

Development Plan (DP) Transportation Review Checklist

All Sheets

General¹

- All sheets are 24" x 36" with a one-inch margin on each side.
- The site plan and utility/hydrology plans are shown at the same scale on separate sheets.
- Scale is 1" = 20', 1" = 30' or 1" = 40' (unless waived by SDRC) for site plan and utility/hydrology sheets.
- Lettering and dimensioning is at least 1/8" in height.
- North arrow and lettering point towards top or right of each sheet.
- North arrow and scale are together in the upper right corner of each sheet.
- Sheet number and number of sheets are noted on the bottom right corner of each sheet (i.e. Sheet ____ of ____).
- Cross-reference numbers (Co# & P#s) are not shown anywhere but in the bottom right corner, outside title block.
- Only final development conditions are shown: NO "New," "Proposed" or "Future" labels are shown. Only existing structures/improvements to remain are shown and labeled as "EXISTING."

Title Block¹

- Title Block is shown in the lower right corner of each sheet, with:
 - "Development Plan",
 - Name of development,
 - Brief, accurate legal description of the development property, including lot numbers if applicable; section, township and range; and the words "G & S R M, Pima County, Arizona",
 - Project P12 number, bolded and in a larger font size than the cross-reference numbers.

Key Notes¹

- All listed key notes are used somewhere in the plan set.
- Each key note is unique – i.e., each key note number represents the same item throughout the plan set.
- All key notes used on a given sheet are listed on that same sheet.

Professional Seal¹

- Each sheet is sealed by a professional civil engineer or registered architect, IF the project area > 1 acre OR new grading ≥ 14,000 sq ft OR new paving ≥ 3,000 sq ft OR storm water detention is required.

Rezoning & Other Conditions of Development

- Conditions are submitted for all applicable Co9 (Rezoning) and Co23 (Specific Plan) cross-reference case numbers in the form of minutes, ordinances or resolutions (which can be obtained from Pima County Planning.)
- Decision letters have been submitted for all applicable Co10 (Variance), Co20 (DRC action) and Co24 (HDZ Variance) cross-reference case numbers. (These can be obtained from Pima County Planning.)
- Site plan complies with transportation-related conditions (check w/Zoning Administrator if questionable).
- Number and location of access points match approved preliminary development plans, sketch plans and site plans associated with applicable cross-reference case numbers OR written OK from Zoning Administrator provided.
- Pima County Cultural Resources clearance letter is provided for all Archeological/Cultural Resources conditions.
- For 2nd & subsequent submittals: above items have been re-checked for case numbers added since prior submittal.

Traffic Impact Study²

- The peak hour trips generated by the development are shown (from SS Table 3.2 or ITE's *Trip Generation*):

Land Use	Unit	Peak Hr Trips/Unit	Threshold	# Units	Peak Hr Trips
TOTAL Peak Hour Trips Generated by Entire Development					

- IF 100 or more total peak hour trips are generated, a TIS approved by PCDOT has been submitted.
- IF TIS is required, site plan complies with all conclusions and recommendations of the TIS approved by PCDOT.

Pima County Development Plan (DP) Transportation Review Checklist

Site Plan

Boundary Line

- Site plan extends at least 100' beyond the development boundary line.¹
- Existing conditions shown on site plan have been verified using aerial photos and/or Pima County MapGuide.
- Development boundary line is the boldest solid line on the plan.¹
- The proposed layout is consistent with the lot layout and notes of the most recently approved plats (P12/Co12 project #s) that encompass the entire proposed area of development.
- The length and bearing of each boundary tangent section are shown.¹
- The radius, central angle and arc length of each boundary curve are shown.¹
- A property corner of the development is tied to a permanent, established survey monument such as a section corner (no tie is needed if development boundary is directly abutting a roadway intersection).¹
- Phases (if used) are shown and labeled with positive whole numbers. (Phases 1, 2, 3; ~~NOT Phases 1A, 1B, 1C~~)

Buildings¹

- Each building footprint is shown (and labeled with type of use, if multiple uses in development).
- Existing structures to be removed are NOT shown.

