Columbia Pedestrian Safety Task Force

City of Columbia Public Works
July 21, 2015
Richard L. Stone II, P.E.

City of Columbia Pedestrian Design Features

Reference manuals, guidelines and policies:

City of Columbia Pedestrian Design Features

Reference manuals, guidelines and policies:

- Code of Ordinances
- MoDOT EPG (Ordinance 14-462)
- Manual on Uniform Traffic Control Devices (MUTCD)
  - The basis for MoDOT's EPG
- AASHTO Green Book –
  - The main roadway engineering design guide
- Americans with Disabilities Act
  - (Title II – PROWAG guidelines are still being developed)

City of Columbia Pedestrian Design Features

Reference manuals, guidelines and policies:

A lot more references – we're engineers and Public Works professionals, it's what we do.

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Recommendations and decisions within context of the main five

City of Columbia Pedestrian Design Features

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Recommendations and decisions within context of the main five

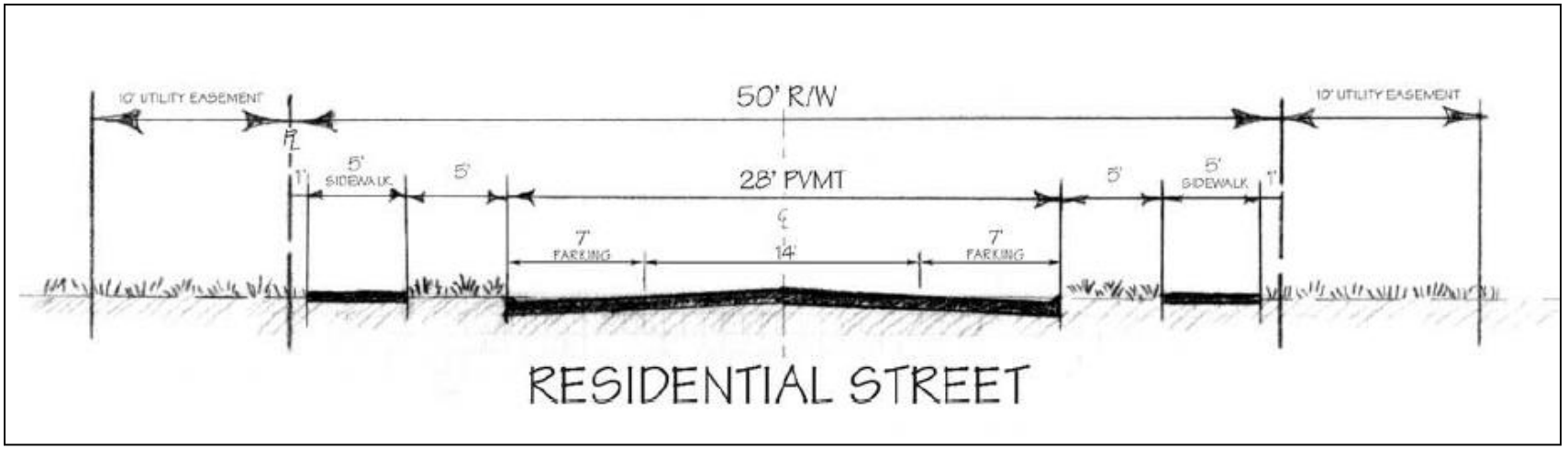
Code of Ordinances includes street standards - adopted 2004

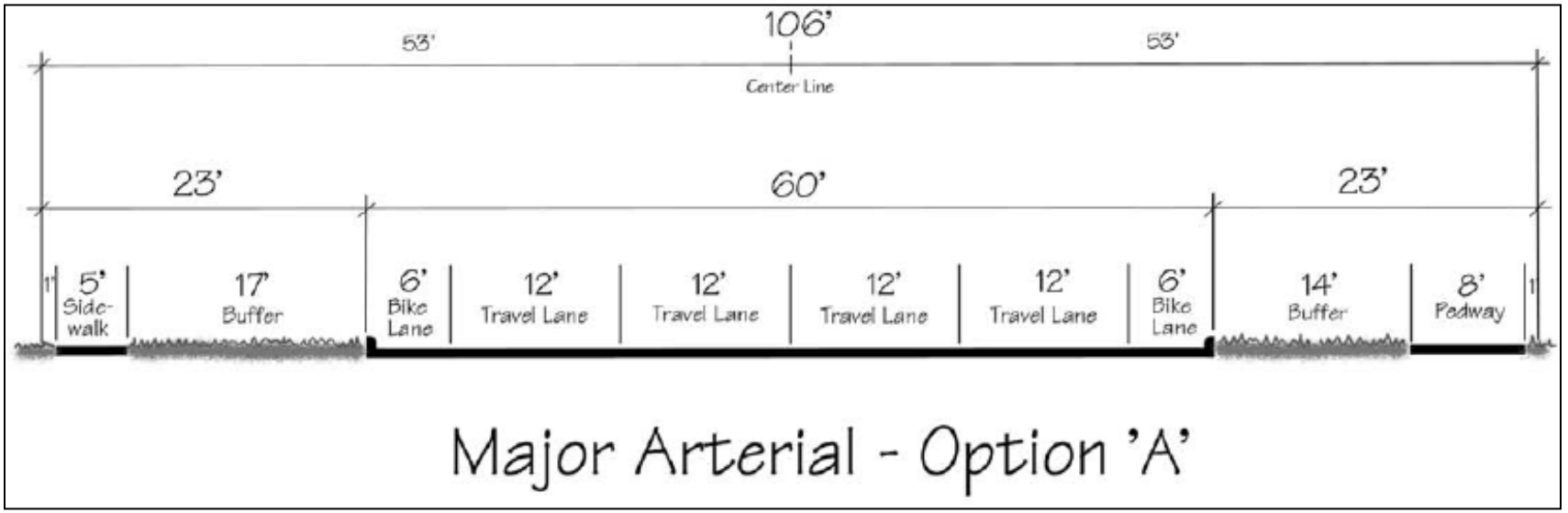
City of Columbia Pedestrian Design Features

