Santolina Level B Transportation Plan

Bernalillo County
IPGR/ Public Works
County Planning Commission
April 27, 2016
PCC Level B Transportation Criteria

✓ Transportation Network shapes and defines the development pattern for the master planned community.

1. A disclosure statement regarding strict conformance with the Level A Transportation System Plan ...

2. A Level B transportation system analysis, including specific traffic studies ...existing and projected demand (phased as appropriate).
   Consequential noise and air quality impacts (analysis) must be conducted prior to formal submittal of the Level B plan.

3. The traffic circulation system must be identified.

4. Typical roadway cross-sections for major roadways.

5. The type and approximate location of pedestrian, bicycle, and transit elements of the transportation system must be specified.

6. A plan which identifies performance objectives for increasing transit ridership ...as well as strategies for achieving a mode split that maintains level of service D or better on all roads in the affected area.

7. Any remaining transportation problem or issues identified in the Level A Transportation Systems Plan and appropriate to the detail of Level B review must be resolved.
BHI was responsive to our Level A comments and made changes to the network we believe will improve traffic flow.

Conditions of Approval:

4. The applicant will submit a proposed Level B Transportation Plan consistent with the Level A Transportation Plan, as revised, of the Santolina Level A Master Plan. **Done.**
   
a. The Santolina Access Management Plan (SAMP) will be added to the Transportation Plan. **Done.**
   
b. Revise the Level A Transportation Network model as required by BCPWD to include:
      
      - 118th St/ I-140 interchange,
      - grid pattern with new proposed arterial roadways,
      - new urban center layout with perimeter arterials,
      - I-40 parallel road,
      - connectivity to south and north,
      - PDN freeway ROW.

Substantial variations require reanalysis. **2040 MTP forecast reanalysis of revised network done.**

c. All items in Addendum to Transportation Master Plan 11—14 shall be placed in the Level A document. Includes diagrams for interim access spacing and illustrative commercial site access. **Done**

5. Future coordination (and approvals) with NMDOT/ FHWA per MTP, TIP, STIP including phasing. **Done.**

Chapter 6, Transportation, Level A Master Plan on page 95: remove specified text. **Done.**
A Level B transportation system analysis, including specific traffic studies ...existing and projected demand (phased as appropriate).

- Level B follows the revised network in Level A and models 2025 and 2040 phasing forecasts.
- Level B is evaluated on appropriateness as to the location of early phases of development.
  - (No. 1) Prepare a guideline that defines the parameters (for) ...appropriate modifications to these plans and the subsequent review by the County. (withdrawn)

**Consequential noise and air quality impacts (analysis) must be conducted prior to formal submittal of the Level B plan.**

- Bernalillo County will no longer be in non-attainment with EPA in June 2016. The Air Quality Board previously modeled master plans with an air quality determination study.
- BHI has hired a sub-consultant to prepare an air quality study. The air quality report will be made available by the June Environmental presentation to the CPC.
Table 5: Screenline Volumes (2025)

<table>
<thead>
<tr>
<th>Screenline</th>
<th>Roadway</th>
<th>ADT (000)</th>
<th>AM Peak Hour</th>
<th>PM Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Along I-40</td>
<td>118th</td>
<td>6.3</td>
<td>321</td>
<td>284</td>
</tr>
<tr>
<td></td>
<td>Atrisco Vista</td>
<td>36.2</td>
<td>1,335</td>
<td>1,317</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>42.5</td>
<td>1,656</td>
<td>1,501</td>
</tr>
<tr>
<td>Directional Split</td>
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<td></td>
</tr>
<tr>
<td>V/C Ratio</td>
<td></td>
<td></td>
<td>0.52</td>
<td>0.52</td>
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</tbody>
</table>

