PENN DAW TRANSPORTATION STUDY HIGHLIGHTS

PENN DAW SPECIAL STUDY TASK FORCE – NOVEMBER 16, 2011

TABLE 1: LAND USE / TRIP GENERATION COMPARISON

	LAND USE / TRIPS / SCENARIO	CURRENT	DEV	TF1	TF2
LAND USE	RETAIL (SF)	194,000	70,000	130,000	90,000
	OFFICE (SF)	58,000	0	0	0
	SINGLE FAMILY (DU)	3	0	4	4
	MULTIFAMILY (DU)	0	780	300	500
	TOWNHOUSE (DU)	0	36	20	20
TRIPS	DAILY TRIPS	8,741	7,941	7,495	7,113
	AM PEAK HOUR TRIPS	276	455	252	337
	PM PEAK HOUR TRIPS	891	761	727	695

LEGEND
SF = Square Feet
DU = Dwelling Unit
CURRENT = Current Plan
DEV = Developer's Option
TF1 = Task Force Alt 1
TF2 = Task Force Alt 2

Note: Appropriate Reductions for Internal Synergy & Retail Pass-By Assumed

Conclusions:

- No Significant Differences Between Land Use Alternatives in Terms of Trips Generated, as compared to trip volume forecasts on Richmond Highway
- Impact of Alternatives Less Than 5% of Total Peak Hour Volume on Richmond Highway (4,500-5,000 trips)

TABLE 2: RIGHT-OF-WAY / PROPERTY IMPACTS

RIGHT-OF-WAY / NETWORK	CP	GR
RIGHT-OF-WAY DEDICATED (SF)	89,500	115,000
RIGHT-OF-WAY ABANDONED (SF)	19,500	93,500
NUMBER OF STRUCTURES IMPACTED	2	4

LEGEND
CP = Comp Plan Network
GR = Grid Network
GR = Grid Network

Note: Network Alignments and Impacts are Approximations, Pending Further Study
Based on ROW Impacts Associated Solely with Individual Networks

Conclusions:

- Both Network Alternatives Require Significant Right-of-Way, Impact Existing Structures
- Comp Plan Network Potentially Requires Lesser Amount of Right-of-Way, Impacts Fewer Structures
- Grid Network Potentially Provides Larger Exchange of Developable Right-of-Way (Abandoned)
- Grid Network Provides More Substantive Frontage Along Richmond Highway

TABLE 3: NETWORK MEASURES OF EFFECTIVENESS (MOE)

	MOE / NETWORK / MITIGATION LEVEL	CP			GR		
		BASE	LOW	HIGH	BASE	LOW	HIGH
AM	TOTAL DELAY (HR)	384	235	228	1,253	636	229
	AVERAGE SPEED (MPH)	8	12	12	3	5	12
	TOTAL TRAVEL TIME (HR)	478	330	322	1,348	731	324
PM	TOTAL DELAY (HR)	523	282	262	2,029	349	225
	AVERAGE SPEED (MPH)	6	10	10	2	8	12
	TOTAL TRAVEL TIME (HR)	615	373	354	2,121	442	318

LEGEND
BASE = Baseline (No Mitigation)
LOW = Low Mitigation
HIGH = High Mitigation
HR = Hour
MPH = Miles Per Hour

Note: MOEs Based on Average Performance with TF1, TF2 and DEV Land Use Alternatives

Conclusions:

- Comp Plan Network Performs Better Than Grid Network Under Baseline and Low Mitigation
- Grid Network Performs as Well as Comp Plan Network with High Mitigation ($$$)

PENN DAW TRANSPORTATION STUDY HIGHLIGHTS (CONTINUED)

PENN DAW SPECIAL STUDY TASK FORCE – NOVEMBER 16, 2011

TABLE 4: MITIGATION NECESSARY TO MEET ACCEPTABLE LEVELS OF SERVICE (LOS D)

INTERSECTION / NETWORK	CP	GR
GENERAL MITIGATION	• New Southern Connection	• Realigned N Kings Highway
N KINGS HIGHWAY @ SCHOOL ST/SHIELDS AVE	• Realign Intersection – 4-Way • Exclusive NBL (to School St) • Dual SBL • Exclusive EBL (from School St) • Dual WBR ---------- • 3rd NBT **(High)** ←LOS E without	• Realign Intersection – 4-Way • Exclusive NBL (to School St) • Dual SBL • Exclusive EBL (from School St) • Dual WBR
RICHMOND HIGHWAY @ SHIELDS AVE	None	• Restripe EBTR as EBT • 2nd EBR
N KINGS HIGHWAY @ POAG ST	• Install Traffic Signal • Exclusive EBL	• Install Traffic Signal • Exclusive EBL
S KINGS HIGHWAY @ PENN DAW ENTRANCE	• Remove Traffic Signal • Exclusive EBL	• Dual NBR • Exclusive SBL • Exclusive EBL (Penn Daw Drive) • Dual WBR
RICHMOND HIGHWAY @ WALMART ENTRANCE	• Dual SBL (to Walmart)	• Dual NBL • Dual SBL (to Walmart) • 2nd EBL (Shared EBLT) • Dual EBR ---------- • 4th NBT **(High)** ←LOS F without • 4th SBT **(High)** ←LOS F without
S KINGS HIGHWAY @ NEW SOUTHERN CONNECTOR	• Install Traffic Signal • Dual NBR • Exclusive WBL	N/A
RICHMOND HIGHWAY @ NEW SOUTHERN CONNECTOR	• Install Traffic Signal • Dual NBL • Exclusive SBR • Exclusive EBL	N/A
RICHNOND HIGHWAY @ POAG ST EXTENSION	N/A	• Right-In, Right-Out

LEGEND

EBR = Eastbound Right	EBT = Eastbound Through	EBL = Eastbound Left
WBR = Westbound Right	WBT = Westbound Through	WBL = Westbound Left
NBR = Northbound Right	NBT = Northbound Through	NBL = Northbound Left
SBR = Southbound Right	SBT = Southbound Through	SBL = Southbound Left

Conclusions:

- Comp Plan Network Generally Requires Less Mitigation
- Grid Network Facilitates Significantly More Turning Movements, Requiring Expanded Intersections
- Note that School Street Issues are Independent of Network Alternatives, Require Addressing Regardless