The City is committed to a total transportation system

City of Columbia Pedestrian Design Features

Code of Ordinances includes street standards





City of Columbia Pedestrian Design Features

The City is committed to a total transportation system

Built environment has generally been 70+ years in the making

City of Columbia Pedestrian Design Features

The City is committed to a total transportation system

Built environment has generally been 70+ years in the making

Various policy commitments and design changes over that time

City of Columbia Pedestrian Design Features

The City is committed to a total transportation system

City of Columbia Pedestrian Design Features

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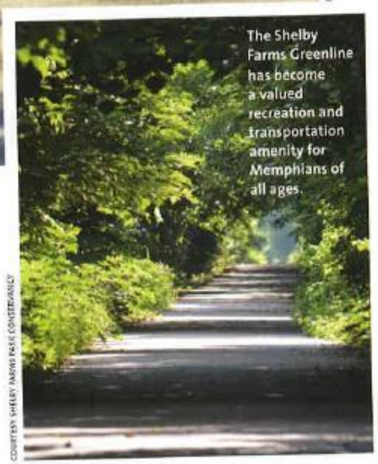
Over the previous five or six years, he had optimistically participated in just about every significant collaboration organized to make Memphis and Shelby County bike friendly. In 2003, for example, he joined a bicycle/pedestrian advisory committee convened by the city's metropolitan planning organization. In 2007, he was part of a community-rallying effort named Greening Greater Memphis. And earlier in 2008, Siracusa had joined a range of environmentally minded individuals in an ongoing



The Shelby Farms Greenline has become a valued recreation and transportation amenity for Memphians of all ages.

Rails to Trails Magazine – Spring 2015

City of Columbia Pedestrian Design Features

Transportation :
The movement of people and goods from one location to another.

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Rails to Trails Magazine – Spring 2015

