Volcano Heights Sector Development Plan

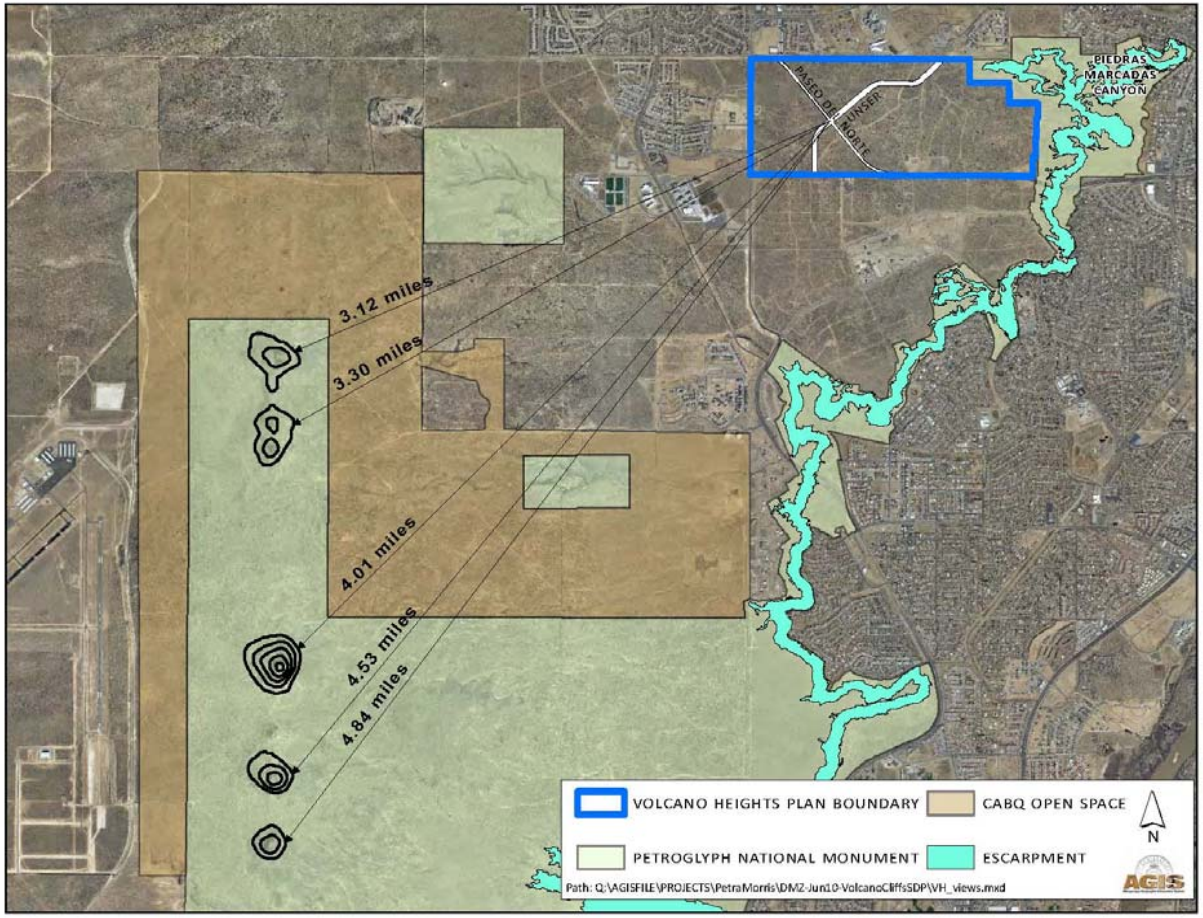
Public Meeting

August 21, 2012

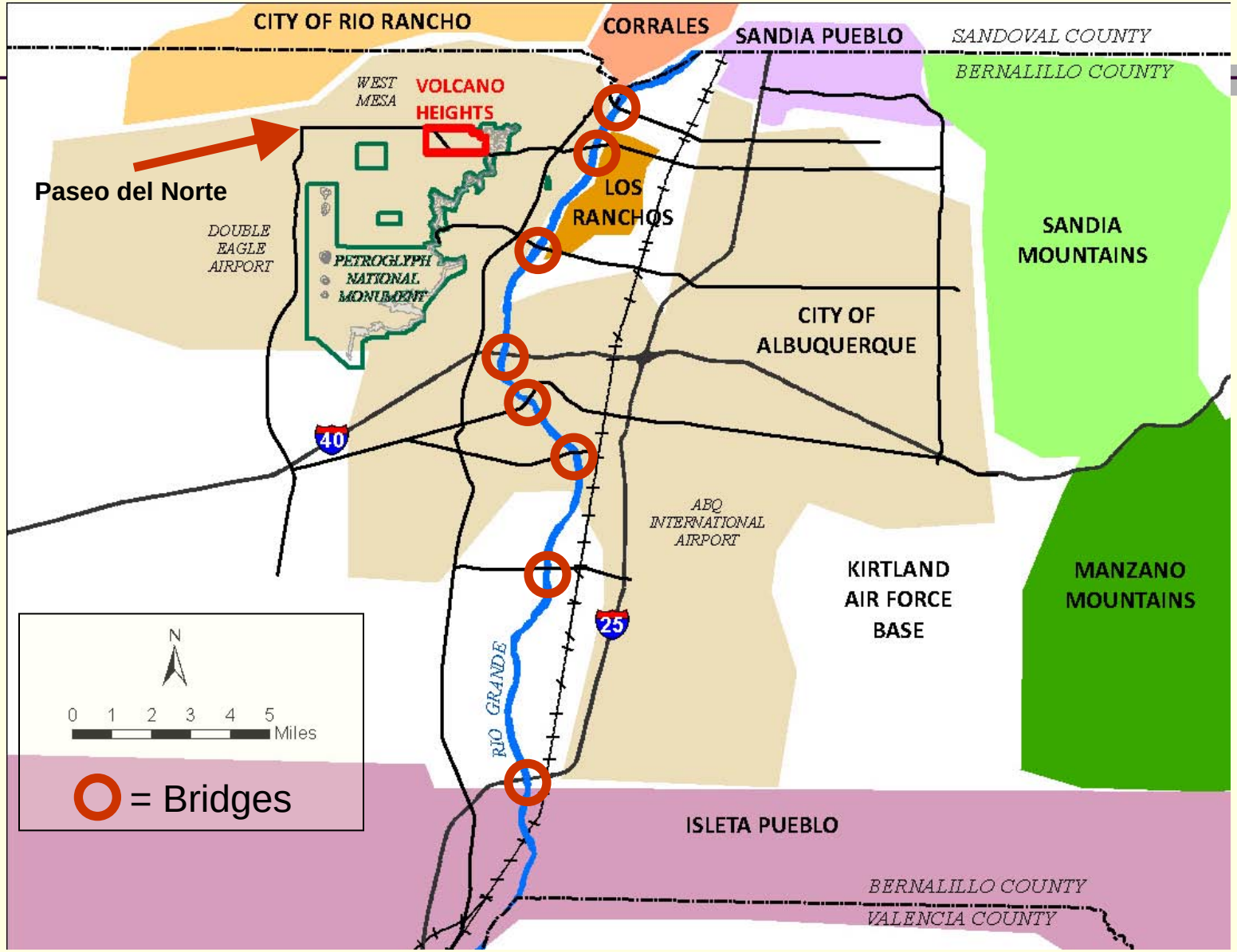
Agenda

- **Traffic Assessment:**
  - VHSDP Background & Proposed Street Network
  - Traffic Study Results
  - Questions/Discussion
- **Sector Development Plan:**
  - Vision
  - Challenges & Strategies
  - Next Steps
    - August 30: Submit for Plan for Approval
    - October 4: Environmental Planning Commission (EPC) Hearing # 1

