

**Hike and Bike System Master Plan  
Thoroughfare Development Plan Update**

**Thoroughfare Development Plan Update  
and  
Hike and Bike System Master Plan**

**Planning and Zoning Commission  
Work Session**

**January 19, 2011**




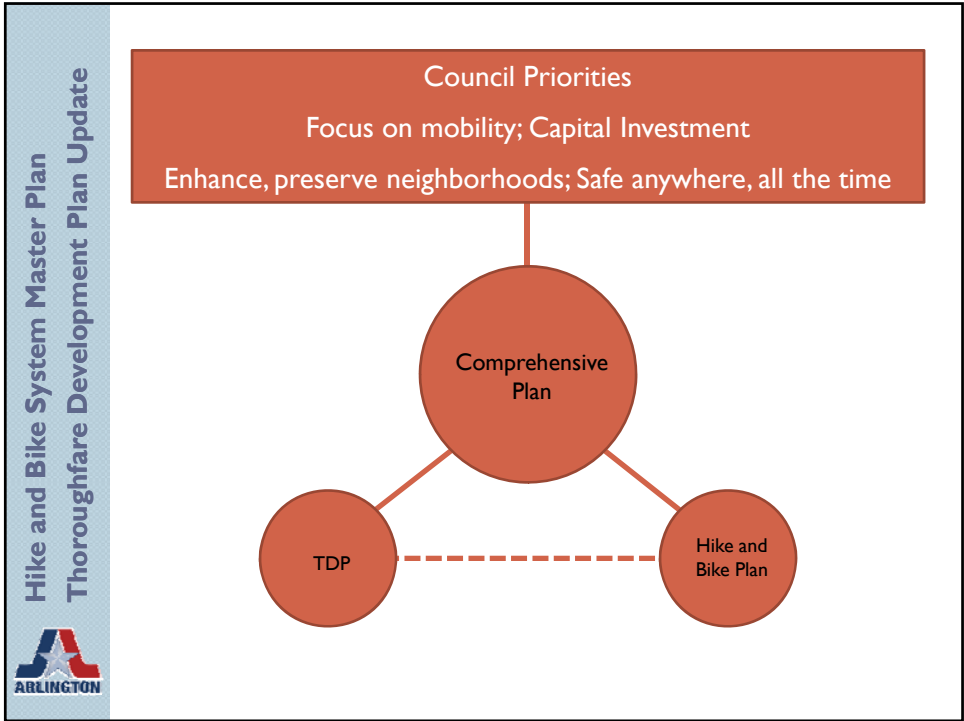
Kimley-Horn and Associates, Inc.

**Hike and Bike System Master Plan  
Thoroughfare Development Plan Update**

**Requested Action**

- Recommend approval of the Thoroughfare Development Plan to City Council
- Recommend approval of the Hike and Bike System Master Plan to City Council





- Hike and Bike System Master Plan  
Thoroughfare Development Plan Update
- ## About the TDP
- Provides general alignment, facility type and design guidelines for roadway facilities needed to meet projected long-term growth
  - Enables City to preserve future corridors for transportation system development
  - Forms basis for roadway capital improvement program, roadway impact fees and developer requirements
  - Current TDP is Out of Date:
    - Last significant update was in the mid-1990s
    - No longer supports City’s goals and vision for its future
    - Must be based upon most recent population, employment and land use data (2030 data)
    - New projects such as Cowboys Stadium, Viridian Planned Development and the Tierra Verde land use plan were not accounted for in the previous TDP
-



## TDP Facts

	Current TDP	Proposed TDP	Difference
Lane Miles of Roadway (existing and planned)	1548	1416	-132
Lane Miles of Existing Roadway	1200	1200	0
Lane Miles of Roadway Planned for Construction (not yet built)	348	216	-132
Lane Miles of Travel Lane Conversions <sup>1</sup>	N/A	37	N/A
Cost to build entire TDP <sup>2</sup>	\$363 million	\$233 million	-\$130 million

<sup>1</sup> Travel Lane Conversions repurpose an existing vehicle travel lane for uses other than vehicular travel.  
<sup>2</sup> Cost estimates are calculated in current dollars and are subject to change depending on specific project details.