So folks like these eventually end up

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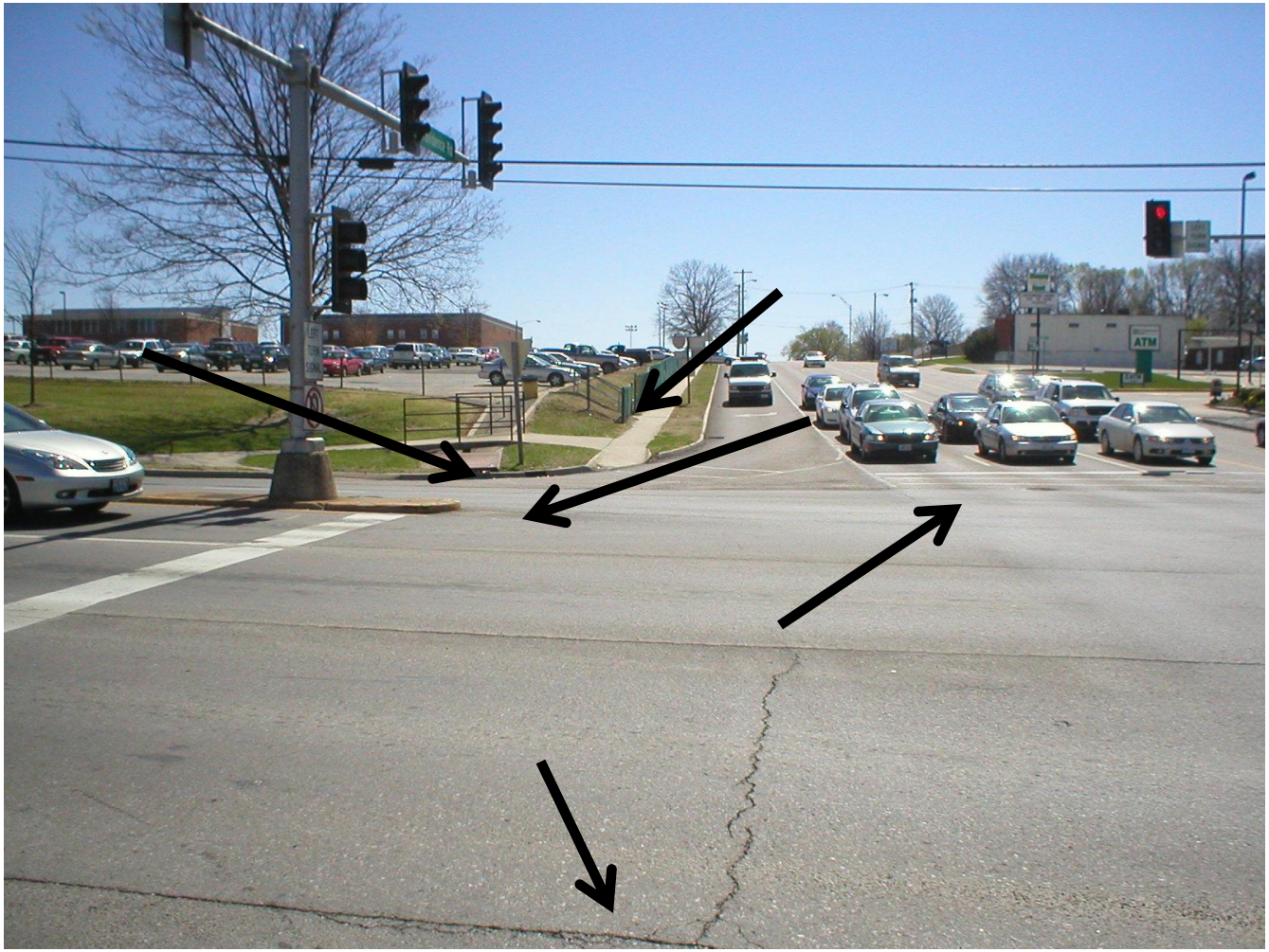
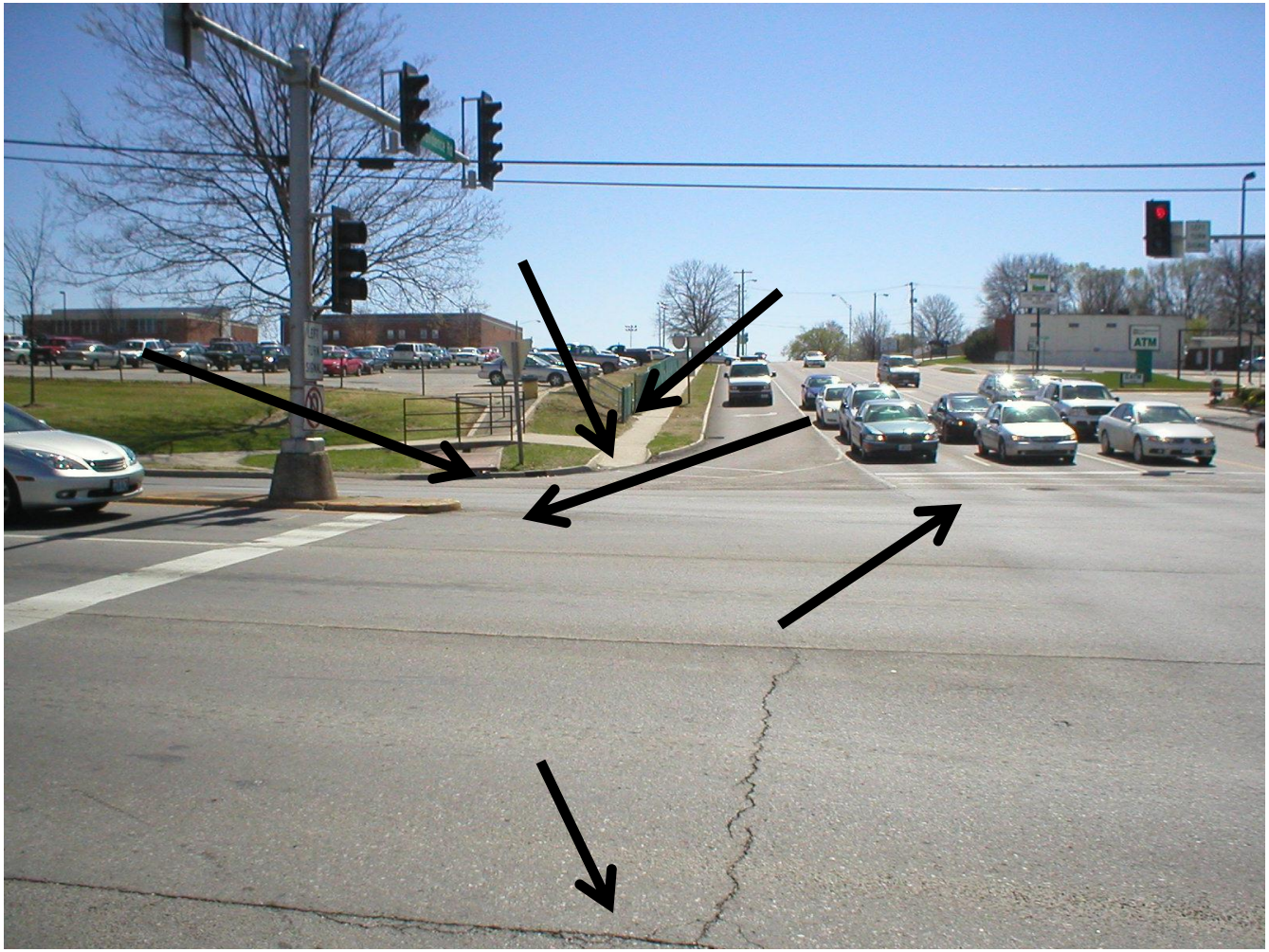


