

Wired Broadband Facility Accommodation in Access-Controlled Highway

Right-of-Way

March 14, 2022

*Wired broadband installations are non-utility encroachments.*¹ For wired broadband installations on the Interstate System, Federal Highway Administration (FHWA) approval is required. Refer to the Project Development Procedures Manual (PDPM) Chapter 17, Section 2, Article 4, Federal Highway Administration Approvals for projects on the Interstate System. Refer to PDPM Chapter 17, Section 3, Article 4, Clearance and Offset Requirements for installation requirements.

These criteria replace the existing wired broadband accommodation criteria within access-controlled highway right-of-way in the PDPM Chapter 17, Section 2, Article 2. Exceptions to the criteria below will be considered on a case-by-case basis in accordance with Section 4, Exception Requests. Approval of policy exceptions will be provided by Headquarters Division of Design, Office of Project Support, or the delegated district approval authority.

1. Longitudinal installations within access-controlled highway right-of-way must be underground.²
2. Longitudinal installations must be installed according to the following criteria in descending order of preference (See Figure 1):
 - a. Further than 3 feet from the edge of pavement³ or further than 4 feet from the face of the guardrail⁴:
 - The preferred location is within 10 feet from the right-of-way line.
 - If more than 10 feet from the right-of-way line, the reason(s) for installing further than 10 feet from the right-of-way line must be explained in the project report or permit application submittal.
 - b. Within the pavement area, within 3 feet of the edge of pavement, or within 4 feet of the face of guardrail is prohibited. On roadways with limited right-of-way or other physical and environmental constraints, an encroachment policy exception may be considered.
3. Longitudinal installations are prohibited in the highway median.
4. Maintenance access points (MAPs) are prohibited in the pavement and locations requiring access from the mainline and ramps on the Interstate System.
5. Buried boxes should be considered to deter and prevent wire theft.⁵ Buried boxes are not considered MAPs.
6. MAPs are allowed if installed on local streets at grade-separated crossings, local streets at at-grade intersections on expressways, or frontage roads where

¹ Broadband installations are accommodated as an alternate use of the highway right-of-way since California law does not regulate broadband as a utility.

² Unless installed on bridges.

³ Per HDM Index 672.3, the preferred hinge width for pavement structural stability is 3 feet.

⁴ Per Traffic Safety System Guidance, 4 feet is the minimum distance to the hinge point to support a standard post

⁵ Per DD-113 – Wire Theft Prevention, burying pull boxes is one of the most effective theft prevention methods.

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access will not interfere with the safety and operations of the highway facility. If MAPs cannot be installed at these allowed locations, then alternate locations for MAPs must be evaluated according to the following criteria in descending order:

- a. MAPs requiring access from the mainline and ramps on non-Interstate routes must consider the safety of the traveling public and maintenance personnel and the impact to the operation of the highway.
 - b. If a MAP is accessed through a locked gate, FHWA approval is required for projects on the Interstate System. Per PDPM Chapter 17, Section 2, Article 3, installation of a locked gate on other access-controlled highways may be approved by the District Director.
 - c. If a MAP must be accessed from the mainline on non-Interstate routes, then the MAP must be installed no more than 10 feet from the right-of-way line.
 - d. If a MAP can only be accessed from the mainline and ramps on non-Interstate routes, then a maintenance vehicle pullout must be installed, unless maintenance can be performed using existing pullouts or existing maintenance access. Buried boxes do not require a maintenance vehicle pullout.
 - e. Underground MAPs within highway right-of-way must be rated for highway traffic to address highway maintenance and operation and motorist safety.
 - f. If longitudinal installations are installed on a bridge, splice vaults are recommended to facilitate future bridge work. Splice vaults are allowed at both ends of the bridge and as MAPs, the locations for these vaults should follow the criteria outlined above.
 - g. If a MAP cannot meet the criteria above, an encroachment policy exception may be considered on a case-by-case basis.
7. Wired broadband installations are allowed to cross the highway. See the above criteria for MAPs if needed for transverse broadband installations.
 8. For longitudinal installations, distribution connections must be on local streets at grade-separated crossings or established at-grade intersections on expressways. Service connections are prohibited on the mainline.
 9. In areas with existing longitudinal above-ground facilities, joint use with the existing facilities may be considered with an encroachment policy exception.
 10. Broadband facilities should be designed and installed such that lane closures, except shoulder closures, on the mainlines or ramps of access-controlled highways will not be needed for future operation and maintenance.
 11. Per PDPM Chapter 17, Section 2, Article 3, no additional longitudinal electric service lines are allowed as part of a broadband installation. Electric supply lines must come from outside of the State right-of-way as a service lateral line perpendicular to the broadband line.
 12. As-builts and trenchless installation bore paths must be submitted to the district Utility Engineer Workgroup. Using a Caltrans specified datum, as-built drawings

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must show the horizontal location and vertical profile of the conduits and MAPs as constructed in the field in Caltrans-accepted electronic CADD files.

13. Longitudinal underground installations require cable markers and tracer wire. Uniform color-coded utility mark-outs, such as colored backfill or warning tape, are also required if installed by open trench.
14. For broadband facilities proposed on bridges, please refer to PDPM Chapter 17, Section 2, Article 2 for facilities to be installed on new bridges and Attachment B – Guidance for Broadband Installation on Bridges for facilities to be installed on existing bridges. Refer to the Encroachment Permits Manual for additional guidance on facilities on bridges.

In addition to these requirements, all applicable requirements within the PDPM, Highway Design Manual and Encroachment Permits Manual still apply to wired broadband installations within access-controlled right-of-way.

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Figure 1 Longitudinal Wired Broadband Placement in Access-Controlled Highway Right-of-Way