Table 10: Development Summary

<table>
<thead>
<tr>
<th>Sector</th>
<th>Statistic</th>
<th>2025</th>
<th>2040</th>
<th>2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>Population</td>
<td>15,321</td>
<td>23,325</td>
<td>48,119</td>
</tr>
<tr>
<td></td>
<td>Households</td>
<td>5,893</td>
<td>8,971</td>
<td>18,506</td>
</tr>
<tr>
<td></td>
<td>SF Units</td>
<td>5,547</td>
<td>7,949</td>
<td>16,427</td>
</tr>
<tr>
<td></td>
<td>MF Units</td>
<td>654</td>
<td>1,494</td>
<td>3,054</td>
</tr>
<tr>
<td></td>
<td>Total Units</td>
<td>6,201</td>
<td>9,443</td>
<td>19,481</td>
</tr>
<tr>
<td></td>
<td>% Buildout</td>
<td>15%</td>
<td>25%</td>
<td>51%</td>
</tr>
<tr>
<td>Non-Residential</td>
<td>Basic</td>
<td>1.632</td>
<td>10,087</td>
<td>10,087</td>
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<tr>
<td></td>
<td>Retail</td>
<td>1.248</td>
<td>3,458</td>
<td>3,865</td>
</tr>
<tr>
<td></td>
<td>Service</td>
<td>5.787</td>
<td>17,911</td>
<td>18,858</td>
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<tr>
<td></td>
<td>Total Jobs</td>
<td>8,677</td>
<td>31,456</td>
<td>32,810</td>
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<tr>
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<td>% Buildout</td>
<td>11%</td>
<td>41%</td>
<td>43%</td>
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<tr>
<td></td>
<td>Jobs/HH</td>
<td>1.47</td>
<td>3.51</td>
<td>1.77</td>
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Table 8: Screenline Volumes (2040)

<table>
<thead>
<tr>
<th>Screenline</th>
<th>Roadway</th>
<th>ADT (000)</th>
<th>AM Peak Hour</th>
<th>PM Peak Hour</th>
</tr>
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<tbody>
<tr>
<td>Along I-40</td>
<td>118th</td>
<td>24.0</td>
<td>857</td>
<td>951</td>
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<tr>
<td>...Between I-40 and Central</td>
<td>Atrisco Vista</td>
<td>47.1</td>
<td>1,348</td>
<td>2,133</td>
</tr>
<tr>
<td></td>
<td>Paseo de Volcan</td>
<td>30.1</td>
<td>751</td>
<td>2,058</td>
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<tr>
<td>Total</td>
<td></td>
<td>101.2</td>
<td>2,956</td>
<td>5,142</td>
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<td>Directional Split</td>
<td></td>
<td></td>
<td>36.5%</td>
<td>63.5%</td>
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<tr>
<td>V/C Ratio</td>
<td></td>
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<td>0.57</td>
<td>0.99</td>
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<table>
<thead>
<tr>
<th>Screenline</th>
<th>Roadway</th>
<th>ADT (000)</th>
<th>AM Peak Hour</th>
<th>PM Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Along Escarpment</td>
<td>Central</td>
<td>39.3</td>
<td>1,439</td>
<td>1,821</td>
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<tr>
<td>...Just West of 118th</td>
<td>Gibson</td>
<td>28.5</td>
<td>680</td>
<td>1,666</td>
</tr>
<tr>
<td></td>
<td>Dennis Chavez</td>
<td>49.8</td>
<td>1,442</td>
<td>2,346</td>
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<td>Total</td>
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<td>117.6</td>
<td>3,561</td>
<td>5,833</td>
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<td>Directional Split</td>
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<tr>
<td>V/C Ratio</td>
<td></td>
<td></td>
<td>0.45</td>
<td>0.73</td>
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Table 10: Development Summary

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<thead>
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<tr>
<td></td>
<td>MF Units</td>
<td>654</td>
<td>1,494</td>
<td>3,054</td>
</tr>
<tr>
<td>Total Units</td>
<td></td>
<td>6,201</td>
<td>9,443</td>
<td>19,481</td>
</tr>
<tr>
<td>% Buildout</td>
<td></td>
<td>16%</td>
<td>25%</td>
<td>51%</td>
</tr>
</tbody>
</table>

| Non-Residential | Basic   | 1,632 | 10,087| 10,087 |
|                | Retail  | 1,248 | 3,458 | 3,865  |
|                | Service | 5,797 | 17,911| 18,958 |
| Total Jobs     |         | 8,677 | 31,456| 32,810 |
| % Buildout     |         | 11%   | 41%  | 49%    |

Jobs/HH: 1.47 3.51 1.77
The traffic circulation system must be identified.