City of Columbia Pedestrian Design Features



City of Columbia Pedestrian Design Features

Pursue modifications

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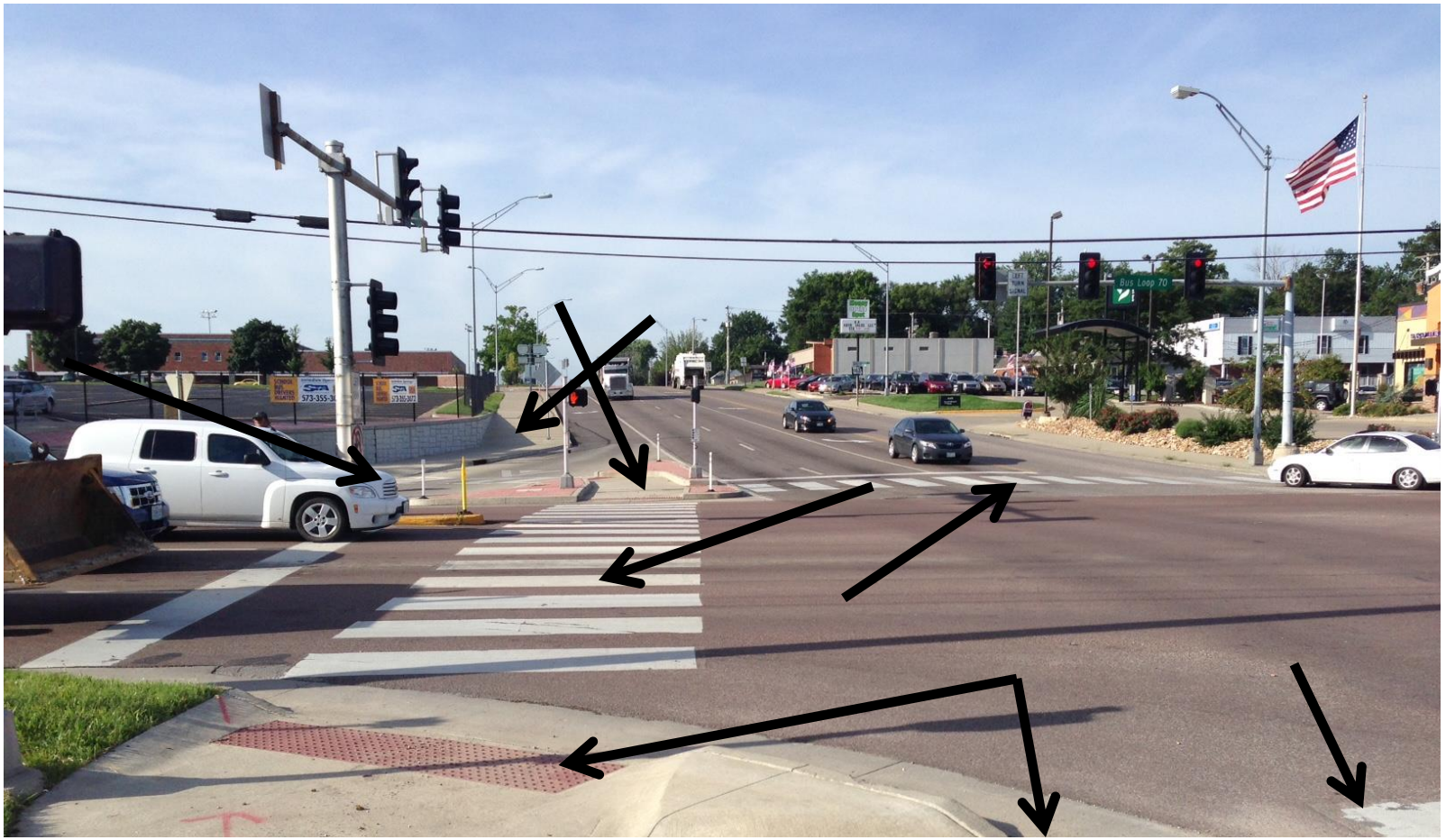

