site; and because a pedestrian connection is proposed through the parking lot to connect the office buildings.

WHEREAS, The Planning Commission Further Finds That the Proposal conforms to Bicycle, Pedestrian and Transit Guideline 9 and all applicable Policies adopted thereunder, including Policy 1, 2, 3 and 4 because sidewalks are located along Breckenridge Lane and are proposed to connect the office buildings; because bicycle storage facilities will be provided on both Tract 1 and Tract 2; and because Breckenridge Lane is a transit route, on which TARC provides service for Route 53 Express and Route 62; and

WHEREAS, The Planning Commission Further Finds That the Proposal conforms to Flooding and Stormwater Guideline 10 and all applicable Policies adopted thereunder, including Policies 1, 3, 6, 7, 10 and 11 because surface water management has been analyzed using a watershed-wide model; because impervious surfaces have been minimized wherever possible; because a large detention area to the rear of the site has been provided; because the Metropolitan Sewer District has approved the development, which indicates, among other things, that stormwater run-off has been adequately accommodated, that "through" drainage systems have been accommodated, and that peak stormwater run-off rates or volumes after development will be consistent with regional or watershed plans or are being mitigated on-site; and

WHEREAS, The Planning Commission Further Finds That the Proposal conforms to Air Quality Guideline 12 and all applicable Policies adopted thereunder, including Policies 1, 2, 3 and 8 because the Louisville Air Pollution Control District has approved the Proposal, which indicates that sufficient measures have been taken to reduce the impacts of air pollution, including the use of alternate modes of transportation such as walking and biking; and

WHEREAS, The Planning Commission Further Finds That the Proposal conforms to Landscape Character Guideline 13 and all applicable Policies adopted thereunder, including Policies 2, 5 and 6 because the site will be landscaped pursuant to the requirements of LDC Article 10; because native plant species will be utilized for buffering and screening; and because an adequate tree canopy will be provided; and

WHEREAS, The Planning Commission Further Finds That the Proposal conforms to Infrastructure Guideline 14 and all applicable Policies adopted thereunder, including Policies 2, 3, 4, 6 and 7 because an adequate supply of potable water and water for fire-fighting purposes will be provided; because sewer service will be provided by the Metropolitan Sewer District; and because utilities and utility service will be provided for in easements as designated by each utility; and

WHEREAS, The Planning Commission Further Finds That the Proposal conforms to Community Facilities Guideline 15 and all applicable Policies adopted thereunder, including Policy 9, because the Subject Properties will be adequately served by fire-fighting services of the McMahan Fire Department.

PROPOSED ADDITIONAL BINDING ELEMENTS

1. Office hours for patient visits shall be limited to 6:00 a.m. to 10:00 p.m.

2. Landscaping and screening will be provided on the subject site adjacent to the Royal Oaks Condominium property as required by Chapter 10 of the Land Development Code. A 6 ft tall privacy fence and the required quantity of trees required by Chapter 10 shall be installed on the subject site in the rear property line Landscape Buffer Area.

3. Signs shall conform to the Land Development Code and free-standing signs shall be shown on the approved development plan.

4. Outdoor lighting shall be directed down and away from residential areas. Lighting fixtures shall have a 90-degree cut-off.