

## PERFORMANCE MEASURES

MAINTENANCE CATEGORY	MAINTENANCE ELEMENT	PERFORMANCE MEASURE	LEVELS OF SERVICE		
Pavement Structure	Pavement Surface	International Roughness Index	<u>Roads reconstructed in past 5 years</u> <ul style="list-style-type: none"> <li>• IRI &lt; 181</li> </ul>	<u>Roads not reconstructed in past 5 years</u> <ul style="list-style-type: none"> <li>➤ Percentage of pavement in good condition must remain the same or increase.</li> <li>• Percentage of pavement in poor condition must remain the same or decrease</li> </ul>	
		Pavement Condition Index	<u>Roads reconstructed in past 5 years</u> <ul style="list-style-type: none"> <li>• PCI &gt; 80</li> </ul>	<u>Roads not reconstructed in past 5 years</u> <ul style="list-style-type: none"> <li>• Percentage of pavement in good condition must remain the same or increase</li> <li>• Percentage of pavement in poor condition must remain the same or decrease</li> </ul>	
		Friction number (skid numbers)	<ul style="list-style-type: none"> <li>• Skid number &gt; 40</li> </ul>		
		Number of potholes/blowups	<ul style="list-style-type: none"> <li>• Potholes/blowups that are a safety hazard removed within 4 hours of the noted deficiency</li> <li>• 95% of all reported potholes/blowups permanently repaired within 48 hours of the noted deficiency</li> <li>• No potholes encompassing an area &gt; 64 sq. in.</li> </ul>		
			<u>Year 2-5</u> <ul style="list-style-type: none"> <li>• ≤ One 64 sq. in. x 1 in. deep pothole/lane-mile</li> </ul>	<u>Year 1</u> <ul style="list-style-type: none"> <li>• ≤ Four 64 sq. in. x 1 in. deep pothole/lane-mile</li> </ul>	
		Existence and depth of rutting	<ul style="list-style-type: none"> <li>• No average rut depth &gt; 0.50" (based on a segment average)</li> <li>• Rutting &gt; 0.50" must be repaved within 1 month of the noted deficiency</li> </ul>		
		Number of unsealed cracks (includes joints)	<u>Year 2-5</u> <ul style="list-style-type: none"> <li>• 95% of all cracks &gt; 0.25" must be sealed</li> </ul>	<u>Year 1</u> <ul style="list-style-type: none"> <li>• 80% of all cracks &gt; 0.25" must be sealed</li> </ul>	
	Shoulders	Number of potholes/blowups	<ul style="list-style-type: none"> <li>• Potholes/blowups that are a safety hazard removed within 4 hours of the noted deficiency</li> <li>• 95% of all reported potholes/blowups permanently repaired within 48 hours of the noted deficiency</li> <li>• No potholes encompassing an area &gt; 64 sq. in.</li> </ul>		
			<u>Year 2-5</u> <ul style="list-style-type: none"> <li>• ≤ One 64 sq. in. x 1 in. deep pothole/lane-mile</li> </ul>	<u>Year 1</u> <ul style="list-style-type: none"> <li>• ≤ Four 64 sq. in. x 1 in. deep pothole/lane-mile</li> </ul>	
		Lane/shoulder drop off height	<ul style="list-style-type: none"> <li>• &lt; 10% (linear measure) &gt;1" per segment</li> <li>• none &gt; 2"</li> </ul>		
	Manholes	Variation from roadway grade	<ul style="list-style-type: none"> <li>• ½" above or below roadway grade</li> </ul>		