Access

- Paved legal access from a paved public road is shown.¹ If phased, access is provided to each phase
- Access to the nearest arterial or collector highway does not flow through a residential or other dissimilarly zoned area that would likely be negatively impacted by additional traffic.²
- IF the development will not abut a public street, an easement wide enough for two-way paved access is shown.¹

Rights-of-Way

- The following are shown (and if part of other plans, labeled with plan #s) for abutting streets and rights-of-way:¹
 - Rights-of-way are shown with unique line type referenced in the legend and the widths are dimensioned.
 - Street is labeled accurately with name and "(Public)" or "(Private)."
 - Recorded book or docket number and page number are shown and are correct.
 - Pavement edges are shown and pavement width is dimensioned.
 - Curbs, medians, sidewalk and other cross-sectional elements are shown and labeled.
 - The posted speed limit is shown or provided.
 - All intersecting streets & driveways (existing & proposed) across abutting streets are shown.
 - All intersecting streets and driveways (existing and proposed) on the same side of the street are shown within 150' of the development and within 185' of any driveways along a 40 mph street, 230' of any driveways along a 45 mph street and 275' of any driveways along a 50 mph street.
 - The information above has been verified by viewing MapGuide and encompassing and adjacent plats.
- IF development abuts or overlaps a Major Route, as shown on [Pima County Major Streets & Routes Plan](#):
 - Major Routes are labeled "MSR." Major Scenic Routes are labeled "MSSR."
 - MSR building setbacks are shown, labeled and dimensioned from the existing right-of-way centerline, to 30 feet + ½ the planned right-of-way width as shown on PC Major Streets and Scenic Routes Plan.
 - IF existing right-of-way width < planned right-of-way width shown on PC Major Streets and Scenic Routes Plan, a legal description and location map has been provided for MSR right-of-way dedication.
- Written authorization from the appropriate jurisdiction has been provided for any work or driveways within non-Pima County public rights-of-way (including ADOT and cities of Tucson, Oro Valley, Marana, etc.).
- Bufferyards do not overlap with public rights-of-way.
- Proposed new streets comply with PC Commercial and Industrial Subdivision Street Standards (and if collector or arterial, [PCDOT Roadway Design Manual](#)) and are dedicated by separate instrument with docket/page #s shown.

Easements

- Each existing and proposed access, no-access, drainage and slope easement is shown with a dashed line, dimensioned, labeled, identified as public or private and labeled with recorded book and page.

Pavement

- All on-site paved areas (new & existing) & new off-site paved areas are shown by light SOLID shading.¹
- Pavement sections are shown and meet following minimum requirements (SS 8.2.3):²
 - 1-10 parking spaces (with minimal truck traffic): at least double-chip seal or brick pavers

Pima County Development Plan (DP) Transportation Review Checklist

- 11+ parking spaces (without excessive truck traffic): 2" asphaltic concrete (AC) and 4" compacted aggregate base (AB), OR P.E. certified structural number (SN) of 1.35
- Contractor yards or storage areas: gravel or decomposed granite

Driveways²

- All driveways meet (same-side-of-street) spacing and corner clearance requirements as shown below:

Posted speed limits on adjacent streets (mph)	<input type="checkbox"/> 25	<input type="checkbox"/> 30	<input type="checkbox"/> 35	<input type="checkbox"/> 40	<input type="checkbox"/> 45	<input type="checkbox"/> 50
Min spacing between driveways (ft) (driveway C ₁ to driveway C ₁)	105	125	150	185	230	275
Min driveway-to-street clearance (ft) (paved edge to paved edge)	150	150	150	185	230	275