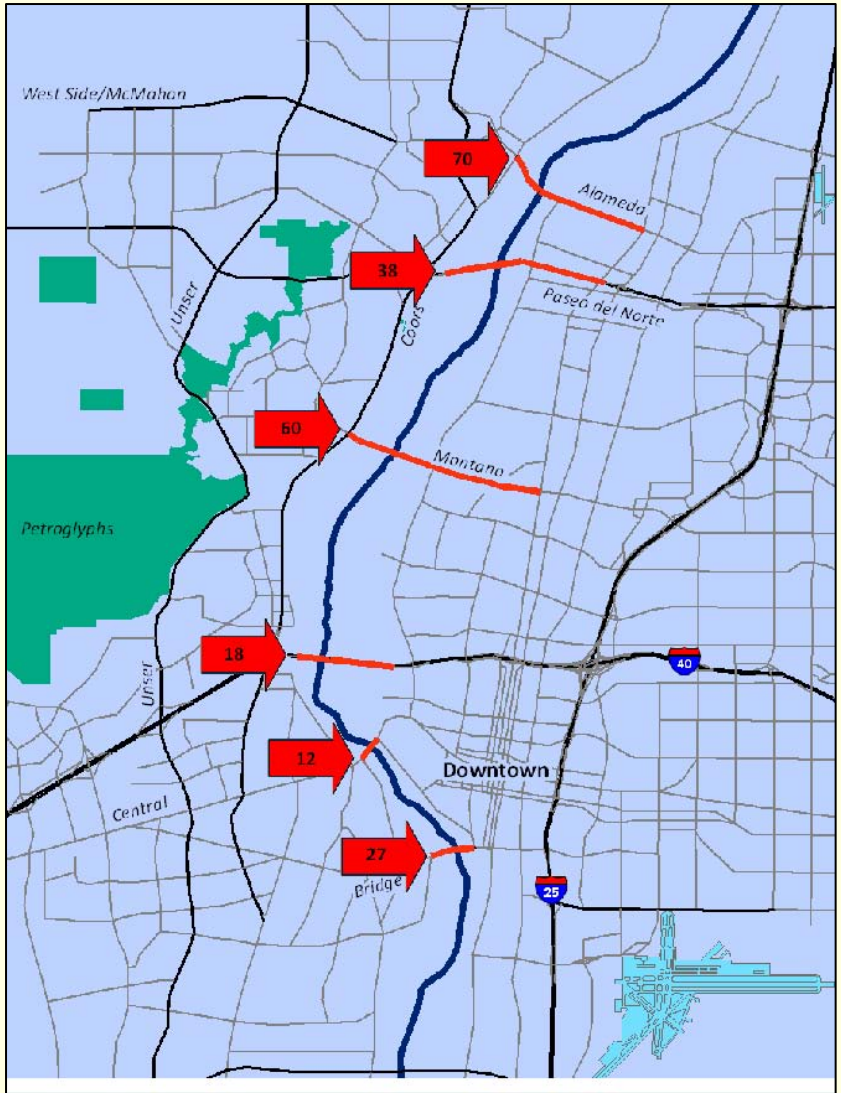
Volcano Heights



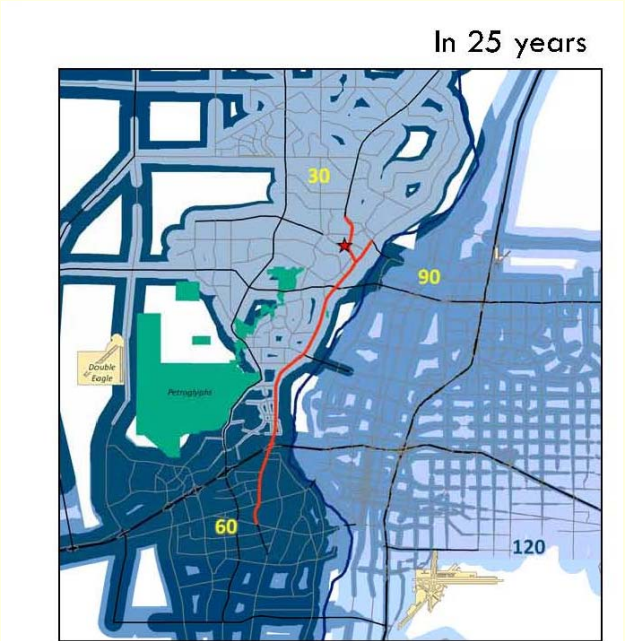
Challenge: Growth Limits



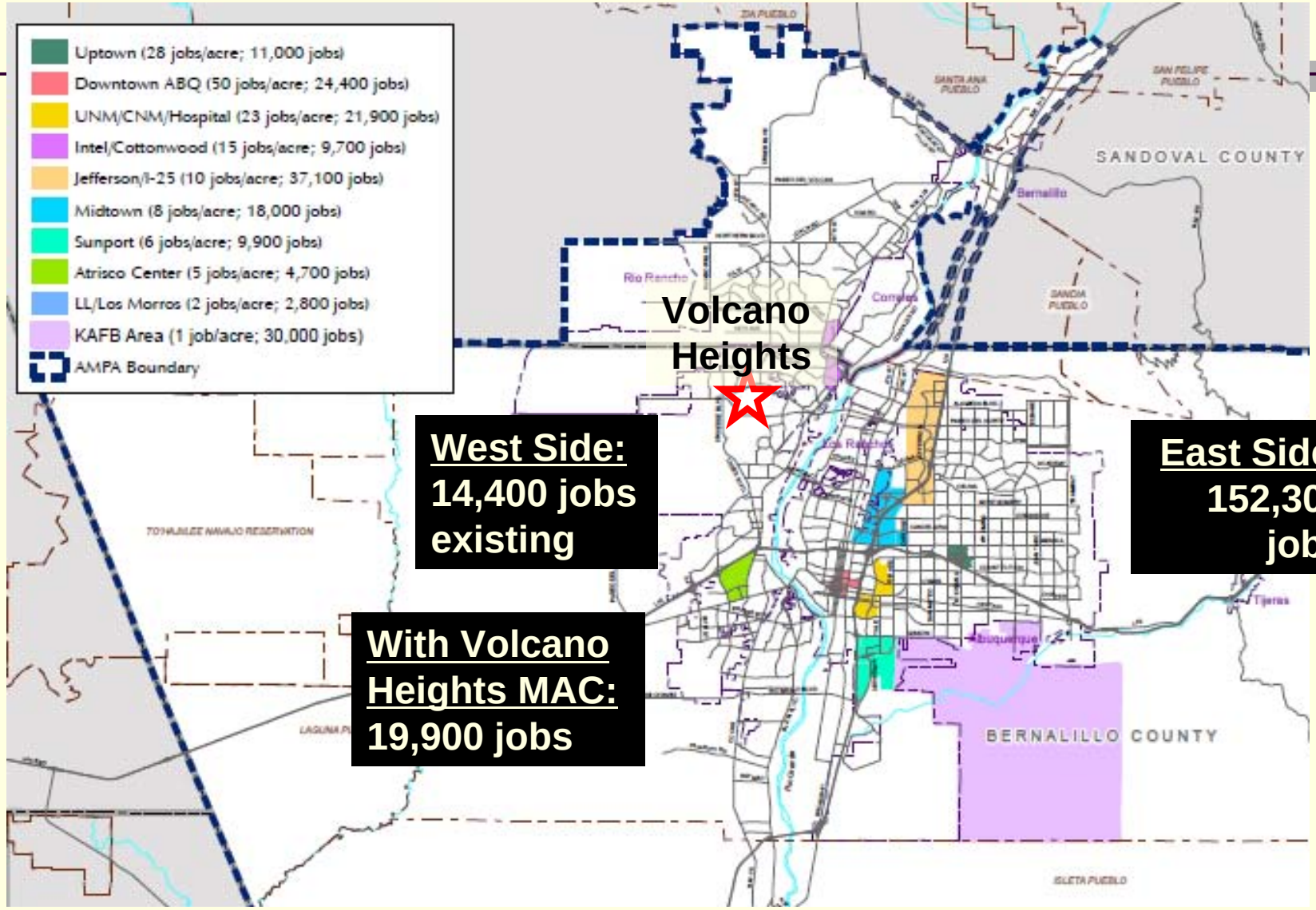
Challenge: Growth vs. Bridges



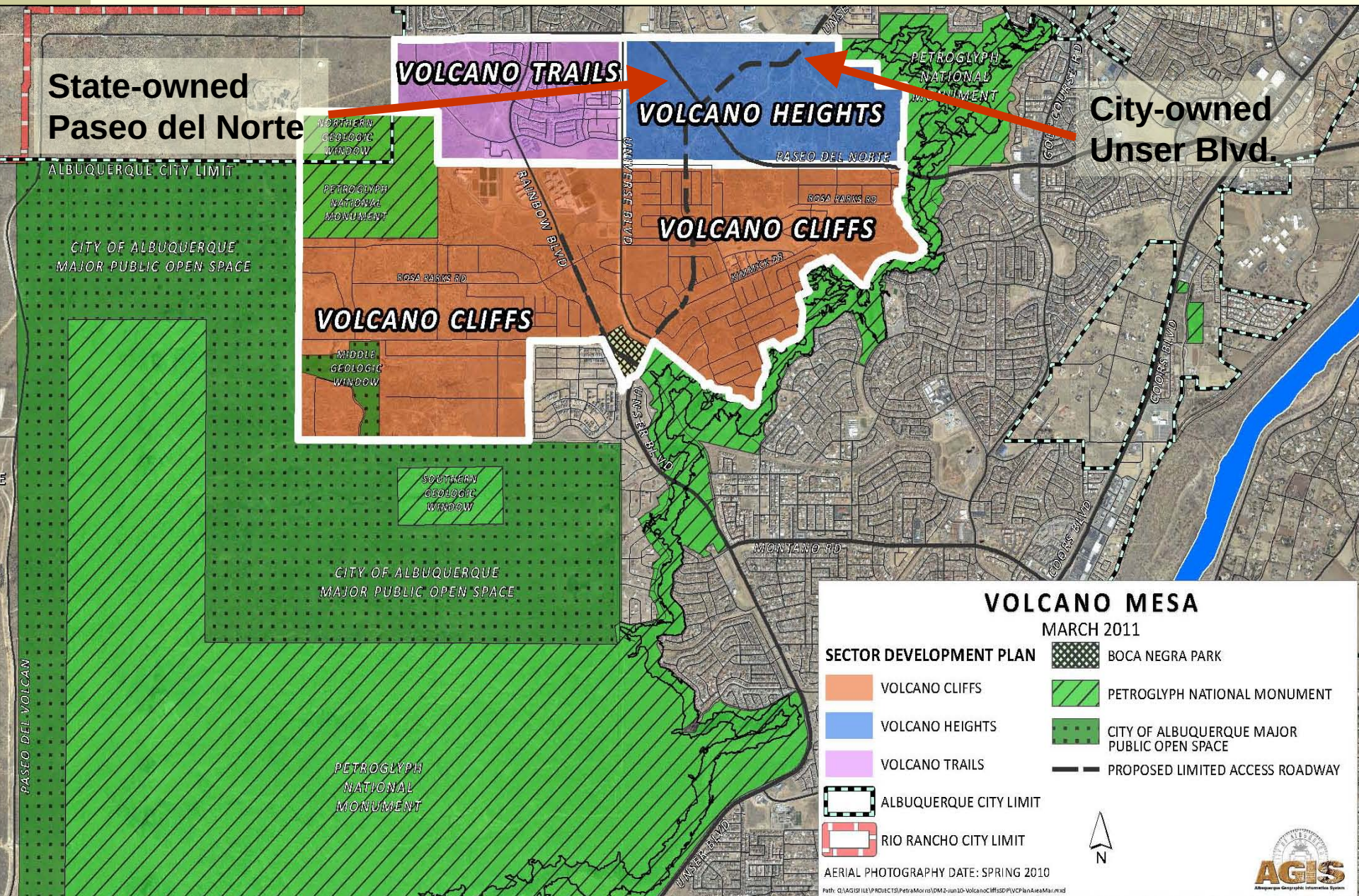
- In the next 25 years, 46% of all new developed land (36,000 acres) in the 4-county region will be on the West Side.
- By 2035, 257,000 more West Side residents.



Challenge: Imbalance of Jobs & Housing

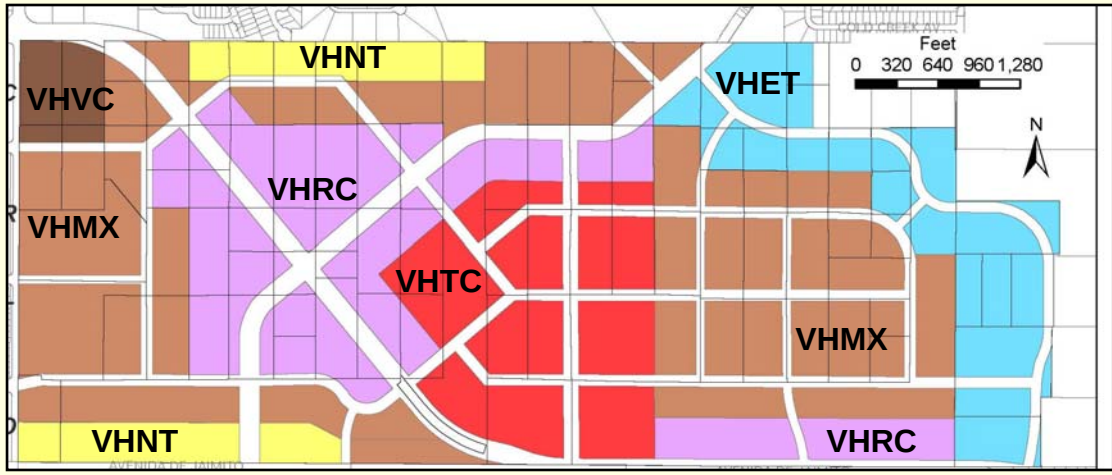


Challenge: Limited-access Roads



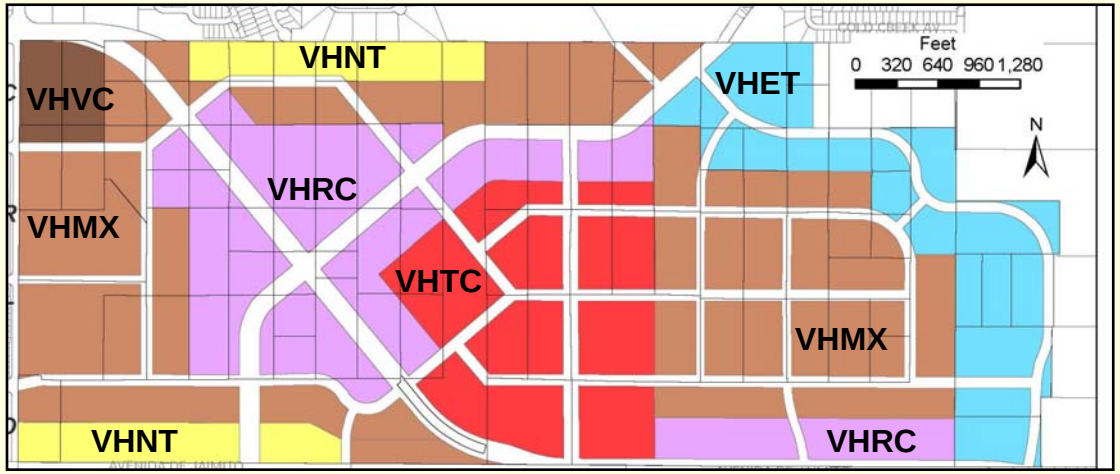
2012 Sector Development Plan:
Proposed Development Pattern

1. **Mixed-use zones** permitted everywhere with densities to match context to provide flexibility to match market conditions.
2. **Walkable, urban, dense** development to support multiple modes of transportation, including walking, cycling, and transit.
3. **Mandatory street network** to provide backbone grid to support development along corridors.
4. **Required cross sections** to help coordinate development across property lines and over time.