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Roadway Cleaning	Roadway Surface	Buildup of dirt, rock, debris, etc.	<ul style="list-style-type: none"> <li>no buildup in travel lanes</li> <li>clean of all debris</li> </ul>
		Large or hazardous debris and roadkill	<u>Freeways and Arterial Streets</u> <ul style="list-style-type: none"> <li>removed within 4 hours of noted deficiency</li> </ul>
Drainage	Open drainage structures (Ditches, both paved & unpaved, and Swales)	Erosion and siltation	<ul style="list-style-type: none"> <li>ditch bottom elevation does not vary by more than 25% of original grade</li> <li>no undermining (paved elements)</li> <li>no erosion showing a pattern that will endanger slope stability</li> </ul>
		Functional	<ul style="list-style-type: none"> <li>no obstruction to flow of water</li> </ul>
		Appearance	<ul style="list-style-type: none"> <li>grass no higher than 6" and slopes clear of foreign vegetation</li> </ul>
	Catch basins, drains, and inlets	Percent of inlet clear and open	<ul style="list-style-type: none"> <li>&gt; 90% open, free flowing</li> </ul>
		Functional	<ul style="list-style-type: none"> <li>≤ ½" of settlement (if part on sidewalk) 1" (otherwise), grate unbroken</li> </ul>
Roadside (curbs, gutters, sidewalks)	Curb	Functional and sound	<ul style="list-style-type: none"> <li>&lt; 1" settlement or misalignment in 10 feet</li> <li>unsealed cracks and joints &gt; 1/4" (excluding granite curbs)</li> <li>no spalling &gt; ½" deep in 25% of surface per curb section between joints</li> </ul>
	Sidewalk and paved medians	Functional	<ul style="list-style-type: none"> <li>no settlement &gt; ½"</li> <li>&lt; 25% of surface spalled per section between joints</li> </ul>
	Fencing	Damage	<ul style="list-style-type: none"> <li>no openings</li> <li>fence height = original height</li> </ul>
	Retaining Walls	Weep Holes	<ul style="list-style-type: none"> <li>no evidence of blocked drainage</li> </ul>
		Alignment	<ul style="list-style-type: none"> <li>no indication of settlement or rotation</li> <li>notify Project Team in case of significant settlement</li> </ul>
Traffic/Safety: Guardrails, Barriers, and Attenuators	Guardrail and barriers	Functional, operational and structural integrity	<ul style="list-style-type: none"> <li>95% of guardrail/barrier free of structural defects per 100' section</li> <li>all guardrail posts, offset blocks, panels and connection hardware in good condition and in place</li> <li>cables taut and properly secured (according to standard)</li> </ul>
	Attenuators	Damage	<ul style="list-style-type: none"> <li>no damage to any piece of attenuator unit</li> <li>all damaged impact attenuators repaired or replaced within 24 hours of the noted deficiency</li> </ul>
Roadside: Cleaning	Right-of-way limits beyond edge of roadway.	Litter and debris	<ul style="list-style-type: none"> <li>less than 10 pieces of fist-sized litter per tenth of a roadside (or median) mile</li> <li>roadkill removed and disposed within 24 hours of the noted deficiency</li> <li>graffiti removed from DCDPW assets within 24 hours of the noted deficiency</li> </ul>

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Roadside Vegetation	Shrubs and roadside vegetation	Overall appearance and sight restriction	<ul style="list-style-type: none"> <li>• no sight distance or sign obstructions</li> <li>• vertical clearance of 15' over roadway, 7' over sidewalks</li> </ul>	
	Grass, both roadside and on unpaved medians	Height of grass	<u>Urban Streets</u> <ul style="list-style-type: none"> <li>• grass height 4" or less</li> </ul>	<u>Freeways</u> <ul style="list-style-type: none"> <li>• grass height 6" or less</li> </ul>
Bridges	Bridge deck	Percent of deck surface spalled or cracked	<ul style="list-style-type: none"> <li>• less than 5% of deck surface spalled, cracked or damaged per 100 sq. ft.</li> <li>• 95% of all visible cracks (excluding hairline) must be sealed</li> </ul>	
		Joints fully operational and not inhibiting the longitudinal movement of the superstructure	<ul style="list-style-type: none"> <li>• all joints are sealed, in alignment, and undamaged and without signs of leakage</li> </ul>	
	Bridge Super-Structure	<ul style="list-style-type: none"> <li>• no loss of section or cracks;</li> <li>• paint in good shape;</li> <li>• no spalling;</li> <li>• proper vertical clearance;</li> <li>• proper openings at expansion dams; paint uniform;</li> <li>• paint adhering; paint covers all areas</li> <li>• steel fasteners in place, tight, with none missing</li> </ul>		
	Bridge railings, barriers, and parapets	Railings, barriers, and parapets in place and functioning as intended	<u>Metal</u> <ul style="list-style-type: none"> <li>• no measurable section loss</li> <li>• all connections are sound and tight</li> <li>• no missing, damaged, or severely deteriorated sections</li> </ul>	<u>Concrete</u> <ul style="list-style-type: none"> <li>• no missing, damaged or severely deteriorated sections</li> <li>• no cracks &gt; 0.25"</li> <li>• no spalling &gt; 0.5"</li> <li>• no exposed reinforcing or surface evidence of corrosion</li> </ul>
		Dents/damage that decrease structural integrity	<ul style="list-style-type: none"> <li>• damaged railings and barriers replaced within 24 hours of noted deficiency</li> </ul>	
	Bridge Sub-structure	<ul style="list-style-type: none"> <li>• no spalls, cracks, scaling</li> <li>• adequate foundation</li> <li>• founded below scour depth</li> <li>• bearing assemblies functional</li> <li>• abutment seats clean and sound</li> <li>• abutment sound; pier seats clean and sound</li> <li>• bearings clean and sound</li> <li>• truss panel points clean</li> </ul>		