- There are no more than 2 driveways along any continuous 300' section of an abutting street.
- Driveways across the street from one another are aligned where possible, or $\geq 150'$ apart, pavement-to-pavement (SS Fig. 3.3), especially where heavy traffic volumes are expected.
- Driveways on streets with vertical curbs are shown with driveway aprons and curb cuts using Standard Detail 206.
- Driveways accessing rural, uncurbed streets have return radii w/ 6" x 12" concrete headers adjacent to each return.
- Other than on rural, uncurbed streets, the use of return radii are limited to the following situations:
 - Driveways with projected ADT > 100 vehicles, as calculated according to ITE's *Trip Generation*
 - Driveways on streets where the posted speed limit > 45 mph
 - Driveways served by median openings with left turn lane storage
 - Driveways where the land use, amount of truck traffic or prevailing speeds would make curb cuts unsafe
- Return radii $\geq 25'$ on local streets or streets with right or left turn lanes, and $\geq 40'$ on collector or arterial streets
- Driveways with return radii are shown with pavement sections of at least 2.5" AC and 4" AB, or SN > 1.5.
- Driveways without medians have 2 lanes and are 24'-30' wide.
- Driveways with > 2 lanes have a raised median 6'-16' wide with the greater of 16' or 12' per lane on either side.
- Driveway slopes are $\leq 6\%$, and $\leq 2\%$ within sidewalk crossings (check slopes on utility/hydrology plan).
- Each driveway connects to a public street at an angle of 80 to 100 degrees, and at 90 degrees wherever possible.
- All driveway throat lengths extend at least 50' into parking area from edge of street pavement.
- Gated entrances have a 42+ turnaround and stopping points (i.e. keypad, etc.) are setback 50+ from ROW line.

Sight Visibility Triangle (SVT)²

- SVTs outside of the ROW are shown with these distances for all driveway accessible lanes (SS Details 3.10-3.12):
Min. sight distance, measured edge of street pavement to edge of driveway pavement (along chord, not arc, if road curves)

Design Street Speed Limit (mph)		20	25	30	35	40	45	50	55	60
2 Lane Road	Left Side (ft)	140	180	220	260	300	340	380	420	455
	Right Side (ft)	95	120	145	170	195	220	245	270	295
3-4 Lane Road	Left Side (ft)	150	195	235	280	320	360	405	445	485
	Right Side (ft)	75	95	115	135	155	175	190	210	230
5 Lane Road	Left Side (ft)	165	205	250	295	340	385	430	475	520
	Right Side (ft)	60	80	95	110	130	145	160	175	195

- Where one-way traffic or raised median islands limit turns from a driveway to one direction, a 30' pedestrian sight distance is used in lieu of the far side SVT (SS Detail 3.12).
- There are NO obstructions between 30" and 72" in height within the SVT.
- SVTs are entirely enclosed within the right-of-way or within a public easement.

Parking Areas²

- Safe, easily accessible passenger drop-off points are provided IF any of the following uses are present: hotel, motel, hospital, clinic, school w/50+ pupils, day care center, religious facility w/100+ seats, transit terminal, major recreational facility, commercial airport, public building or office/financial svc. w/ >5000 sq ft gross floor area.
- Unrestricted access is provided for emergency and service vehicles with SU-30 design and 42' turning radius.
- Parking layout does not encourage vehicles to exit by backing into a street, pedestrian way or alley.
- Parking area access lanes (PAALs) are perpendicular to building faces wherever feasible.
- Standard perpendicular parking spaces are shown, labeled and dimensioned at least 9' x 20' w/24'-wide PAALs.²
- Handicapped accessible spaces are shown, labeled and dimensioned as at least 13' wide x 20' long, or if they have a 5' wide common aisle between them, at least 8' wide x 20' long.²
- Angled parking space and PAAL dimensions and angles are shown and comply with SS Table 8.4.
- Each bicycle space is at least 3' x 6', w/a 5'-wide access aisle, and within 30' of each building main entrance.⁷
- All spaces that front property lines, landscaping, walls, buildings or sidewalks show wheel stops/curbing 3' inside the front of the parking space, or show bumper barriers. (Up to 3' overhang may count as parking space length.)