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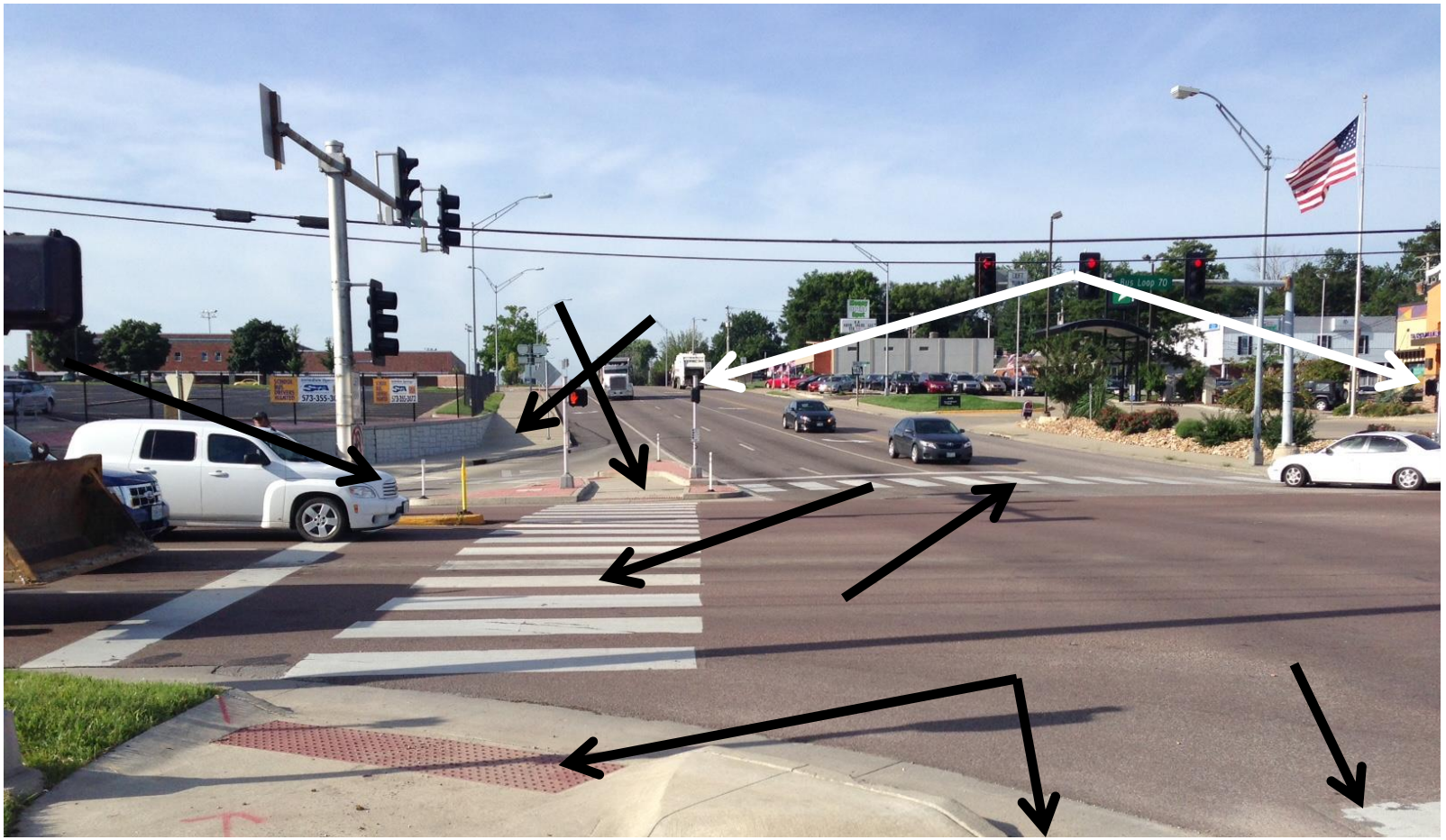