Level B reveals the underlying arterial and collector network as well as bikeways, sidewalks, trails, and transit routes.

- (No. 3) Functional Classification Maps – Provide consistent language: **Maps to be modified.**
- (No. 4) LRTS Guide/Complete Streets – Add green infrastructure techniques and ITS techniques and adaptive signals. **Language will be added to the MP.**
- City of Albuquerque DMD comments. **Addressed.**
  - Gibson Blvd will be city maintained ½ mile west of 118th St and built per city standards; may require additional right-of-way through escarpment
  - Mitigation measures for impacts to city-owned facilities. **Mitigation report provided.**
- MRCOG comments. **Language will be added to MP.**
  - Concerns regarding roadway widening during phasing; private vs public funding
  - Roadway design – “last mile” connections; ROW too wide; urban center; trail widths
  - Gibson Extension opportunities for Route 54 transit connection; use minor arterials
  - Clarify references to 2040 MTP trend scenario
  - Build out more of the gridded network by 2040
- NMDOT comments: **Addressed in Development Agreement.**
  - STIP program to begin acquiring right-of-way for PDV corridor
  - Commit to cost sharing for roadway improvements
  - Congestion at several I-40 interchanges to be mitigated; financial obligations
Based on high jobs/ housing ratio assumptions, the network performs well.

- Reduces delays and travel time
- Generally provides acceptable levels of service (exceptions discussed below)
- Reduces VMT in 2025
- VMT increases in 2040 (address w/ Transportation Demand Management (TDM))
**2040 MTP (adopted 2015)** - Bernalillo County’s long range transportation plan - identifies **public/ private funded** roadways.

- Both the **trend and preferred scenarios** encourage improving our **existing network** and building **transit projects** over adding new roadways.

- The **preferred scenario** encourages more West Side employment and new development around centers and along major transit corridors.

<table>
<thead>
<tr>
<th>Measure</th>
<th>2012</th>
<th>2040</th>
<th>Increase</th>
<th>MTP Trend</th>
<th>MTP Pref</th>
<th>Santolina B1, B2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>675,548</td>
<td>987,080</td>
<td>311,532</td>
<td>14,032</td>
<td>23,325</td>
<td>24,791</td>
</tr>
<tr>
<td>Employment</td>
<td>341,452</td>
<td>473,037</td>
<td>131,585</td>
<td>1,618</td>
<td>12,167</td>
<td>20,643</td>
</tr>
<tr>
<td>Jobs/Housing East</td>
<td>1.39</td>
<td></td>
<td></td>
<td>1.37</td>
<td>1.31</td>
<td>-</td>
</tr>
<tr>
<td>Jobs/Housing West</td>
<td>0.56</td>
<td></td>
<td></td>
<td>0.65</td>
<td>0.68</td>
<td>0.73</td>
</tr>
<tr>
<td>VMT</td>
<td></td>
<td></td>
<td></td>
<td>0.0</td>
<td>-5.0%</td>
<td>+2.6</td>
</tr>
<tr>
<td>VHT</td>
<td></td>
<td></td>
<td></td>
<td>0.0</td>
<td>-17.0%</td>
<td>-2.7</td>
</tr>
<tr>
<td>VHD</td>
<td></td>
<td></td>
<td></td>
<td>0.0</td>
<td>-28.0%</td>
<td>-3.8</td>
</tr>
<tr>
<td>River Crossings</td>
<td></td>
<td></td>
<td></td>
<td>0.0</td>
<td>-3%</td>
<td>0.0</td>
</tr>
<tr>
<td>Emissions (CO₂)</td>
<td></td>
<td></td>
<td></td>
<td>0.0</td>
<td>-8%</td>
<td>TBD</td>
</tr>
</tbody>
</table>
**Typical roadway cross-sections for major roadways.**