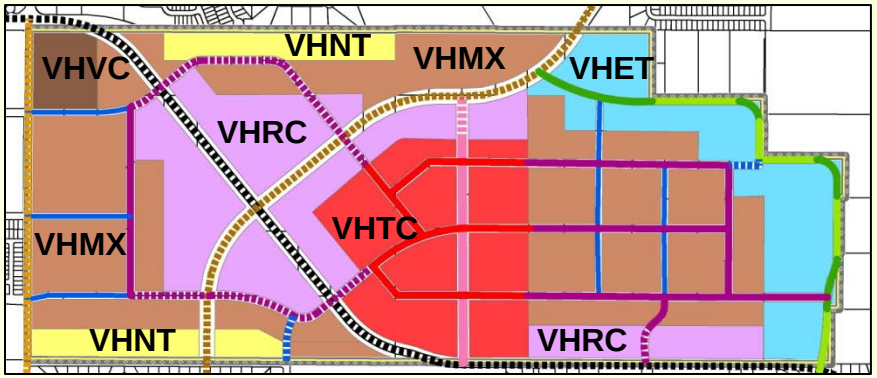
2012 Sector Development Plan:
Development Vision

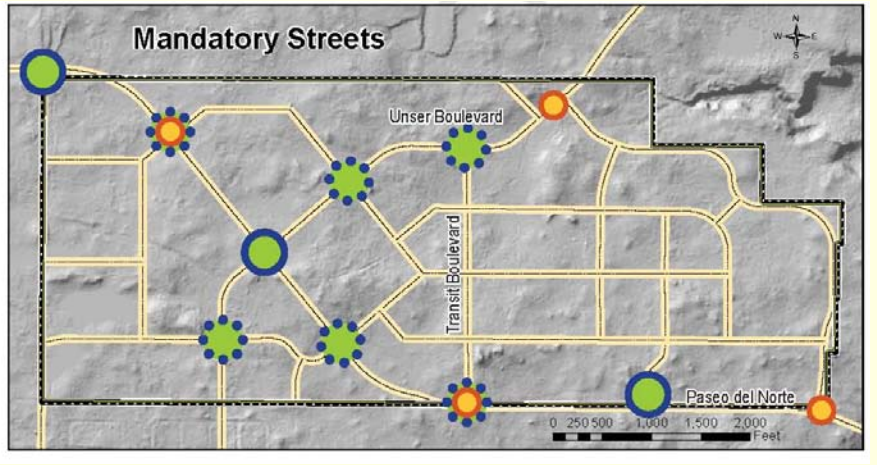
- <5,000 dwelling units
  - ~13,000 residents
- <2 million square feet of retail + office uses
  - 5,500 jobs



Traffic Study:
Purpose & Overview

- Compare local and regional impacts of proposed development patterns *(traffic forecast)*
- Analyze proposed intersections on limited-access arterials *(traffic operations assessment)*
  - Paseo del Norte
  - Unser Boulevard
- Review proposed Mandatory Street network and cross sections





Traffic Study:
Regional Traffic 2035 ("Baseline")

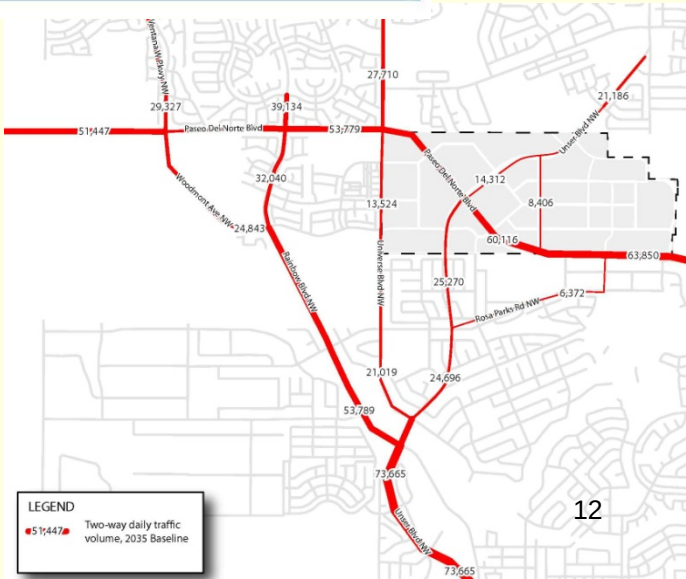
- MRCOG MTP 2035 based on 2006 Volcano Heights Sector Plan
- Paseo del Norte: 60,000+ daily trips
- Unser Bouelvard: <15,000 daily trips

Traffic Study:
Regional Traffic 2035 ("Baseline")

Planned Year 2035 Roadway Network Capacity & Forecasted Traffic Volumes								
	Through Lanes (Planned)		Intersection Turn Lanes (Planned)		Approximate Capacity* (Planned)		2035 Traffic Volume Forecast ***	
Regional Road	Total Lanes	Lanes per Direction	Left-turn lanes at signalized intersections	# of right-turn lanes at intersections	Peak Hour	Daily **	Daily	# of Through Lanes Needed to Accommodate Forecasted Volume
Paseo del Norte	6	3	2	1	6,000	60,000	60,116	6
Unser Blvd	4	2	2	1	4,000	40,000	14,312	2
Universe Blvd	4	2	1-2	0-1	3,500	35,000	13,524	2

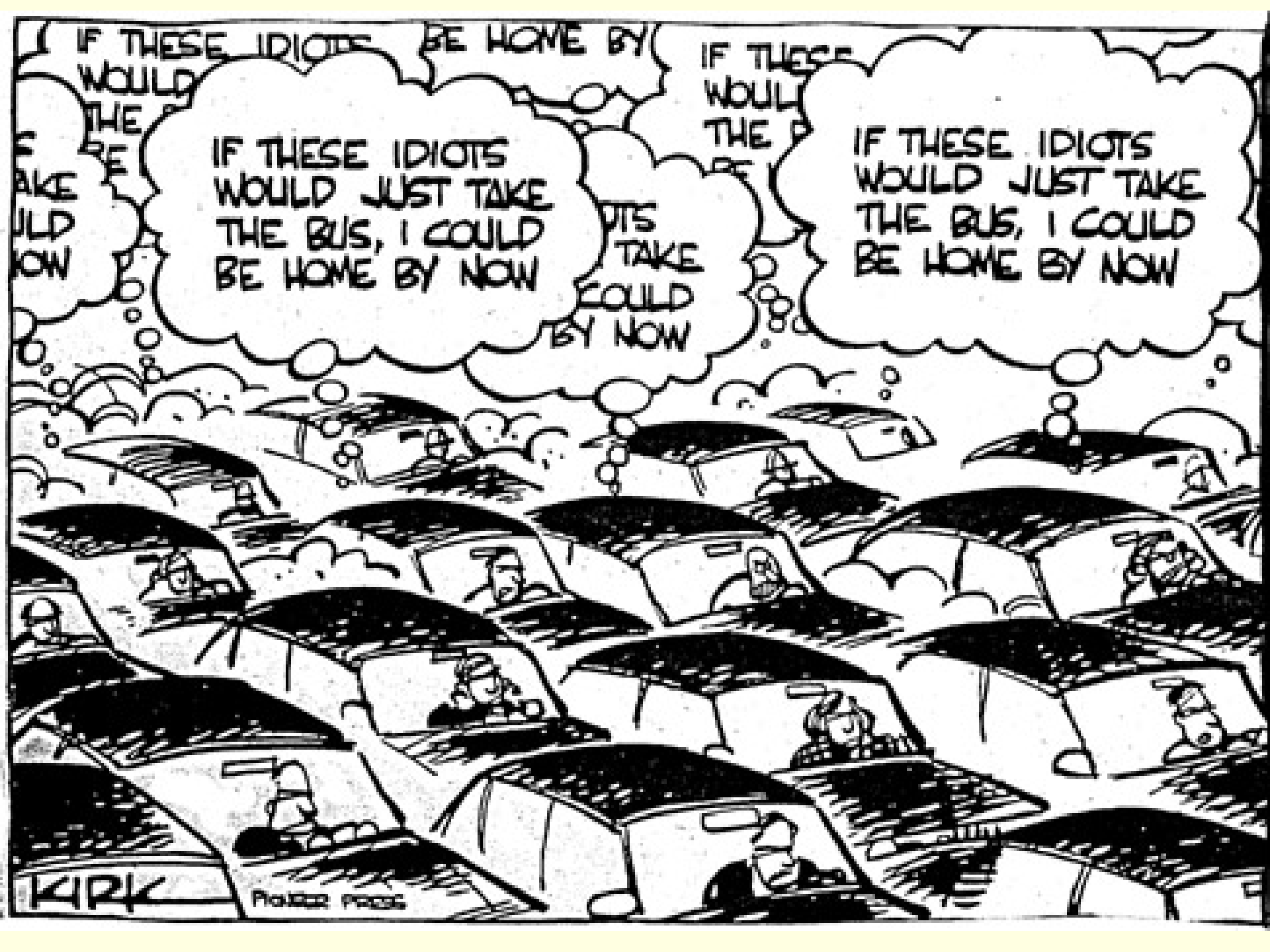
*Assumes a balanced signal timing plan, with equal allocation of time to all approaches at major intersections.
**Daily capacity is typically estimated based on peak-hour capacity multiplied by ten.
***Forecasted traffic volume within the Volcano Heights core area based on Conceptual Plan land uses and street network.