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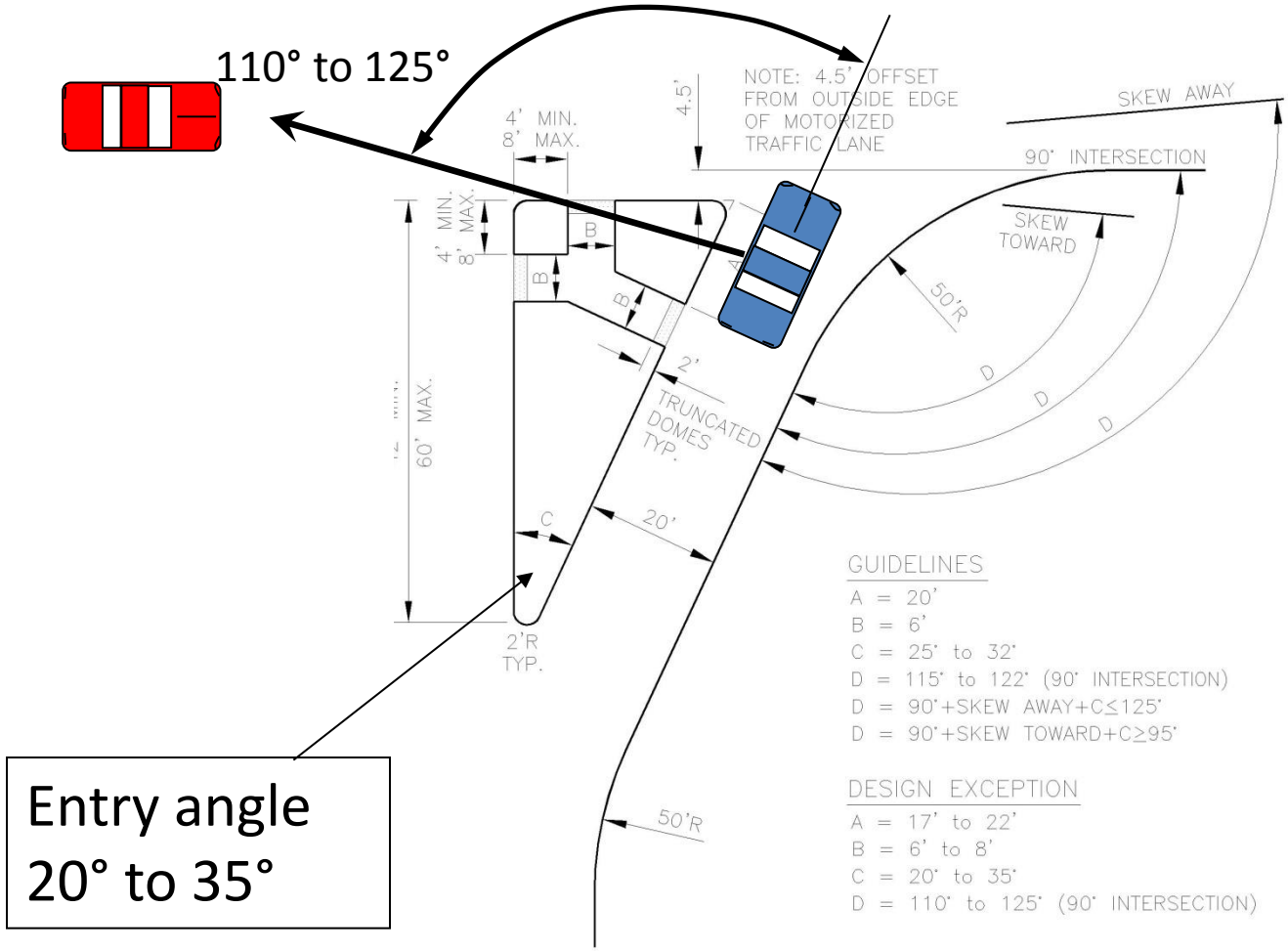
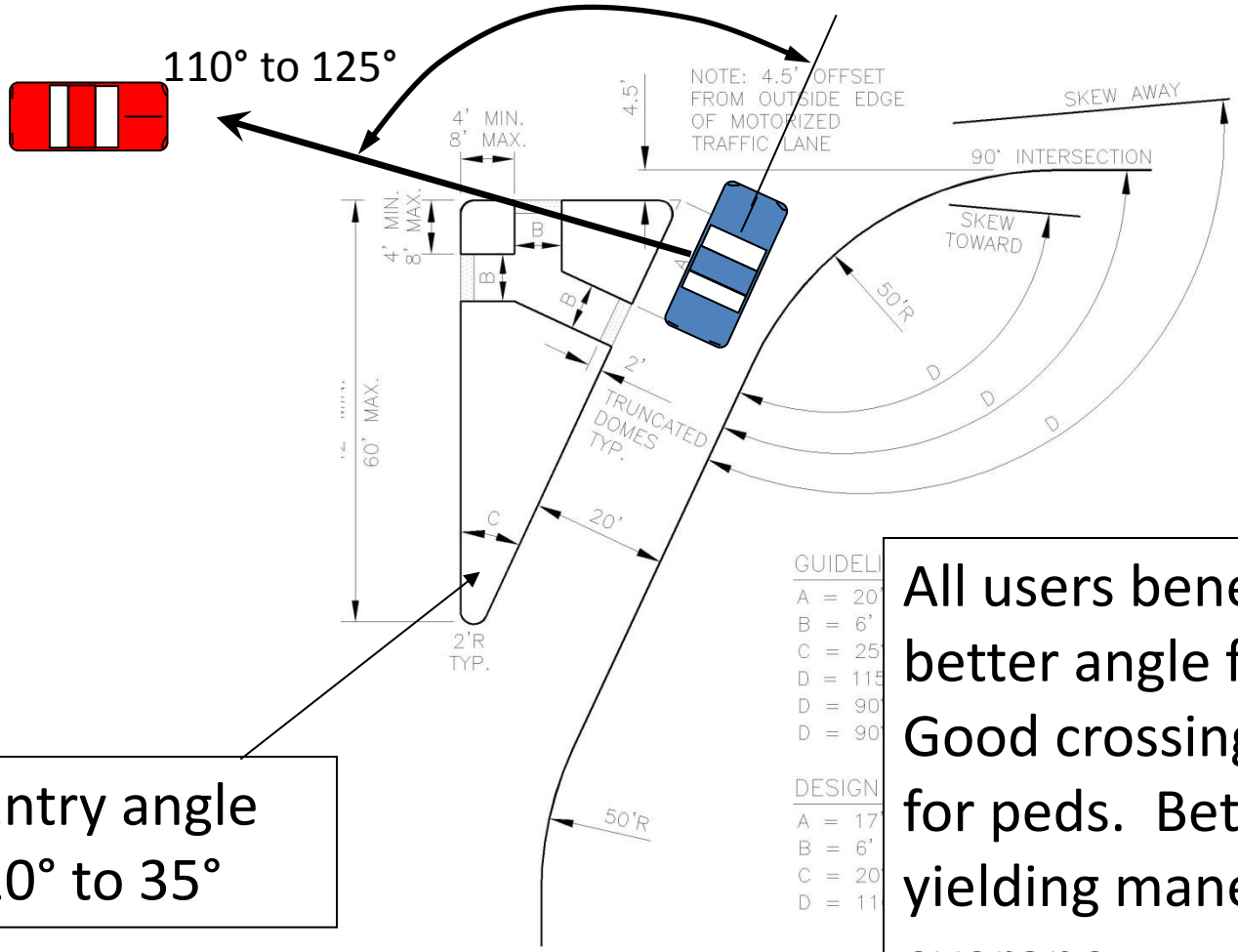