- 48 ft. local street section for private streets only and must request a variance. On-street parking must comply with fire code (503.10.3). Add a 60 ft major local street section. **Add language to MP.**

- (No. 2) Include adequate information to ensure ROW for all major onsite corridors, especially PDV, be provided to allow for transition from interim to ultimate buildout conditions. **Done**

- Page 16, second paragraph: Consider providing potential candidate locations for future roundabouts (including ROW). **Unlikely to be roundabouts on arterials.**
The type and approximate location of pedestrian, bicycle, and transit elements of the transportation system must be specified.

- Transportation Demand Management (TDM) (Page 47). Will be emphasized.
  - Provides pedestrian and bicycle facilities
  - Dedicated transit lanes on future roadways
  - Connectivity of employment and commercial centers to residential neighborhoods
  - Employment and commercial centers located along transit routes
  - Coordination between public agencies and private employers for incentives:
    - Employers can educate employees on carpooling and transit use
    - Employers can provide flexible work schedules
    - Employers can provide transit passes, rewards for carpooling, preferred parking

- (No. 8) Transit MP: Page 62. Mention existing Dennis Chavez routes. MP will be revised.
  - Route 222 transit service on Dennis Chavez that serves South Valley Railrunner Station
  - Route 98 transit service on 98th St and Dennis Chavez that serves Rio Bravo/Coors.

- (No. 9) Pedestrian and Bikeways MP Page 58. MP will be revised with latest research.
  - Proposed trail network runs through the proposed street network.
  - Trails crossing roadways (grade separation, signalized crossings, mid-block crossings).
  - Add more connectivity to trail network.
  - Describe how trails will integrate with on-street bicycle and pedestrian network.
  - Bikeway design features (buffered bike lanes, cycle tracks, bike intersections, etc).
Trail network gaps.
A plan which identifies... strategies for achieving a mode split that maintains (at capacity) level of service (LOS) on all roads in the affected area.

✓ Some segments of the off-site network along I-40 and major arterials do not perform well. Provided a Mitigation Report.

- Page 9: Existing frontage road south of I-40 adequate as 2-lane (1 lane per direction) facility? Consider a 4-lane (2-lane per direction)? **NMDOT prefers former.**
- Page 14: How many lanes for the full buildout I-40/PDV interchange WB exit ramp and EB entrance ramp are considered? See Mitigation Report. Add lanes, signal.
- Interchange is planned for future buildout after 2025; it should have a better LOS and v/c condition in 2040 other than severe?

### Table 3: Level of Service Definitions

<table>
<thead>
<tr>
<th>V/C Ratio</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 0.9</td>
<td>Acceptable</td>
</tr>
<tr>
<td>&lt; 1.0</td>
<td>Approaching Capacity</td>
</tr>
<tr>
<td>&lt; 1.1</td>
<td>Over Capacity</td>
</tr>
<tr>
<td>&lt; 1.5</td>
<td>Severely Congested (Level 1)</td>
</tr>
<tr>
<td>1.5+</td>
<td>Severely Congested (Level 2)</td>
</tr>
</tbody>
</table>
A plan which identifies ...strategies for achieving a mode split that maintains (at capacity) level of service (LOS) on all roads in the affected area.