Pima County Development Plan (DP) Transportation Review Checklist

- Each dead-end PAAL includes a back-up spur extending at least 6' beyond the last parking space, with 3' radii, wheel barriers and 3' separation from any wall, screen or obstruction over 6" in height.
- Traffic flow arrows are shown for all one-way PAALs.
- Loading areas, at least 45' x 12,' exclusive of aisles and maneuvering areas, are within 100' of buildings served.⁸

Sidewalks²

- Sidewalks are provided in each of the following situations:
 - Along all sides of the development that abut public curbed streets
 - Sidewalks at least 5' wide connect each principal building entrance to the public sidewalk or right-of-way, transit stops and street crossings.
- Sidewalks within rights-of-way are at least 5' wide, with a 3' curbway, or 6' wide if abutting curb.
- Sidewalks consist of pavers, bricks, concrete or other durable material distinguishable from driving surface.
- Other sidewalks immediately abutting the building are at least 4' wide with at least 3' wheel stop separation.

Drive-Thrus²

- Drive-thrus meet the following minimum required storage capacities (excluding PAALs abutting driveways):
 - Fast Food-180' Bank-140' Self-Service Car Wash-40' Day Care-180' Dry Cleaner-40'
 - Other use not shown above with storage capacity of ____' with written approval by PCDOT submitted.

Left & Right Turn Lane Warrants²

- IF no TIS is required, the following left turn (LT) lane and right turn (RT) lane warrant calculations are provided:

Name of Street Adjacent to Development								Example St.	
Posted Speed Limit of Street (mph)								45	
ADT of Street:2-way								8,000	
(A) Peak Hr Trips (development) (Table 3.2)								150	
(B) # LT Access Pts				(C) # RT Access Pts				2	2
LT Volume = A/2B				RT Volume = A/2C				38	38
Max LT Volume*				Max RT Volume**				20	70
LT Lane Needed?				RT Lane Needed?				YES	NO

Use the table below to fill in the Max LT Volume and Max RT Volume in the table above:

Max peak hr turn volumes w/o turn lanes		ADT (2-way)			
*Max LT Volume	Posted Speed Limit	<2,500	2,500-5,000	5,000-10,000	>10,000
	≤ 35 mph	75	50	30	15
	40-50 mph	75	40	20	10
	≥ 55 mph	75	30	10	5
**Max RT Volume	Any speed limit	-	100	70	40

Utility/Hydrology Plan

Hillside Development Zone (HDZ)¹⁰

- This development DOES DOES NOT contain a 50' x 50' horizontal square section with a slope of 15% or more, and if it does, complies with following HDZ ordinances, OR an HDZ Exception has been granted:
 - All perimeter exposed fill slopes are ≤ 3:1 OR are stabilized by means of a retaining wall.
 - No perimeter wall is higher than 6' from finished grade.
 - No perimeter wall/exposed fill slope combination stands higher than natural grade + 12'.
 - Exposed fill slopes adjacent to the development boundary line (perimeter exposed fill slopes) are no more than 8' higher than average natural grade with a 6' wide planting area (per HDZ 18.61.055D.5) for 80 horizontal feet or less, and no more than 6' higher than average natural grade (without a planting bench) for any horizontal stretch greater than 80 feet.
 - No riprap is shown on perimeter slopes, EXCEPT on slopes 3:1 or steeper along access streets or as part of a bridge, apron or flood control structure or channel.
 - All fill slopes > 10' high have 6' wide horizontal planting areas (per HDZ 18.61.055D.5) along the toe.
- Sufficient information is clearly shown on the utility/hydrology plan, including 2', 5' or 10' contours, to verify compliance with the above requirements.