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	Bridge drainage	Scuppers and downspouts	<ul style="list-style-type: none"> <li>• clean, flushed and free flowing</li> <li>• no evidence of salt, anti-skid, dirt, debris, or other deleterious matter</li> </ul>	
		No section is damaged or severely deteriorated	<ul style="list-style-type: none"> <li>• &lt; 10% deteriorated barrel</li> </ul>	
		End protection is intact	<ul style="list-style-type: none"> <li>• end protection intact</li> </ul>	
		Settlement over pipes	<ul style="list-style-type: none"> <li>• no dip in road over pipe</li> </ul>	
		All connections are sound and tight. 5. No water leakage is present	<ul style="list-style-type: none"> <li>• free flowing</li> <li>• joints intact</li> </ul>	
		Evidence of erosion at outlets	<ul style="list-style-type: none"> <li>• minimal erosion at ends</li> <li>• no evidence of flooding;</li> </ul>	
	Bridge Approach	Approach is smooth and is aligned with the bridge deck	<u>Concrete</u>	<u>Asphalt</u>
			<ul style="list-style-type: none"> <li>• Settlement of approach slab is less than ½"</li> <li>• The combined areas of patches (repaired areas that are expected to have less durability than the surrounding deck material and are considered temporary), spalls/delaminations, pop outs and scaling greater than ½" in depth are &lt;5% of approach slab</li> </ul>	<ul style="list-style-type: none"> <li>• Settlement of approach slab is less than ½"</li> <li>• Potholes or impending potholes (area of intersecting unsealed map cracks that are likely to pop out) are &lt;5% of approach slab</li> </ul>
	Bridge	No graffiti on structures	<ul style="list-style-type: none"> <li>• all bridge surfaces free of graffiti</li> </ul>	
Tunnels	Mechanical Systems	Fans	<ul style="list-style-type: none"> <li>• All fans operational at all design speeds and capacities</li> <li>• All fans properly lubricated and free of vibration</li> <li>• Fan housings free of corrosion and accumulated dirt.</li> <li>• Automatic control systems (CO sensors, Heat Sensors, etc.) shall be properly maintained and calibrated to assure functionality with their intended design intent.</li> <li>• Fan rooms shall be clean and free of debris.</li> <li>• Mall tunnel control room shall be monitored 2 shifts per day covering all periods of high traffic volume.</li> </ul>	