- Paseo del Norte will carry the bulk of east/west regional traffic
- Unser Blvd will carry relatively low volumes within VH as north/south traffic will be dispersed



Traffic Study:
Trip Generation Comparison

- Compares expected traffic from 2012 Plan to 2035 traffic forecast based on the 2006 Conceptual Plan
  - Baseline:
    - 2006 Conceptual Plan land uses
    - Town Center concept
    - More jobs, less housing than Sector Plan
    - Office Park component
  - Sector Plan:
    - 2012 VHSDP land uses
    - Town Center modified from 2006 plan
    - Fewer jobs, Increased residential component
    - Proposed changes to street network


IF THESE IDIOTS WOULD JUST TAKE THE BUS, I COULD BE HOME BY NOW
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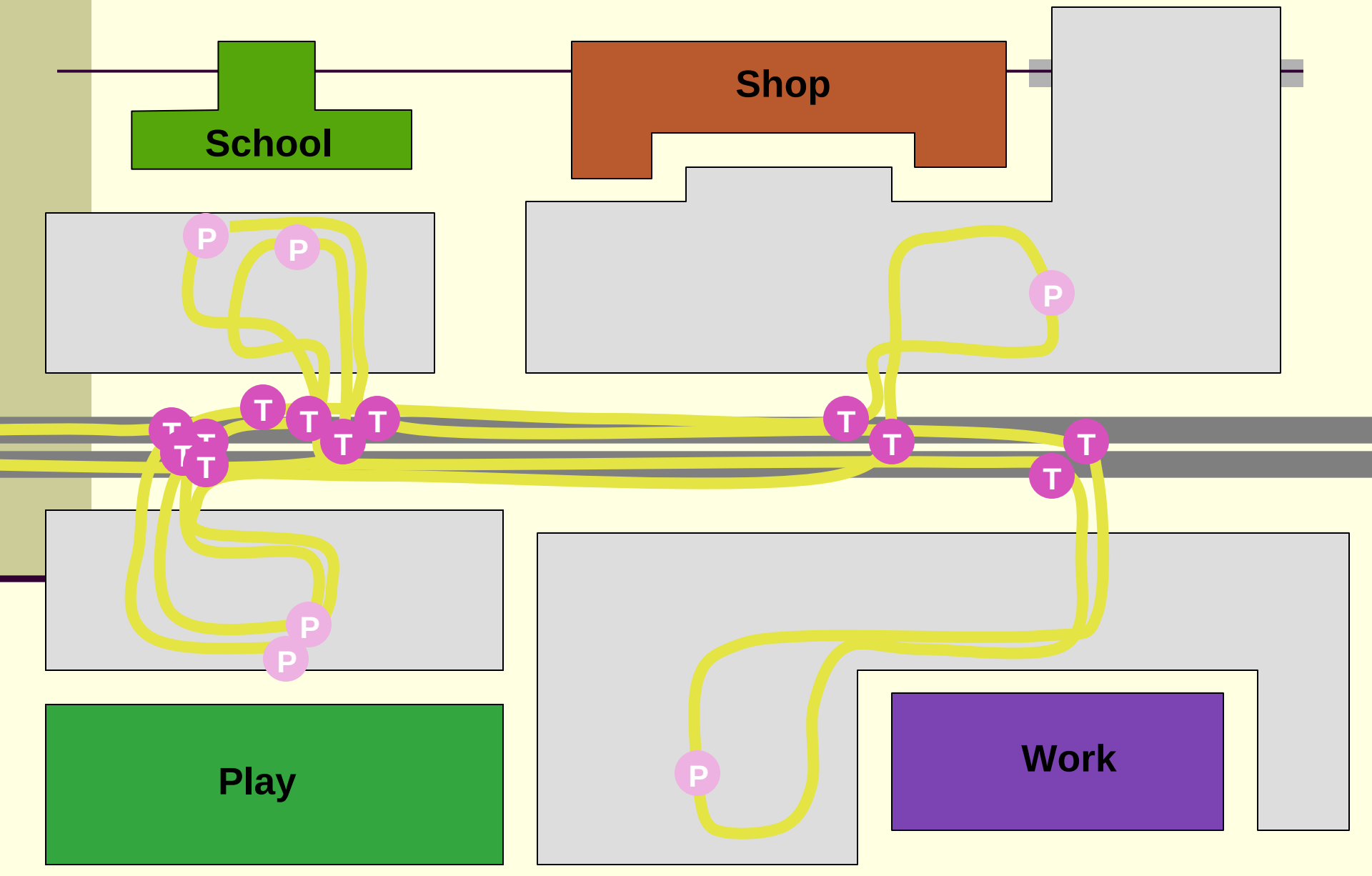
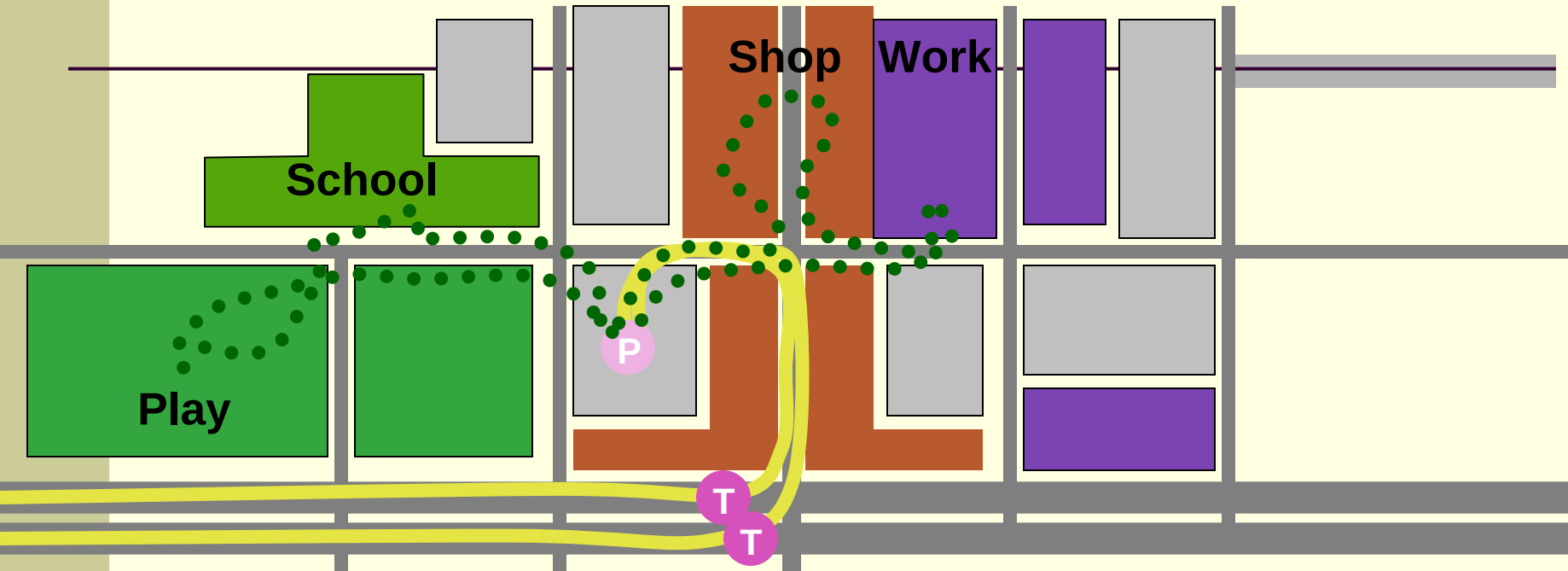
KIRK
PIONEER PRESS

Conventional Suburban Development



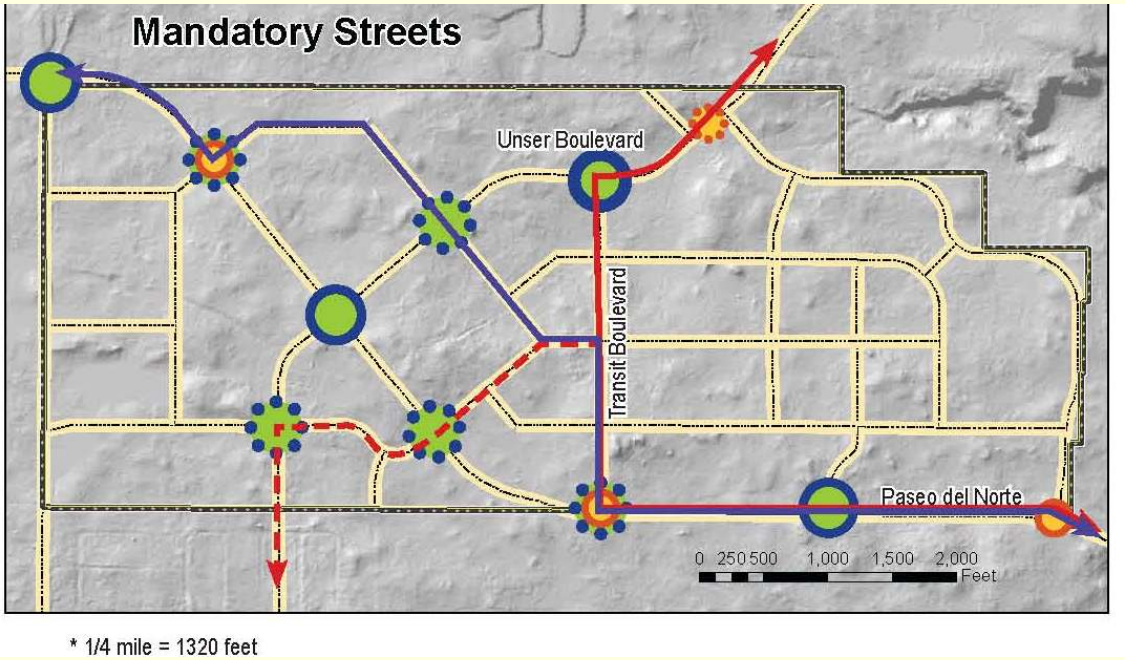
Mixed Use (“Park Once”) District



Typical Results:

- <½ the parking needed
- <½ the land area for same development
- ¼ the arterial trips
- 1/6th the arterial turning movements
- <¼ the vehicle miles traveled