Resources

1. **Development Plan Requirements per Pima County Zoning Code Chapter 18.71**
http://www.pimaxpress.com/Subdivision/Documents/2006/DP_Requirements2Aug04.pdf
2. **Pima County Subdivision and Development Street Standards**
http://www.pimaxpress.com/Dev_Review/PDFs/SubDevStreetStandards.pdf
3. **Pima County Major Streets and Scenic Routes Plan**
http://www.dot.pima.gov/gis/maps/majscenic/MSSRc02_01.pdf
4. **PCDOT Average Daily Traffic (ADT) Count Site**
<http://www.dot.co.pima.az.us/trafeng/trafcnt/>
5. **PCDOT Traffic Ordinances Site (Posted Speed Limits)**
<http://www.dot.co.pima.az.us/trafeng/trafficord/>
6. **City of Tucson and Pima County Standard Specifications for Public Improvements**
http://www.dot.pima.gov/transeng/stdspecsdet/standarddetails2003_scanned.pdf
7. **Pima County and City of Tucson Bicycle Parking Facility Design Requirements**
http://www.tucsonaz.gov/dsd/Codes_Ordinances/DS2_09P1.pdf
8. **Pima County Zoning Code, Chapter 18.75, Off-Street Parking and Loading Standards**
<http://www.pima.gov/cob/code/c18b12.html>
9. **Pima County Zoning Code, Chapter 18.71, Development Plan Standards**
<http://www.pima.gov/cob/code/c18b9.html>
10. **Pima County Zoning Code, Chapter 18.61, Hillside Development Overlay Zone**
<http://www.pima.gov/cob/code/c18ba3.html#41064>
11. **Pima County Roadway Design Manual**
<http://www.dot.pima.gov/transeng/roaddesign/RoadwayDesignManual.pdf>
12. **ROW Map Info by Street Name or Book & Page (Pima County Internal Use Only)**
<http://www.dot.pima.gov/eim/roadproc/>
13. **MapGuide from PCDOT**
<http://www.dot.co.pima.az.us/gis/maps/mapguide/>
14. **Final Plats**
<http://www.dsd.pima.gov/subdevplans/SDfolder.htm>
15. **Tentative Plats**
<http://www.pimaxpress.com/TentativePlat/TPfolder.htm>
16. **Development Plans**
<http://www.dsd.pima.gov/subdevplans/DPfolder.htm>

Pima County Development Plan (DP) Transportation Review Checklist

Table 3.2. Thresholds for requiring Traffic Impact Studies

ITE Code	LAND USE	UNIT	PEAK HR TRIPS/UNIT	THRESHOLD
RESIDENTIAL				
210	Single Family	DU	1.02	100 DU
230	Condominium/Townhomes	DU	0.54	185 DU
220	Apartments	DU	0.67	150 DU
240	Mobile Home	DU	0.58	175 DU
418	RV Park	SPACE	0.48	210 SPACES
250	Retirement Community	DU	0.34	295 DU
COMMERCIAL AND INDUSTRIAL				
911	Walk-in Bank	1,000 SF	42.02	2,500 SF
912	Drive-in Bank	1,000 SF	51.23	2,000 SF
820	Shopping Center	1,000 SF	4.97	21,000 SF
850	Supermarket (Grocery Store)	1,000 SF	12.25	8,000 SF
851	24-Hour Convenience Store	1,000 SF	65.24	1,500 SF
861	Discount Club	1,000 SF	6.46	16,000 SF
890	Furniture Store	1,000 SF	0.92	109,000 SF
812	Lumber Store	1,000 SF	8.38	12,000 SF
816	Hardware/Paint Store	1,000 SF	11.18	9,000 SF
841	New Car Sales	1,000 SF	2.97	34,000 SF
840	Vehicle Repair (Automobile Care Center)	1,000 SF	4.01	25,000 SF
844	Gas Station	PUMP	16.18	7 PUMPS
430	Golf Course	HOLES	4.59	22 HOLES
492	Racquet Club	COURT	4.66	22 COURTS
493	Health Club	1,000 SF	4.30	24,000 SF
831	Quality Restaurant	1,000 SF	10.82	10,000 SF
832	Sit Down High Turnover Restaurant	1,000 SF	19.38	5,000 SF
834	Fast Food (with drive-thru)	1,000 SF	72.74	1,500 SF
110	General Light Industrial	1,000 SF	1.08	93,000 SF
120	General Heavy Industrial	1,000 SF	0.68	147,000 SF
130	Industrial Park	1,000 SF	0.92	109,000 SF
150	Warehousing	1,000 SF	0.61	164,000 SF
OFFICES				
710	General Office Building	1,000 SF	1.56	65,000 SF
750	Office Park	1,000 SF	1.74	58,000 SF
770	Business Parks	1,000 SF	1.43	70,000 SF
760	Research & Development Center	1,000 SF	1.24	81,000 SF
730	Government Office	1,000 SF	11.03	10,000 SF
720	Medical-Dental Office Buildings	1,000 SF	4.36	23,000 SF
INSTITUTIONAL				
520	Elementary school	STUDENTS	0.30	335 STUDENTS
522	Middle/Junior High School	STUDENTS	0.46	220 STUDENTS
530	High School	STUDENTS	0.46	220 STUDENTS
565	Day Care Center	STUDENTS	0.86	120 STUDENTS
560	Church	1,000 SF	9.49	11,000 SF