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		Ventilation Shafts	<ul style="list-style-type: none"> <li>• Dampers shall be free of obstructions and all actuators and seals shall be operating properly.</li> <li>• Shafts shall be free of litter, rubbish, etc. which may be damaging to the fans and prevent proper drainage.</li> <li>• Portals between the tunnel and ventilation shaft shall be unobstructed, the area behind the jersey barriers shall not serve as a collection place for rubbish and debris.</li> <li>• No leaks in supply water lines serving fire hydrants.</li> </ul>
		Drainage and Sump Pumps	<ul style="list-style-type: none"> <li>• All floor drains shall be clean, flushed and free flowing.</li> <li>• Sump pumps shall operate as required.</li> </ul>
	Tunnel walls and ceiling	Sealed, Neat and attractive	<ul style="list-style-type: none"> <li>• Tunnel walls shall be clean and free of accumulated dirt as necessary to achieve maximum levels of light reflectivity.</li> <li>• No water penetration of tunnel walls and/or ceiling.</li> <li>• No visible water damage.</li> <li>• Tunnel walls and ceiling shall be free of graffiti.</li> <li>• Area behind jersey barriers shall be kept free of accumulated debris and shall not be used as a dumping area for debris swept off of the road surface.</li> </ul>
	Electrical systems	Lighting	<ul style="list-style-type: none"> <li>• No more than 10% of fixtures shall be burnt out at any one time.</li> <li>• All light fixtures (lenses) shall be clean and free of dust buildup.</li> <li>• Light fixtures in mechanical fan rooms functional and clean.</li> </ul>
		Power	<ul style="list-style-type: none"> <li>• Power distribution systems shall meet all applicable codes and safety requirements.</li> <li>• Circuit Breakers shall function properly.</li> </ul>
		Video Surveillance	<ul style="list-style-type: none"> <li>• Video cameras shall angled as required for proper viewing of tunnel activities, cameras shall not be misaligned as a result of wall cleaning (realign as required if damaged during wall cleaning).</li> <li>• All cameras shall be operational and properly functioning.</li> </ul>
Snow & Ice Control	Roadway	Timeliness and coverage	<ul style="list-style-type: none"> <li>• In accordance with Penguin guide</li> </ul>
Traffic/Safety: Pavement Markings	Pavement markings, striping and raised pavement markings	Striping and markings are visible in daytime and nighttime conditions	<ul style="list-style-type: none"> <li>• striping and/or raised pavement markings are visible at a distance of 125'</li> </ul>
		Gaps in striping or reflectors	<ul style="list-style-type: none"> <li>• no gaps in striping or raised pavement markings greater than 120'</li> </ul>
Traffic/Safety: Signs	Signs including variable message signs.	Signs are visible in daytime and nighttime conditions Sign surface is free of damage and graffiti	<ul style="list-style-type: none"> <li>• signs are clear and visible at a distance of 125'</li> <li>• 100% clear of obstruction, surface damage, and graffiti</li> <li>• replace missing signs within 24 hours of the noted deficiency</li> </ul>

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		Overhead signs are structurally sound	<ul style="list-style-type: none"> <li>• structurally sound;</li> <li>• foundation sound</li> <li>• properly assembled and hung</li> </ul>
		Signs are visible and legible in daytime and nighttime conditions	<ul style="list-style-type: none"> <li>• repair overhead sign structures that present a safety hazard immediately upon the noted deficiency</li> </ul>
Traffic/Safety: Lighting	Highway and sign lights	Lights functioning	<ul style="list-style-type: none"> <li>• 90% functioning along each highway segment</li> <li>• no 2 consecutive luminaires out</li> <li>• sign lighting illuminates signs</li> <li>• 100% of access panels present and secured;</li> <li>• non-functional lights repaired within a week of noted deficiency.</li> </ul>
Miscellaneous Assets	Pedestrian Bridges	Bridges are maintained in a safe condition, inclusive of walking surface, rail, fencing and lighting (as appropriate)	<ul style="list-style-type: none"> <li>• uniform, skid resistant, clean walking surface</li> <li>• railing in place, intact, safe and continuous</li> <li>• fencing safe and intact</li> <li>• 90% of lighting functioning along each bridge</li> <li>• all visible bridge surfaces attractive (no large rust spots, peeling paint, etc.) and free of graffiti</li> <li>• repairs to walking surface and railing may be temporary for bridges scheduled for replacement with 2 years of the date of Notice to Proceed</li> </ul>
	Weigh-in-motion Stations	Weigh-in-motion stations are functional and transmit usable data to the Bureau of Traffic Services	<ul style="list-style-type: none"> <li>• WIM stations functional and maintained in fully operational condition</li> <li>• Data transmission system functional and maintained in fully operational condition</li> <li>• Weight and traffic data received by Bureau of Traffic Services is accurate and received timely, as defined in the original contract specifications.</li> <li>• Measurement and/or data transmission equipment repaired within 72 hours of notification by Bureau of Traffic Services that the system is down.</li> </ul>