DESIRABLE TO PROVIDE MINIMUM 50' (100' PREFERRED) RIGHT TURN LANE PLUS ASYMMETRIC TAPERS PRIOR TO ISLAND FOR VOLUMES EXCEEDING 35 RIGHT TURNS IN THE PEAK HOUR.

DESIGN PARAMETERS BASED ON MAXIMUM SKEW OF 15°.

GAP ACCEPTANCE RIGHT TURN ISLAND

Note: Initial design concept City of Columbia 05–09–07, not for design



Entry angle 20° to 35°

All users benefit – better angle for driver. Good crossing location for peds. Better yielding maneuver for everone.

DESIRABLE TO PROVIDE MINIMUM 50' ( ) TURN LANE PLUS ASYMMETRIC TAPERS PRIOR TO ISLAND FOR VOLUMES EXCEEDING 35 RIGHT TURNS IN THE PEAK HOUR.

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GAP ACCEPTANCE RIGHT TURN ISLAND

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Vehicles travel along a pretty defined path.

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- Drivers can do things that are unexpected.

Cyclists are more mobile.

- They can do even more things someone else might not expect, but generally there are some parameters.

Pedestrians are the most mobile and therefore can do the most unexpected things.

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This creates a large universe of options for the designers and the users of the space (both the pedestrian and those others that are occupying the nearby space).

The unexpected is the enemy.

City of Columbia Pedestrian Design Features

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Table 1

Total Fatalities and Pedestrian Fatalities in Traffic Crashes, 2004–2013

Year	Total Fatalities	Pedestrian Fatalities	Percentage of Total Fatalities
2004	42,836	4,675	11%
2005	43,510	4,892	11%
2006	42,708	4,795	11%
2007	41,259	4,699	11%
2008	37,423	4,414	12%
2009	33,883	4,109	12%
2010	32,999	4,302	13%
2011	32,479	4,457	14%
2012	33,782	4,818	14%
2013	32,719	4,735	14%

Source: Fatality Analysis Reporting System (FARS) 2004-2012 Final File, 2013 Annual Report File (ARF).