- Pages 27 – 28 and 34 – 35: – In the AM/PM peak hour volumes exhibit, in the year 2025, there are traffic volumes at the end of Shelly Road but in the year 2040, this traffic volume “disappears”. **Coding error corrected for 2040.**
- Page 34 and 38: Did the traffic modeling analysis factor in traffic to/from the Metropolitan Detention Center and Sandia Motorsports? **Same as above.**
- Page 66: - Is there sufficient evidence to justify that the Santolina development will affect EB traffic on US-550 and Alameda Blvd? **Due to normalized forecast to maintain regional controls.**
A plan which identifies strategies for achieving a mode split that maintains (at capacity) level of service (LOS) on all roads.

- (No. 5, 6, 7) 2025/2040 V/C On/Off-site LOS Change (>10%) AM/PM Peak Analysis.
- Mitigation Report provides costs to improve LOS for 22 intersections/interchanges.

1, 2. I-40/ PDV Interchange ramps
3, 4. I-40/ Atrisco Vista Blvd Interchange ramps (2025)
5, 6. I-40/ 118th St Ramps
7. 118th St between Central Ave/ I-40
8. Central Ave and 98th St
9. Central Ave and 106 St
10. 118th St and Gibson Blvd
11. 118th St and D. Chavez Blvd (on-site)
12. D. Chavez Blvd and Unser Blvd
13. R. Bravo/ D. Chavez & Coors Blvd
14. Rio Bravo Blvd and Isleta Blvd
15. Rio Bravo Blvd & Broadway Blvd
16. Gun Club Rd and Unser Blvd (on-site)
17. Gun Club Rd and Isleta Blvd
18. Coors Blvd & Gun Club Rd
19. Isleta Blvd & Gun Club Rd.
20. Atrisco Blvd & Parallel Rd (on-site)
21. Atrisco Blvd & Gun Club Rd (on-site)
22. D. Chavez Blvd & Loop Rd. (on-site)

A. I-40 WB btwn Unser Blvd/ 98th St
B. I-40 EB btwn 118th St/ Unser Blvd
Mitigation Report estimates $64.65 million in public/private funding to construct improvements at ~20 off-site locations in SW quadrant by 2040.

Mitigation improvements include:

- Construct new I-40 interchanges at PDV and 118th St
- Widen ramps at Atrisco Vista and I-40
- Install traffic signals
- Widen/ add travel lanes to arterials
- Add right and/or left turn lanes
Any remaining transportation problem or issues.

- (No. 11) Page 19 identifies total 2040 MTP public and private no-net costs for roadways.
- Mitigation Report provides total roadway improvement costs required.
- Proportional responsibility determined in Level B development agreement.

- **2025 On-Site Improvements - $98.66 million**
  - Atrisco Vista widening - $14.34 million
  - Dennis Chavez widening - $10.47 million
  - Internal roadways - $73.85 million

- **2040 On-Site Improvements - $86.2 million**
  - Atrisco Vista widening - $28.4 million
  - Dennis Chavez widening - $5.5 million
  - Gibson ext. up escarpment - $9.22 million
  - Gibson ext. Loop Rd to A.V. - $2.65 million
  - Internal roadways – $26.6 million
  - PDV south of I-40 - $8.1 million

Roadway funding:
- Private financing on-site
- TIDDs for on-site
- Impact fees for off-site
- Federal, local bonds for off-site
Conditions of Approval

The following Conditions of Approval are required within 30 days of BCC approval of Level B Santolina Master Plan:

• The Level B Transportation Master Plan/Technical Appendix text and maps will be revised to address agency comments
• Level B Development Agreement will address no-net cost criteria for all on-site and off-site transportation improvements related to the Santolina Master Plan with the appropriate funding mechanism.

The following items are required prior to CPC approval of Level B Santolina Master Plan:

• Addendum to the Level B Transportation Master Plan/Technical Appendix with revised text and maps addressing agency comments
• An Air Quality Study will be performed by June 2015 using EPA’s Motor Vehicles Emission Simulator (MOVES 2014) model identifying regional pollutants per National Ambient Air Quality Standards and, if needed, localized analysis of 2 on-site, 2 off-site high volume intersections using CAL3QHC dispersion model.