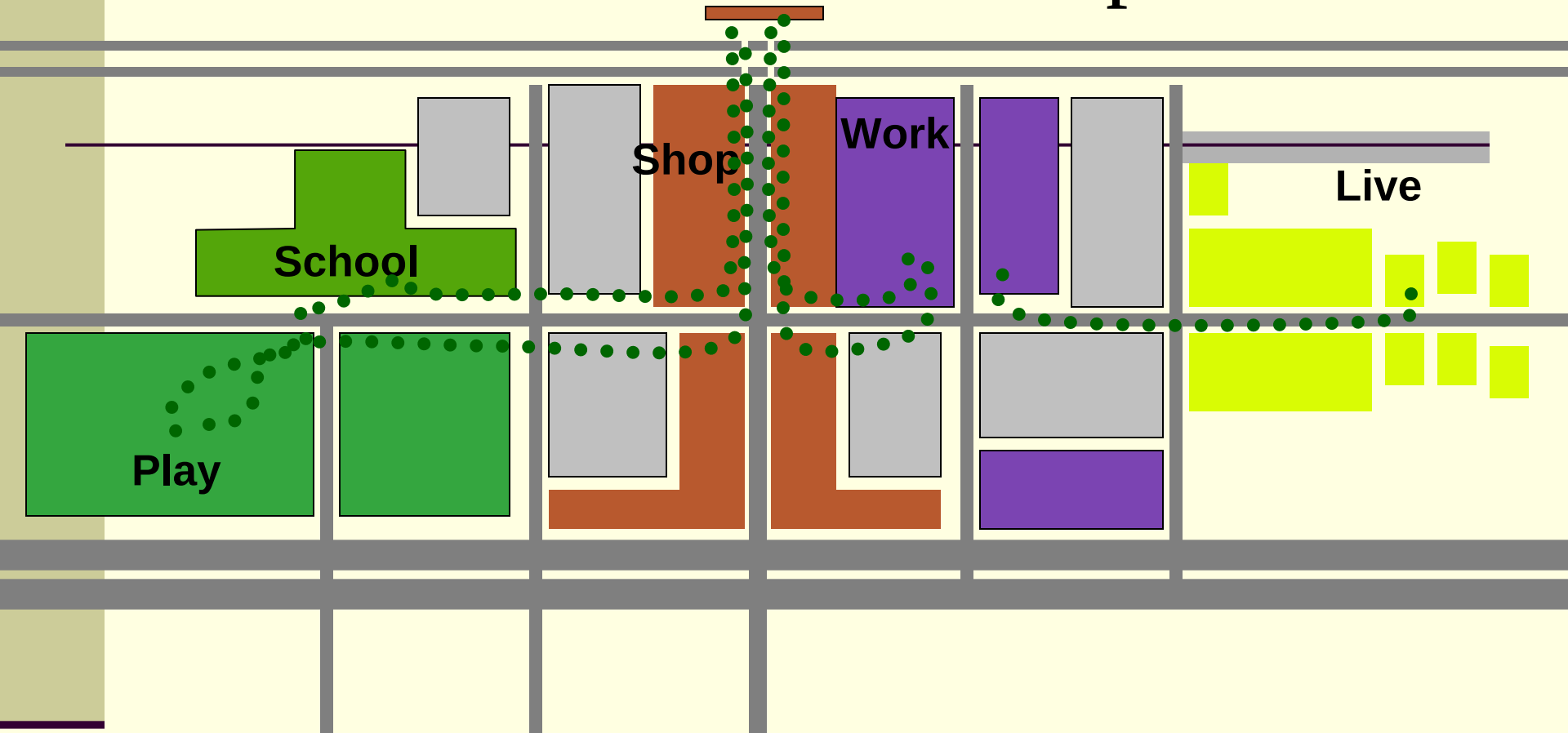
OPPORTUNITY:
High Capacity Transit Corridor



Potential Bus Rapid Transit (BRT) Routes

- MRCOG Study 2012
  - Links Rio Rancho – Unser – Paseo del Norte – Journal Center/I-25/ RailRunner
  - Opportunity for urban, walkable, Transit-oriented Development (TOD)

Transit Oriented Development



Traffic Study:
Trip Generation with existing R-D zoning

Land Use	No. Units	Trip Generation Rate (see note 1)				Total Trips		
		Daily	AM Peak	PM Peak	Units	Daily	AM Peak	PM Peak
Scenario A: Residential Development with 1/2 Acre Lot Sizes (see note 2)								
Detached	924 (units)	9.57	0.77	1.02	/unit	8,843	711	942
Transit Trips (see note 5)		*0%*	*1%*	*1%*		*21*	*7*	*7*
Walk & Bicycle Trips (see note 6)		*0%*	*0%*	*0%*		*0*	*0*	*0*
Total Vehicle Trips Generated						8,821	704	935
Internal Vehicle Trips		*0%*	*0%*	*0%*		*0*	*0*	*0*
External Vehicle Trips (see note 6)		***100%***	***100%***	***100%***		8,821	704	935
Scenario B: Residential Development with 1/4 Acre Lot Sizes (see note 3)								
Detached	1,681 (units)	9.57	0.77	1.02	/unit	16,087	1,294	1,715
Transit Trips (see note 5)		*0%*	*2%*	*2%*		*78*	*26*	*26*
Walk & Bicycle Trips (see note 6)		*0%*	*0%*	*0%*		*0*	*0*	*0*
Total Vehicle Trips Generated						16,010	1,268	1,689
Internal Vehicle Trips		*0%*	*0%*	*0%*		*0*	*0*	*0*
External Vehicle Trips (see note 6)		***100%***	***100%***	***100%***		16,010	1,268	1,689
Scenario C: Residential Development with 1/8 Acre Lot Sizes (see note 4)								
Detached	2,848 (units)	9.57	0.77	1.02	/unit	27,255	2,193	2,905
Transit Trips (see note 5)		*1%*	*4%*	*3%*		*263*	*88*	*88*
Walk & Bicycle Trips (see note 6)		*3%*	*2%*	*1%*		*818*	*33*	*29*
Total Vehicle Trips Generated						26,175	2,072	2,788
Internal Vehicle Trips		*0%*	*0%*	*0%*		*0*	*0*	*0*
External Vehicle Trips (see note 6)		***100%***	***100%***	***100%***		26,175	2,072	2,788

- Local traffic: fewer overall vehicle trips with existing zoning
- Regional traffic: longer trips with more destinations (jobs, shopping, etc.)

Traffic Study:
Trip Generation with existing R-D zoning

- Existing zoning is based on conventional suburban development
  - Housing, jobs & services kept separate
  - Longer regional trips

Traffic Study:
Trip Generation with Baseline (2006 Plan)

- AM Peak Hour:
  - ~5,900 external vehicle trips
- PM Peak Hour
  - ~5,000 external vehicle trips
- Daily traffic
  - ~35,000 external vehicle trips

Land Use	No. Units	Trip Generation Rate (see note 1)				Total Trips		
		Daily	AM Peak	PM Peak	Units	Daily	AM Peak	PM Peak
Residential								
Detached	490 (units)	9.57	0.77	1.02	/unit	4,689	377	500
Attached	0 (units)	5.81	0.44	0.52	/unit	0	0	0
Multifamily	1,160 (units)	6.65	0.51	0.62	/unit	7,714	592	719
Office Park	1,900,000 (ft2)	11.42	1.72	1.50	/occupied room	21,698	3,268	2,850
Office (Town Ctr)	280,502 (ft2)	11.01	1.55	1.49	/1,000 ft2	3,088	435	418
Retail (Town Ctr)								
Regional Retail	326,700 (ft2)	42.94	1.95	7.70	/1,000 ft2	14,028	638	2,515
Specialty Retail	322,198 (ft2)	44.32	6.84	5.02	/1,000 ft2	14,280	2,204	1,617
Local Retail	170,600 (ft2)	42.94	3.72	12.92	/1,000 ft2	7,326	635	2,205
Internal Trip Adjustment (see note 2)		*-22%*	*-15%*	*-19%*		*-15,679*	*-771*	*-2,010*
Retail Pass-by Trips (see note 3)		*-15%*	*-15%*	*-25%*		*-5,345*	*-522*	*-1,584*
Base Trip Subtotal (2006 VH Conceptual Plan Land Uses)						51,800	6,856	7,230
Walk & Bicycle Trips (see note 4)		*8%*	*9%*	*9%*		*4,271*	*592*	*652*
Transit Trips (see note 5)		*3%*	*3%*	*3%*		*1,500*	*225*	*225*
Total Vehicle Trips Generated						**46,028**	**6,039**	**6,353**
Internal Vehicle Trips (see note 6)		*25%*	*3%*	*21%*		*11,333*	*168*	*1,347*
External Vehicle Trips (see note 7)		*75%*	*97%*	*79%*		**34,696**	**5,871**	**5,007**

Notes:

(1) Base trip rates from ITE Trip Generation, 8th Edition. Peak hour trips rates shown for Regional Retail and Local Retail based on fitted curve logarathim applied at block level.

(2) Adjustment to account for internal trips to/from retail uses that would otherwise be double-counted, based on ITE internal trip capture data for retail uses (to/from office, residential and other retail uses) in mixed-use developments.

(3) Pass-by rate of 25 percent for PM Peak derived from ITE logarithim for Shopping Centers (while local and specialty retail uses often have higher pass-by rates). Daily pass-by rate conservatively estimated at 15 percent.

(4) Mode shift for internal trips based on proposed density, mix of uses, block layout, bicycle and pedestrian facilities (URBEMIS methodology).

(5) Based on preliminary "back-of-the-envelope" estimate of potential transit ridership. Assumed 5% of home to work trips for both residential and non-residential land uses would occur via transit plus estimated "non-work" transit trips at 25% of work trips.

(6) Total Vehicle Trips derived by subtracting walk & bicycle trips (see note 4) and transit trips (see note 5) from Base Trip Subtotal.

(7) Derived from estimated internal trips (see note 2), subtracting internal walk & bicycle trips (see note 4) and internal transit trips (estimated at 5% of transit ridership).

(8) Net vehicle trips derived by subtracting internal vehicle trips (see note 6) from total vehicle trips generated.

Traffic Study:
Trip Generation with Sector Plan (2012)

- AM Peak Hour:
  - ~4,700 external vehicle trips
- PM Peak Hour
  - ~5,000 external vehicle trips
- Daily traffic
  - ~43,000 external vehicle trips

Land Use	No. Units	Trip Generation Rate (see note 1)				Total Trips		
		Daily	AM Peak	PM Peak	Units	Daily	AM Peak	PM Peak
Residential								
Detached	364 (units)	9.57	0.77	1.02	/unit	3,483	280	504
Attached	291 (units)	5.81	0.44	0.52	/unit	1,691	128	151
Multifamily	4,114 (units)	6.65	0.51	0.62	/unit	27,360	2,098	2,551
Hotel	53,600 (ft2)	8.92	0.64	0.74	/occupied room	797	57	66
Office	1,180,135 (ft2)	11.01	1.55	1.49	/1,000 ft2	12,993	1,829	1,758
Retail								
Regional Retail	326,700 (ft2)	42.94	1.95	7.70	/1,000 ft2	14,028	638	2,515
Specialty Retail	322,198 (ft2)	44.32	6.84	5.02	/1,000 ft2	14,280	2,204	1,617
Local Retail	170,600 (ft2)	42.94	3.72	12.92	/1,000 ft2	7,326	635	2,205
Internal Trip Adjustment (see note 2)		*-19%*	*-15%*	*-20%*		*-15,679*	*-1,181*	*-2,218*
Retail Pass-by Trips (see note 3)		*-15%*	*-15%*	*-25%*		*-5,345*	*-522*	*-1,584*
Base Trip Subtotal (VH Sector Development Plan)						60,935	6,168	7,565
Walk & Bicycle Trips (see note 4)		*15%*	*14%*	*20%*		*9,070*	*836*	*1,550*
Transit Trips (see note 5)		*3%*	*5%*	*4%*		*2,000*	*300*	*300*
Total Vehicle Trips Generated						**49,865**	**5,032**	**5,715**
Internal Vehicle Trips (see note 6)		*13%*	*7%*	*11%*		*6,509*	*330*	*653*
External Vehicle Trips (see note 7)		*87%*	*93%*	*89%*		**43,356**	**4,702**	**5,062**

Notes:

(1) Base trip rates from ITE Trip Generation, 8th Edition. Peak hour trips rates shown for Regional Retail and Local Retail based on fitted curve logarathim applied at block level.

(2) Adjustment to account for internal trips to/from retail uses that would otherwise be double-counted, based on ITE internal trip capture data for retail uses (to/from office, residential and other retail uses) in mixed-use developments.

(3) Pass-by rate of 25 percent for PM Peak derived from ITE logarithim for Shopping Centers (while local and specialty retail uses often have higher pass-by rates). Daily pass-by rate conservatively estimated at 15 percent.

(4) Mode shift for internal trips based on proposed density, mix of uses, block layout, bicycle and pedestrian facilities (URBEMIS methodology).