NEW **File Versions**
2012 data based on FARS data publication, 1st release

NEW **GIS Map features**

NEW **Vehicle Registration and VMT Changes**

National Statistics

	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994
Motor Vehicle Traffic Crashes																			
Fatal Crashes	30,800	29,867	30,296	30,862	34,172	37,435	38,648	39,252	38,444	38,477	38,491	37,862	37,526	37,140	37,107	37,324	37,494	37,241	36,254
Traffic Crash Fatalities																			
Vehicle Occupants																			
Drivers	16,769	16,474	16,864	17,670	19,279	21,717	22,831	23,237	23,158	23,352	23,625	22,914	22,914	22,971	22,654	22,730	22,572	22,370	21,596
Passengers	6,061	5,972	6,451	6,793	7,441	8,716	9,187	9,750	10,042	10,171	10,370	10,227	10,451	10,325	10,327	10,765	10,860	10,576	10,294
Unknown	82	64	56	63	71	94	101	83	76	104	110	102	86	96	107	114	102	118	108
Sub Total1	22,912	22,510	23,371	24,526	26,791	30,527	32,119	33,070	33,276	33,627	34,105	33,243	33,451	33,392	33,088	33,609	33,534	33,064	31,998
Motorcyclists	4,957	4,630	4,518	4,469	5,312	5,174	4,837	4,576	4,028	3,714	3,270	3,197	2,897	2,483	2,294	2,116	2,161	2,227	2,320
Nonmotorist																			
Pedestrians	4,743	4,457	4,302	4,109	4,414	4,699	4,795	4,892	4,675	4,774	4,851	4,901	4,763	4,939	5,228	5,321	5,449	5,584	5,489
Pedalcyclists	726	682	623	628	718	701	772	786	727	629	665	732	693	754	760	814	765	833	802
Other/ Unknown	223	200	185	151	188	158	185	186	130	140	114	123	141	149	131	153	154	109	107
Sub Total2	5,692	5,339	5,110	4,888	5,320	5,558	5,752	5,864	5,532	5,543	5,630	5,756	5,597	5,842	6,119	6,288	6,368	6,526	6,398
Total**	33,561	32,479	32,999	33,883	37,423	41,259	42,708	43,510	42,836	42,884	43,005	42,196	41,945	41,717	41,501	42,013	42,065	41,817	40,716
Other National Statistics																			
Vehicle Miles Traveled (Billions)	2,969	2,950	2,967	2,957	2,977	3,031	3,014	2,989	2,965	2,890	2,856	2,796	2,747	2,690	2,628	2,552	2,484	2,423	2,358
Resident Population (Thousands)	313,914	311,588	309,326	306,772	304,094	301,231	298,380	295,517	292,805	290,108	287,625	284,969	282,162	272,691	270,248	267,784	265,229	262,803	260,327
Registered Vehicles (Thousands)	265,647	265,043	257,312	258,958	259,360	257,472	252,930	247,031	239,364	232,326	227,136	221,230	217,993	212,685	208,076	203,568	201,631	197,065	192,497
Licensed Drivers (Thousands)	211,815	211,875	210,115	209,618	208,321	205,742	202,810	200,549	198,889	196,166	194,602	191,276	190,625	187,170	184,861	182,709	179,539	176,628	175,403
National Rates: Fatalities																			
Fatalities per 100 Million Vehicle Miles Traveled	1.13	1.10	1.11	1.15	1.26	1.36	1.42	1.46	1.44	1.48	1.51	1.51	1.53	1.55	1.58	1.65	1.69	1.73	1.73
Fatalities per 100,000 Population	10.69	10.42	10.67	11.05	12.31	13.70	14.31	14.72	14.63	14.78	14.95	14.81	14.87	15.30	15.36	15.69	15.86	15.91	15.64
Fatalities per 100,000 Registered Vehicles	12.63	12.25	12.82	13.08	14.43	16.02	16.99	17.71	18.00	18.59	19.06	19.07	19.33	19.61	19.95	20.64	20.86	21.22	21.15
Fatalities per 100,000 Licensed Drivers	15.84	15.33	15.71	16.16	17.96	20.05	21.06	21.70	21.54	21.86	22.10	22.06	22.00	22.29	22.45	22.99	23.43	23.68	23.21

** Total fatalities for 1996 include 2 fatalities of unknown person type.

Thanks to insightful champions, the City was ahead of much of the rest of the nation in committing to implementing broadscale pedestrian improvements.

City of Columbia Pedestrian Design Features

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30+ years of organized commitment to improving non-motorized transportation

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Early 1990s really started to craft the foundation of current approach

City of Columbia Pedestrian Design Features

Trails

Policy regarding ADA ramps

Policy regarding sidewalks along all streets with redevelopment with very few variances to this policy

City of Columbia Pedestrian Design Features

Trails

Policy regarding ADA ramps

Policy regarding sidewalks along all streets with redevelopment with very few variances to this policy

…these are a big deal and should not be overlooked.

City of Columbia Pedestrian Design Features

Continued commitment with street standards in 2004.

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Opportunity funding with GetAbout Columbia.

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Ongoing commitment with 2005 ballot initiative projects.

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Ongoing commitment with 2005 ballot initiative projects.

Future commitment with 2015 proposed ballot initiative projects.

City of Columbia Pedestrian Design Features

Vision  implementation

Vision  implementation

However, the built environment has 70+ years of history

Vision  implementation

However, the built environment has 70+ years of history

Design guidance changes.
Knowledge base improves.

Commitment to say we will complete projects that incorporate integral non-motorized components leads to good results.

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Need help from everyone to make an impact on the fatality numbers.

City of Columbia Pedestrian Design Features

Vision → implementation

Columbia, Mo Pedestrian Fatalities

Year	Fatal
2015	1*
2014	2
2013	0
2012	0
2011	2
2010	0
2009	1
2008	0
2007	0
2006	2
2005	0
2004	2
2003	1
Totals	11

National Pedestrian Fatalities

Year	Pedestrian Fatalities
2004	4,675
2005	4,892
2006	4,795
2007	4,699
2008	4,414
2009	4,109
2010	4,302
2011	4,457
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Source: Fatality An)04-2012 Final File, 2013 Annual Re