TOTAL SUPERELEVATION TRANSITION LENGTH

NORMAL CROWN | RUNOUT | RUNOFF | FULL SUPERELEVATION

% RUNOFF

PC/PT

LEFT OR RIGHT OF CENTERLINE SUPERELEVATION

AXIS OF ROTATION AND PROFILE GRADE SHOWN ON TYPICAL SECTIONS

CROSS SLOPE ABOVE PROFILE GRADE (+)

CROSS SLOPE BELOW PROFILE GRADE (−)

RIGHT OR LEFT OF CENTERLINE SUPERELEVATION

NORMAL CROWN | NORMAL CROWN | LEVEL | NORMAL CROWN | CROWN SLOPE | FULL SUPER | ROTATION POINT

DESIGNER NOTES:
This detail provides general guidance on how to develop superelevation transitions on pavement preservation projects with CABC/re-grading of the base course surface. Typically these projects do not include superelevation data in curve labels; instead, this detail works in conjunction with notes on the typical sections directing the contractor to match existing super within the curve.

AXIS OF ROTATION — — — — — — — — — — — — CENTERLINE

SUPERELEVATION TRANSITION

SUPERELEVATION TRANSITION TABLE (FOR TWO-LANE ROADWAYS)	
DESIGN SPEED (MPH)	Δ_{MAX}/L (%/FT)
≤ 20	0.066
25	0.060
30	0.055
35	0.051
40	0.047
45	0.044
≥ 50	0.042

TRANSITION RATES ARE DERIVED FROM TABLE 3-16a OF THE 2018 AASHTO A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS (GREEN BOOK).

ADJUSTMENT FACTOR TABLE (FOR MULTI-LANE ROADWAYS)	
NUMBER OF LANES ROTATED	ADJUSTMENT FACTOR
1	1.00
1.5	0.83
2	0.75
2.5	0.70
3	0.67
3.5	0.64

ADJUSTMENT FACTORS FROM TABLE 3-15 OF THE 2018 AASHTO A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS (GREEN BOOK).

NOTES:

1. BUILD SUPERELEVATION INTO SUBGRADE AND CARRY THROUGH SHOULDERS.

2. % RUNOFF = PORTION OF RUNOFF ON TANGENT. % RUNOFF IS 0.67 UNLESS OTHERWISE SPECIFIED.

3. WIDENING FOR GUARDRAIL OR CURVATURE DOES NOT CHANGE THE LOCATION OF THE AXIS OF ROTATION.

4. SEE SUPERELEVATION TRANSITION TABLE FOR MAXIMUM LATERAL SLOPE TRANSITION RATES (Δ_{MAX}/L) PER LINEAR FOOT OF ROADWAY FOR A TWO-LANE ROAD.

5. FOR ROADWAYS WITH MORE THAN TWO LANES, USE THE VALUES SHOWN IN THE ADJUSTMENT FACTORS TABLE TO MODIFY THE MAXIMUM LATERAL SLOPE TRANSITION RATE PER LINEAR FOOT OF ROADWAY.

6. TOTAL SUPERELEVATION TRANSTITION LENGTH (RUNOUT PLUS RUNOFF) IS EQUAL TO ((NUMBER OF LANES ROTATED)*(TOTAL PERCENT SLOPE CHANGE)*(ADJUSTMENT FACTOR)) / (MAX LATERAL SLOPE TRANSITION RATE).

SUPERELEVATION TRANSITION DETAILS