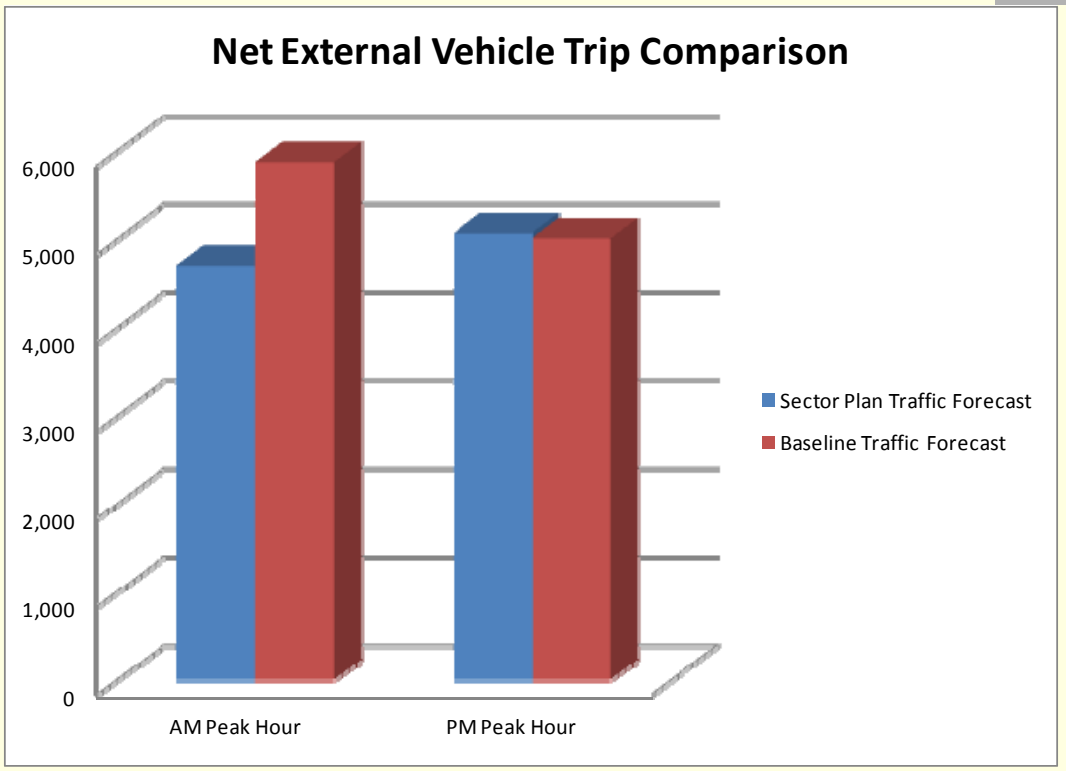
(5) Based on preliminary "back-of-the-envelope" estimate of potential transit ridership. Assumed 5% of home to work trips for both residential and non-residential land uses would occur via transit plus estimated "non-work" transit trips at 50% of daily total.

(6) Total Vehicle Trips derived by subtracting walk & bicycle trips (see note 4) and transit trips (see note 5) from Base Trip Subtotal.

(7) Derived from estimated internal trips (see note 2), subtracting internal walk & bicycle trips (see note 4) and internal transit trips (estimated at 5% of transit ridership).

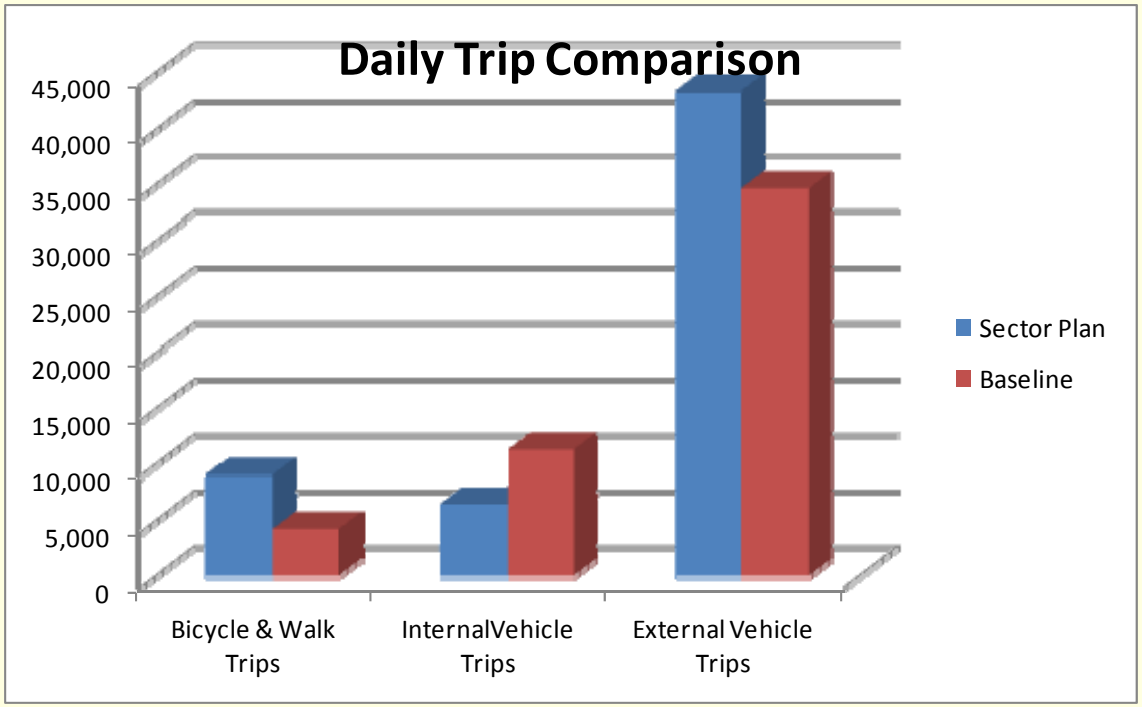
(8) Net vehicle trips derived by subtracting internal vehicle trips (see note 6) from total vehicle trips generated.

Traffic Study:
Findings: Local and Regional Impact



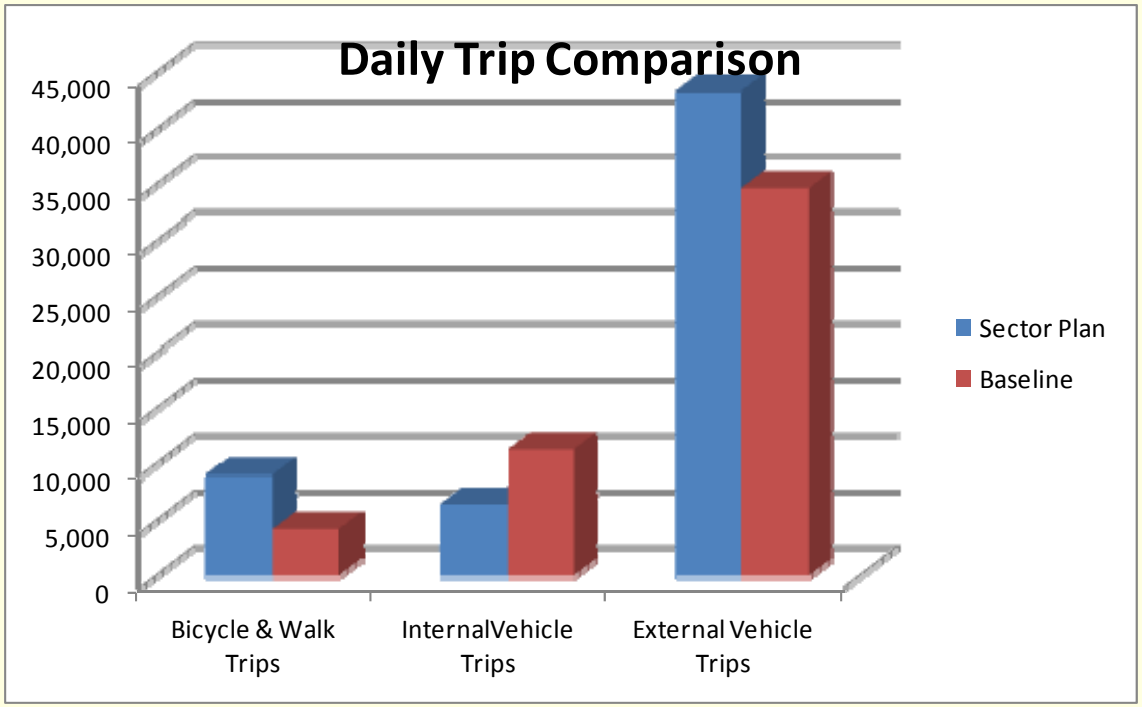
- Peak Hour traffic:
  - Reduced AM trips with 2012 Sector Plan
  - PM trips do not increase with 2012 Sector Plan

Traffic Study:
Findings: Local and Regional Impact



- More daily vehicle trips with 2012 Sector Plan
  - Residential uses generate more daily trips
  - Shorter trips with mix of uses

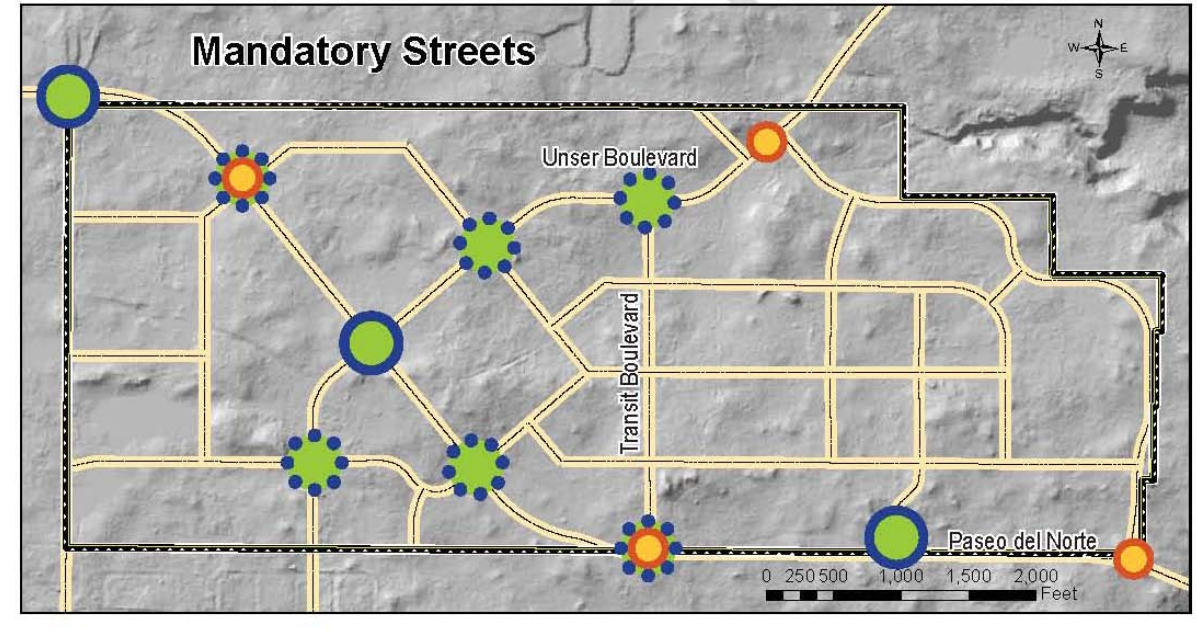
Traffic Study:
Findings: Local and Regional Impact