## TDP Performance





	Current TDP	Proposed TDP	Difference
Daily Vehicle Miles Traveled	13,860,000	13,022,000	838,000
Daily Vehicle Minutes Traveled (per capita)	65	66	+1
Level of Service (LOS) A-D	81%	85%	+4%
Level of Service (LOS) E-F	19%	15%	-4%

Level of Service (LOS) is a tool that is used to quantify traffic congestion along specific roadways and within the entire transportation network. Roadways are designated as LOS A, B, C, D, E or F. LOS A represents a roadway where traffic volumes are much lower than the capacity for that roadway. These roadways are free flowing during the peak traffic period. LOS F represents a roadway where traffic volumes are greater than the capacity of the roadway. These roadways extremely congested during the peak traffic period. The City of Arlington aims to maintain a LOS C or D on most roadways except in specific areas where congestion is desired to create a pedestrian-friendly environment with slower traffic.


Hike and Bike System Master Plan  
Thoroughfare Development Plan Update






## Why Adopt the New TDP?

Improves service		4% increase in roadways functioning at a high level of service, meaning less congestion
Maximizes limited resources		Estimated \$130,000,000 reduction in construction costs, Significant reduction in maintenance costs
Increases safety		Slower speeds, Reduction in crashes, Designated facilities for all users Increased awareness
Provides transportation options		Automobile, pedestrian, bicyclist


Hike and Bike System Master Plan  
Thoroughfare Development Plan Update



## Why Adopt the New TDP?

Improves livability, quality of life		Safer neighborhoods with additional amenities
Increases economic development opportunities		More attractive to developers, and employers, Transportation system that supports development and redevelopment
Reduces environmental impacts		-338 lbs/day in volatile organic compounds (VOC), -252 lbs/day in nitrogen oxides (NOx), Decreased run-off


Hike and Bike System Master Plan  
Thoroughfare Development Plan Update



## About the Hike & Bike Plan

- First joint Hike and Bike Plan for City
- 20 – 30 year build out
- Create a city-wide master plan to guide the development of a comprehensive system of off-street trails and on-street facilities that will:
  - Connect users to key destinations throughout the City
  - Provide connections to adjacent cities
  - Provide opportunities for a wide variety of recreational activities
  - Encourage alternative modes of transportation
- Recommendations for facilities, programs, policies and education

Hike and Bike System Master Plan  
Thoroughfare Development Plan Update



## Hike & Bike Plan Facts

	Existing Today	Recommended Additions	Total
Miles of On-Street Bicycle Lanes	2	108	110
Miles of other On-Street Bicycle Facilities*	0	56	56
Miles of Off-Street Trails**	30	118	148
Total Miles of Bicycle Facilities	32	282	314
Miles of Sidewalks	1100	149	1249
Intersections Improvements	N/A	190	190

\* Includes shared lanes, paved shoulders, signed bike routes, and wide outside lanes.  
 \*\* Includes sidepaths (multi-use paths located adjacent to roadway) and greenways (multi-use paths that are completely separated from vehicular traffic). Does not include loop trails located inside parks.

Hike and Bike System Master Plan  
Thoroughfare Development Plan Update



## Why Adopt the Hike & Bike Plan?

Improves safety for drivers, pedestrians and cyclists		Slower speeds/fewer crashes, Designated facilities for all users, Increased awareness, Education/outreach
Provides transportation choices		Safe environment for all users (bicyclists, pedestrians, automobiles)
Improves health		Increased opportunities for recreational and utilitarian walking and cycling
Improves air quality		Every pedestrian or bicyclist is one less car on the roadway

Hike and Bike System Master Plan  
Thoroughfare Development Plan Update



## Why Adopt the Hike & Bike Plan?

Strengthens neighborhoods and sense of community		More neighborhood amenities, Active neighborhoods, Safe neighborhoods
Increases property values		Studies show that property values rise with additional amenities such as pedestrian and bicycle facilities
Improves economic development potential		Attracts employers and developers, Provides additional/new patrons



## Frequently Asked Questions

What will the new Thoroughfare Development Plan (TDP) Cost?

- Estimated cost of \$233 million to build out new TDP
- \$130 million less than the current TDP
- Builds only those roadways that are necessary to accommodate future growth and congestion and nothing more. (132 lane miles less than current TDP)
- Fewer lane miles of roadway means lower maintenance costs
- Acceptable levels of service for less money



## Frequently Asked Questions

What will the Hike and Bike System Master Plan Cost?

- Missing Sidewalks: \$ per mile
- On-Street Bike Lanes: \$7800 per mile
- Shared Lanes: \$1960 per mile
- Wide Outside Lanes: \$ per mile
- Paved Shoulders: \$ per mile
- Signed Bike Routes: \$ per mile
- Greenways/Trails: \$1 million per mile

Note: Above numbers are average estimated costs.