DU: Dwelling Units

SF: Square Feet Gross Floor/Leasable Area

Example: Medical office building, 15,000 SF

Peak hour trip rate: 4.36 trips/1,000 SF

Trip Generation: 15,000 SF x (4.36 trips / 1,000 SF) = 65 trips in the peak hour

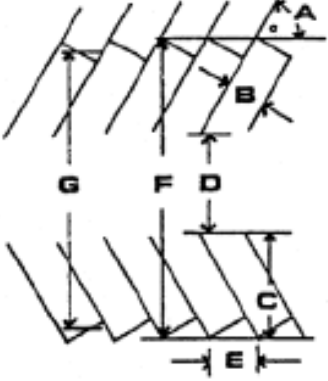
Pima County Development Plan (DP) Transportation Review Checklist

Pima County Subdivision and Development Street Standards

Table 8.4. Parking area dimensions and guidelines

ELEMENTS

- A Parking Angle
- B Space Width
- C Space Depth
- D Aisle Width
- E Curb Length
- F Curb to Curb Bay Width
- G Space Center to Center Width



A	B	C	D	E	F	G
0°	9.0	9.0	12.0	23.0	30.0	-
	9.5	9.5	12.0	23.0	31.0	-
	10.0	10.0	12.0	23.0	32.0	-
20°	9.0	15.3	12.0	26.4	42.8	34.1
	9.5	15.7	12.0	28.0	43.4	34.5
	10.0	16.3	12.0	29.6	44.6	35.2
30°	9.0	17.8	12.0	18.0	47.8	39.8
	9.5	18.2	12.0	19.0	48.4	40.2
	10.0	18.6	12.0	20.0	49.2	40.5
45°	9.0	20.4	13.0	12.7	53.8	48.0
	9.5	20.6	13.0	13.4	54.2	48.0
	10.0	21.2	13.0	14.1	55.4	48.3
60°	9.0	21.9	18.0	10.4	61.8	57.5
	9.5	22.1	18.0	11.0	62.2	57.7
	10.0	22.5	18.0	11.5	63.0	58.0
70°	9.0	22.0	19.0	9.5	63.0	60.3
	9.5	22.2	19.0	10.1	63.4	60.3
	10.0	22.3	19.0	10.5	63.6	60.3
80°	9.0	21.5	24.0	9.6	67.0	-
	9.5	21.5	24.0	10.1	67.0	-
	10.0	21.5	24.0	10.6	67.0	-
90°	9.0	20.0	24.0	9.0	64.0	-
	9.5	20.0	24.0	9.5	64.0	-
	10.0	20.0	24.0	10.0	64.0	-