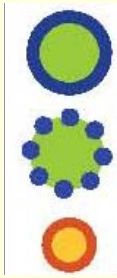


- More bicycle & walking trips with 2012 Sector Plan
  - Smaller blocks
  - Shorter trips with mix of uses

Traffic Study:
Findings: Local and Regional Impact

- Shorter trips with mix of uses
- Shorter trips with more access points
- Shorter trips with smaller blocks





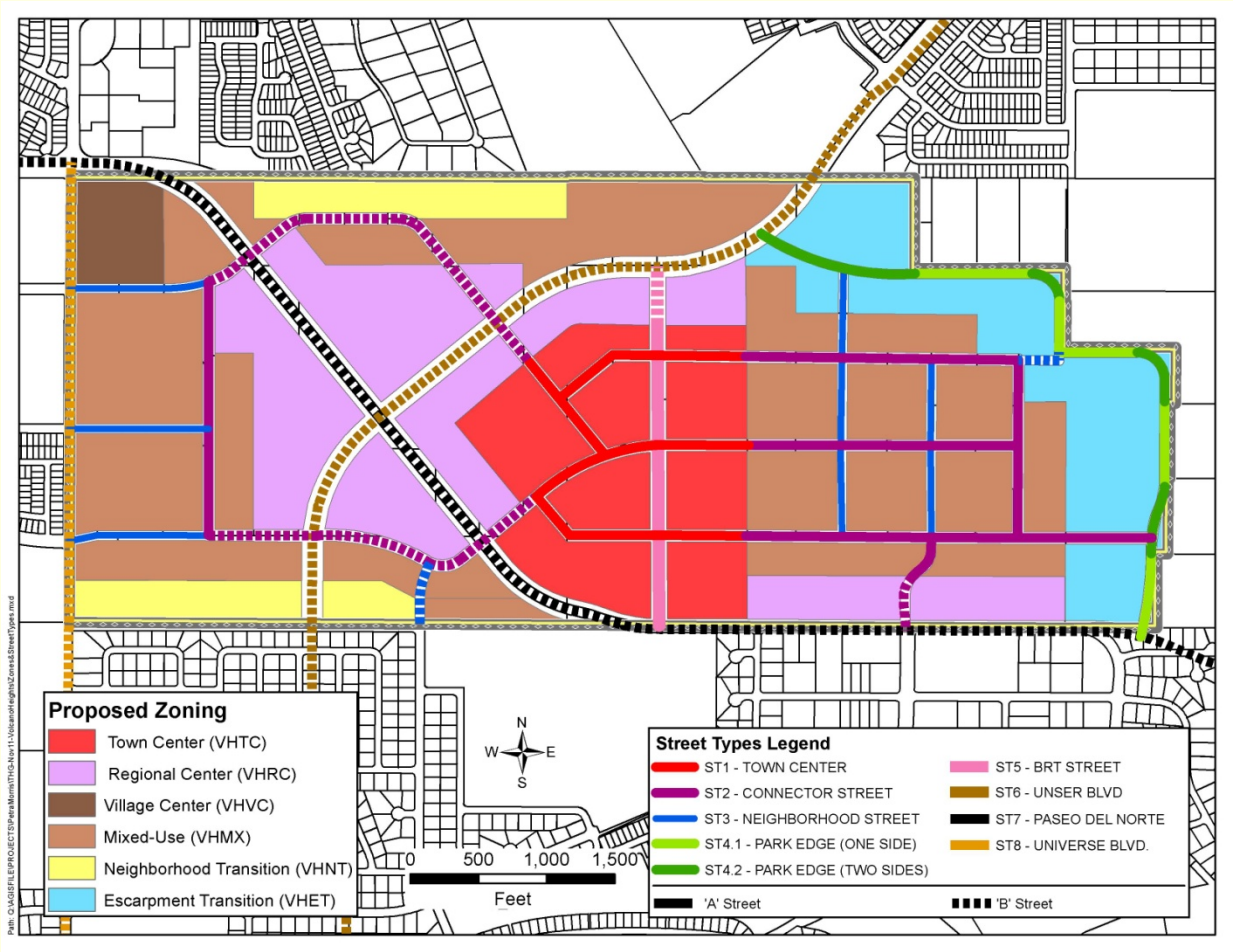
Full intersection in Future Albuquerque Area Bikeways & Streets (FAABS)

Full intersection recommended by the Volcano Heights Sector Plan

Right-in / Right-out in FAABS

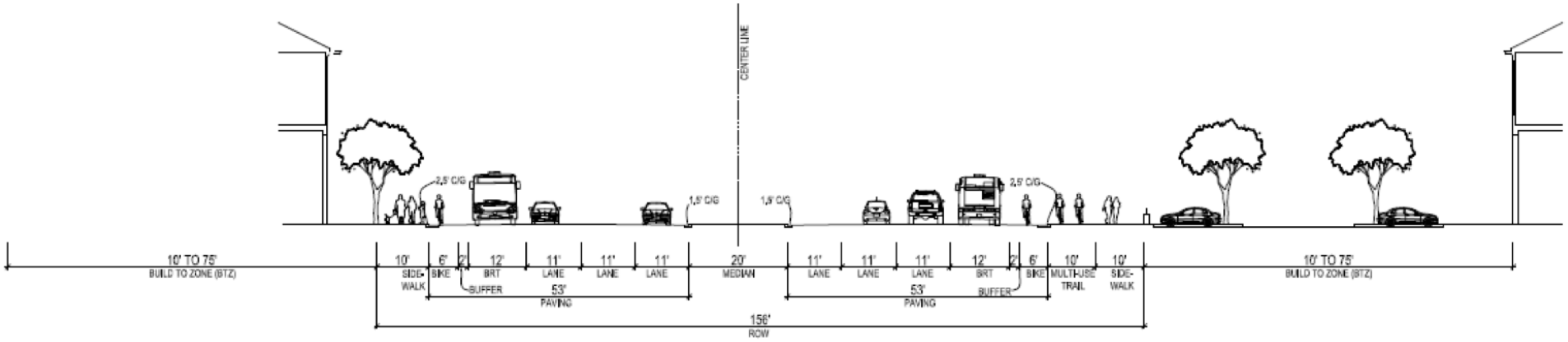
Traffic Study:
Traffic Operations & Street Design

- More internal trips with mix of land uses
- More dispersed traffic with more access points
- Acceptable Level of Service (LOS)

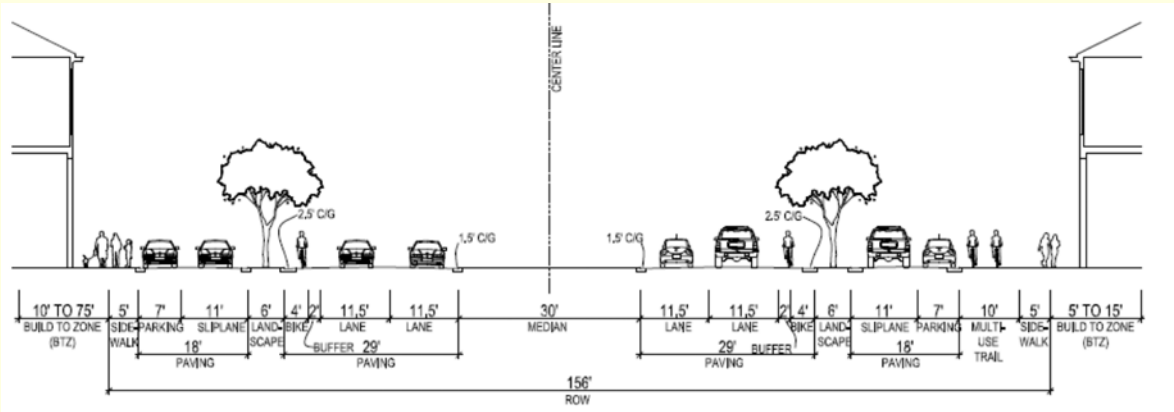


Traffic Study:
Traffic Operations on Arterial Streets

Paseo del Norte Cross (Proposed Cross Section)

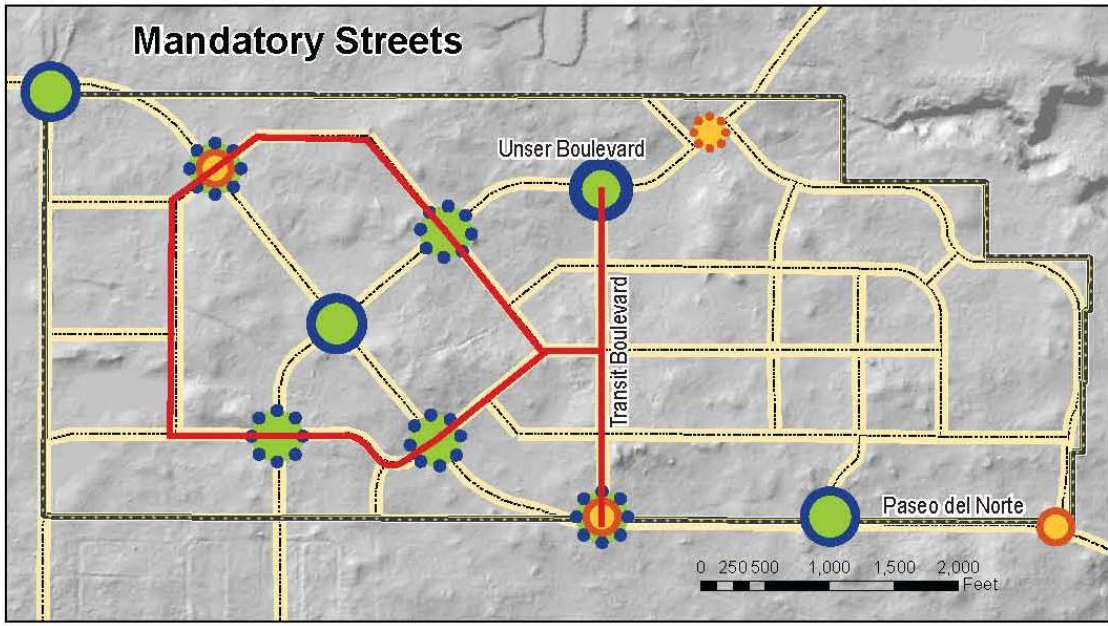


Unser Boulevard (Proposed Cross Section)



Traffic Study:
Traffic Operations on Arterial Streets

- Assumptions
  - 2-way signal coordination
  - Left-turn configurations at proposed additional intersections
  - Reduced turning movements at planned intersections
  - Dispersed traffic to/from multiple access points