## Frequently Asked Questions

### How will the Hike and Bike System Master Plan Be Paid For?

- Off-street trails (greenways):
  - Built as funding becomes available and opportunities arise
  - Funding sources: park bond programs, linear park fees, local, state and federal grants
- On-street bicycle facilities:
  - Built as roadways come up for maintenance or reconstruction
  - Will not take away from roadway maintenance funding
  - Funding sources: city bond funds, local, state or federal grants
- Sidewalk and intersection improvements:
  - Sidewalks typically included when building new streets and often when reconstructing existing streets
  - Coordinated with roadway reconstruction projects when possible
  - Funding sources: city bond funds, local, state or federal grants



## Frequently Asked Questions

### Won't a travel lane conversion just cause more congestion?

- No
- Only 37 lane miles are recommended for travel lane conversion (0.03% of all existing roadway lane miles)
- 74% are 4-lane undivided to 3-lane
  - Similar capacity. Left hand turns are moved out of inside travel lanes and into a center turn lane.
  - More efficient traffic flow
  - 60 to 70 percent reduction in vehicles traveling 5 mph over the speed limit
  - total crash reduction of between 17 and 62 percent
- 26% are 4-lane undivided to 2-lane divided
  - Maintain LOS A-B
  - Maintain emergency access
- Detailed Analysis prior to implementation





## Frequently Asked Questions

Will ALL bike lanes require the removal of an existing travel lane?

- No
- Only 37 lane miles are recommended for travel lane conversion (0.03% of all existing roadway lane miles)
- Some roadways are already wide enough to add bike lanes with simple striping
- Other roadways currently have extremely wide lanes. Lanes can be narrowed, providing room for bike lane striping
- Other bike lanes will be implemented when a road is widened or a new roadway is built




## Frequently Asked Questions

Are bike lanes safe?

- Yes, they can actually improve safety
- Provide a designated place for all users
- Increase awareness that bicyclists may be nearby
- Slow traffic which often improves efficiency and reduces crashes
- 4-lane undivided to 3-lane with bike lanes:
  - 60 to 70 percent reduction in vehicles traveling 5 mph over the speed limit
  - total crash reduction of between 17 and 62 percent
- Education/outreach key part of Plan

Hike and Bike System Master Plan  
Thoroughfare Development Plan Update




## Requested Action

- Recommend approval of the Thoroughfare Development Plan to City Council
- Updates to TDP since November Draft:

Roadway	From – To	November Draft Recommendation	Current Draft Recommendation
Burney Rd	City limit – Green Oaks	4 travel lanes	2 travel lanes
Joplin Rd	Sublett – Eden	4 travel lanes	2 travel lanes
Pecan Rd	Mitchell – Park Row	4 travel lanes	2 travel lanes
Sherry St	Near Lover’s Lane – Arkansas	4 travel lanes	2 travel lanes
Beady Rd	Davis – dead ends into private property	4 travel lanes	Remove from TDP – make local street

Hike and Bike System Master Plan  
Thoroughfare Development Plan Update



## Requested Action

- Recommend approval of the Hike and Bike System Master Plan to City Council
- Updates to Hike and Bike Plan since October Draft

Facility	From – To	October Draft Recommendation	Current Draft Recommendation
Brown Blvd	Lincoln – near 360	Travel lane conversion-bike lane.	No travel lane conversion. Sidepath.
Davis Dr	Green Oaks – Randol Mill	Travel lane conversion-bike lane.	No travel lane conversion. Bike lane restripe.
Bowen Rd	Division – Sanford	Travel lane conversion-bike lane.	None.
Eden Rd	City limit – city limit	Paved shoulder on portion.	Bike lane-new construction.
Mitchell St	Fielder – Mary	Shared lane.	Travel lane conversion-bike lane.
Kelly-Elliott Rd	Bardin – Sublett	Travel lane conversion-bike lane and bike lane-new construction	Bike lane-new construction.
Center St	Small section north of Park Row – Park Row	Travel lane conversion-bike lane.	Bike lane-new construction.



## Project Schedule

Nov 1 <sup>st</sup>	Park Advisory Board (unanimous approval)
Nov 2 <sup>nd</sup>	City Council Work Session
Nov 10 <sup>th</sup>	Planning and Zoning Commission Work Session
Nov 16 <sup>th</sup>	City Council Informal Staff Report (TDP)
Dec 8 <sup>th</sup>	Planning and Zoning Commission Work Session
Jan 19 <sup>th</sup>	Planning and Zoning Commission Work Session
Jan 19 <sup>th</sup>	Planning and Zoning Commission Public Hearing
Feb 8 <sup>th</sup>	City Council Work Session
Feb 8 <sup>th</sup>	City Council Public Hearing