* 1/4 mile = 1320 feet

Full intersection in FAABS*

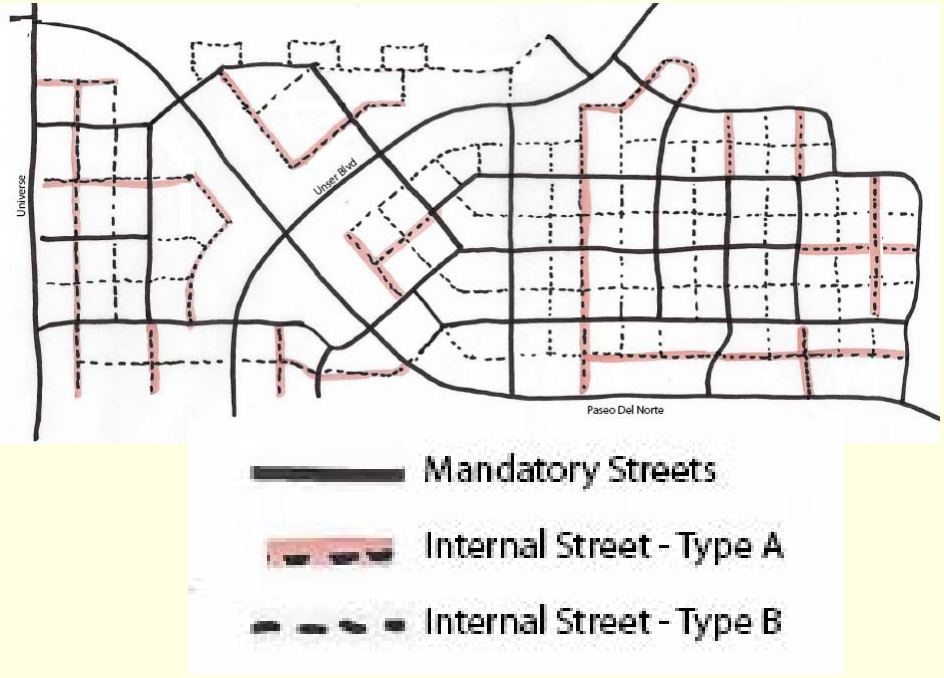
Full intersection recommended by 2012 Sector Plan

Right-in / Right-out in FAABS*

* FAABS = Future Albuquerque Area Bikeways & Streets by the Mid-Region Council of Governments (MRCOG)

Traffic Study:
Possible Non-mandatory Street Grid

- Non-mandatory streets to serve local development
- Smaller block sizes to facilitate bicycling & walking
- Reasonable growth scenario



Traffic Study:

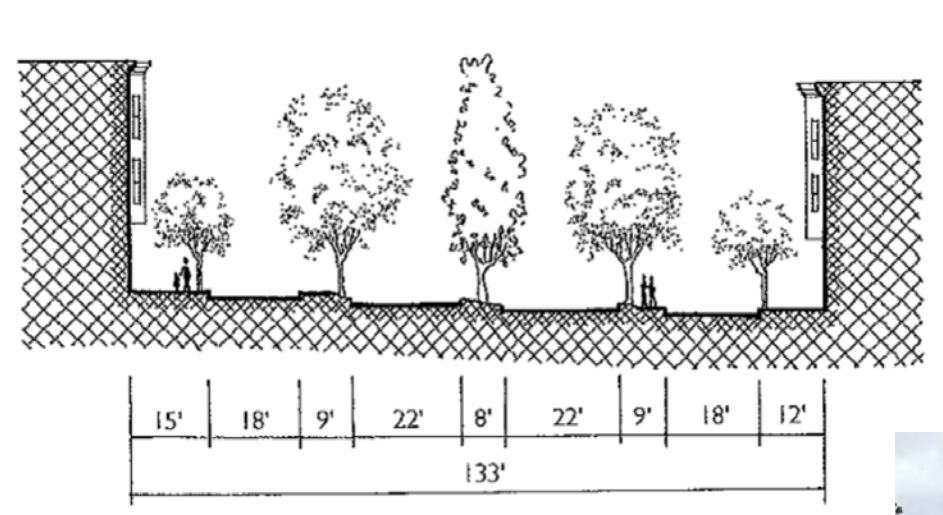
Paseo del Norte Comparison: Lawrence Expressway

- Suburban arterial in Sunnyvale, CA, serves 60,000+ daily cars
  - Similar to Paseo del Norte 2035 traffic forecast & travel speeds
  - Mix of grade-separated and at-grade intersections
- Signal spacing every ¼ to 1/8 mile on some segments
- Acceptable level of service (LOS) with 6 lanes (+2 HOV lanes)

Traffic Study:
Unser Boulevard Comparison: Valencia Street

- Valencia Street, San Francisco, CA (2012)
  - ~20,000 daily cars
  - ~5,000 daily bicyclists
  - High volume of pedestrians
  - **Narrow right-of-way ½ the size of planned Unser Blvd.**
- Unser Blvd
  - ~14,000 daily cars (2035)

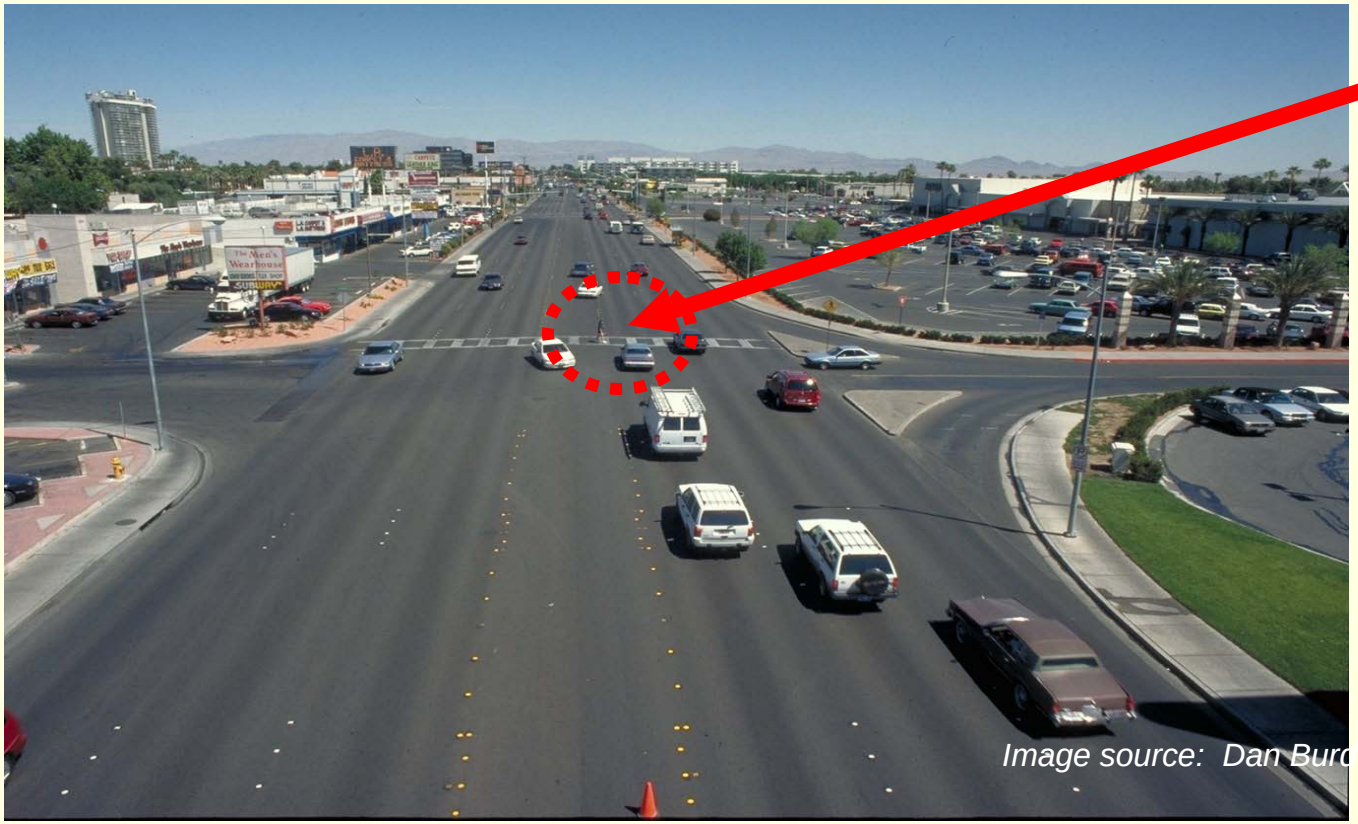
Traffic Study:
Unser Blvd. Comparison: Octavia Blvd.



- San Francisco, CA
- 45,000 daily cars
  - Unser ~ 14,000 daily cars
- Right-of-way similar to proposed Unser Blvd.
  - Narrower median
  - Side road & parking

Traffic Study:
Closing

- Transportation is not an **end** in itself…



Traffic Study: Closing

- Transportation is not an **end** in itself…
  - Access to **destinations**
    - Homes
    - Jobs
    - Schools
    - Services

Traffic Study: Closing

- Transportation is not an **end** in itself…
  - Access to **destinations**
    - Homes
    - Jobs
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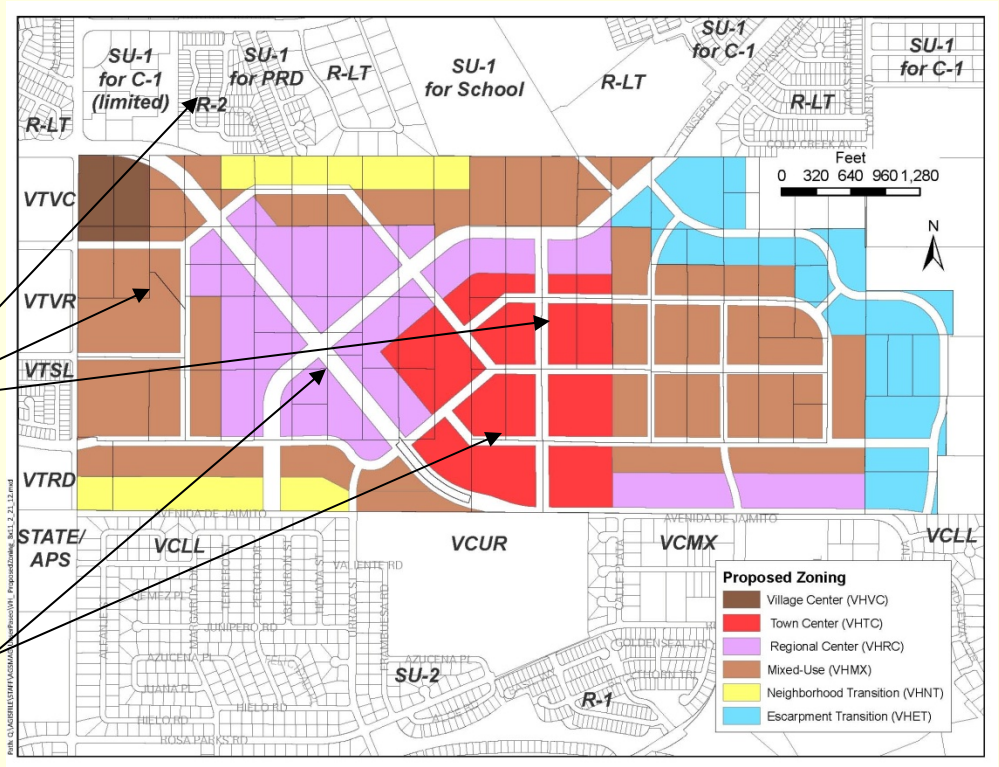
Housing

Jobs & Services



Traffic Study: Closing

- Transportation is not an **end** in itself…
  - Access to **destinations**
  - Connections within a **community**