AIRPORT MARKING
ICAO AND FAA RECOMMENDED STANDARDS

ICAO Annex 14, Vol I

Paragraph 5.3.15.1
Taxiway centerline lights shall be provided on an exit taxiway, taxiway, de/anti-icing facility and apron intended for use in runway visual range conditions less than a value of 350 m in such a manner as to provide continuous guidance between the runway centerline and aircraft stands, except that these lights need not be provided where the traffic density is light and taxiway edge lights and centerline marking provide adequate guidance.

Paragraph 5.3.15.6
Taxiway center line lights on a taxiway other than an exit taxiway and on a runway forming part of a standard taxi-route shall be fixed lights showing green with beam dimensions such that the light is visible only from airplanes on or in the vicinity of the taxiway.

Paragraph 5.3.15.10
Recommendation — Taxiway centerline lights should normally be located on the taxiway centerline marking, except that they may be offset by not more than 30cm where it is not practicable to locate them on the marking.

Taxiway center line lights on taxiways

Paragraph 5.3.15.11
Recommendation — Taxiway centerline lights on a straight section of a taxiway should be spaced at longitudinal intervals of not more than 30m, except that:

a) larger intervals not exceeding 60m may be used where, because of the prevailing meteorological conditions, adequate guidance is provided by such spacing;
b) intervals less than 30m should be provided on short straight sections; and
c) on a taxiway intended for use in RVR conditions of less than a value of 350m, the longitudinal spacing should not exceed 15m.

Paragraph 5.3.15.12
Recommendation — Taxiway centerline lights on a taxiway curve should continue from the straight portion of the taxiway at a constant distance from the outside edge of the taxiway curve. The lights should be spaced at intervals such that a clear indication of the curve is provided.

Paragraph 5.3.15.13
Recommendation — On a taxiway intended for use in RVR conditions of less than a value of 350m, the lights on a curve should not exceed a spacing of 15m and on a curve of less than 400m radius the lights should be spaced at intervals of not greater than 7.5m. This spacing should extend for 60m before and after the curve.

Note 1.— Spacings on curves that have been found suitable for a taxiway intended for use in RVR conditions of 350m or greater are:

Curve radius	Light spacing
up to 400m	7.5m
401m to 899m	15m
900m or greater	30m

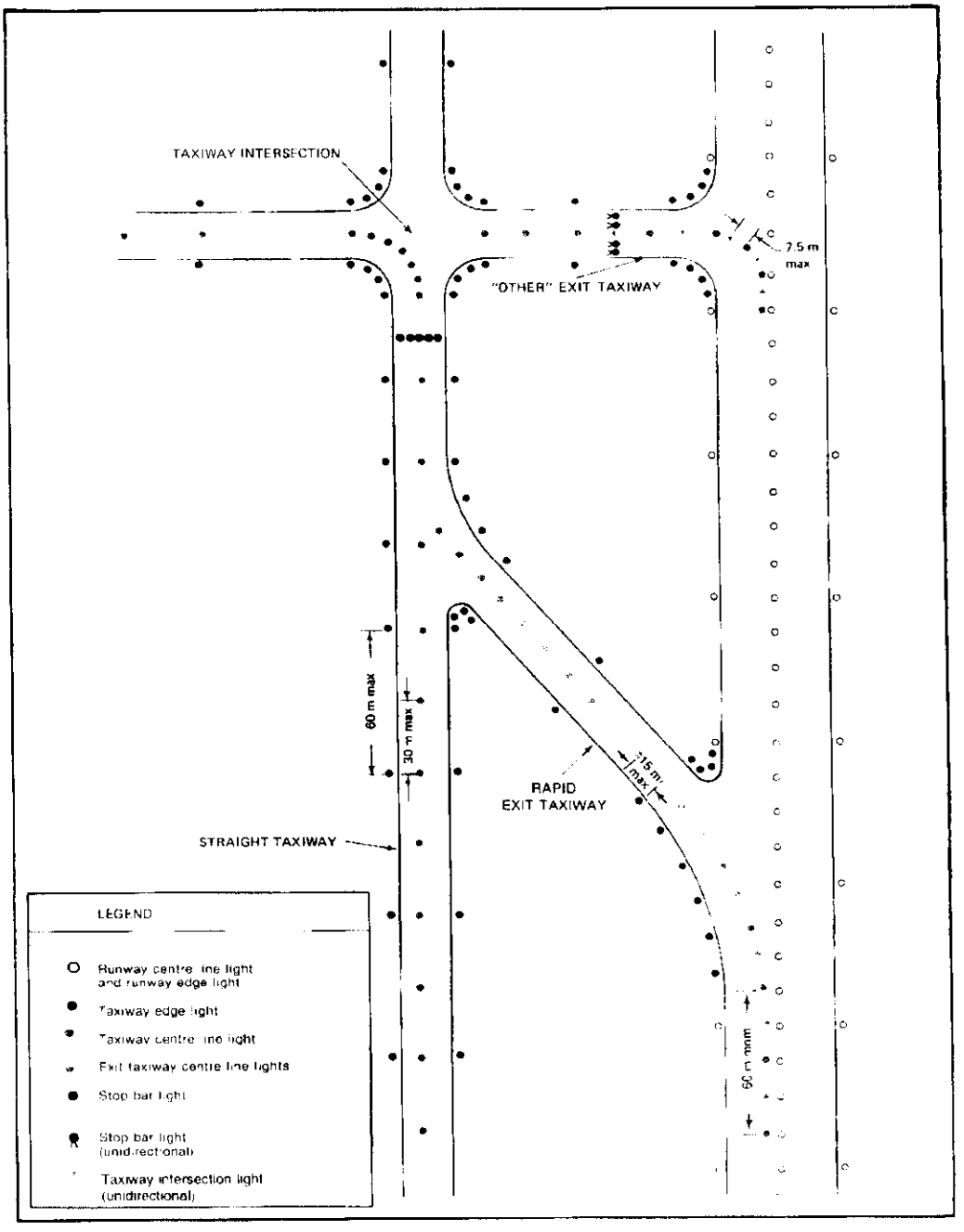

Figure 5-17. Taxiway lighting

Extract from Figure 5-20 of ICAO Annex 14, Vol I

3. TAXIWAY CENTERLINE LIGHTING SYSTEM CONFIGURATION.

a. General. The taxiway centerline lighting system consists of uni- or bidirectional in-pavement lights installed alongside the taxiway centerline marking. See AC 120-57 for criteria on the application of taxiway centerline lighting systems below 1,200 feet (365 m) RVR.

b. Color-Coding. Taxiway centerline lights which are visible to persons exiting the runway ("lead off" lights) are color-coded to warn pilots and vehicle drivers that they are within the runway safety area or ILS/MLS critical area, whichever is more restrictive. Alternate green and yellow lights are installed (beginning with green) from the runway centerline to one centerline light position beyond the runway holding position or ILS/MLS critical area holding position, whichever is more critical. If this would result in an odd number of color-coded lights, the first two taxiway centerline lights on the runway should be green. Taxiway centerline lights which cross a runway are color-coded from the runway centerline to one centerline light position beyond the runway holding position or ILS/MLS critical area holding position, whichever is more critical. The first yellow light may be one position before or one position beyond the runway centerline to avoid having two adjacent lights of the same color, as shown in Appendix 2, Figure 2. All other taxiway centerline lights are green.

c. Longitudinal and Lateral Spacing. The lights are spaced longitudinally as described in Table 1 for minimum authorized operations above and below 1,200 feet (365 m) RVR. Fixtures should be installed so that their nearest edge is approximately 2 feet (610 mm) from any rigid pavement joint. Allow a tolerance, for individual fixtures, of ± 10 percent of the longitudinal spacing specified to avoid undesirable spots. However, a tolerance of ± 2 ft (610 mm) should be allowed for fixtures spaced at 12.5 ft (4 m). Displace centerline lights laterally a maximum of 2 feet (610 mm) (to the nearest edge of the fixture) to avoid rigid pavement joints and to ease the job of painting the centerline marking. Apply this lateral tolerance consistently to avoid abrupt and noticeable changes in guidance; i.e., no "zigzagging" from one side of the centerline to the other.

NOTE: Taxiway fillets are designed in relation to the centerline of the curve, and therefore, the location of the centerline marking. Displacement of taxiway centerline lights 2 feet (610 mm) to the inside of a curve does not necessitate enlargement of the fillet.

Table 1. Longitudinal Dimensions
Maximum Longitudinal Spacing Allowed For Taxiway Center Line Lights

	1,200 Feet (365 m) RVR and above	Below 1,200 Feet (365 m) RVR
Radius of Curved Center lines 75ft (23m) to 399ft (121m)	25ft (7.5m)	12.5ft (4m)
400ft (122m) to 1199 ft (364m)	50ft (15m)	25ft (7.5m)
1200ft (365m)	100ft (30m)	50ft (15m)
Acute-Angled Exits (See AC 150/5300-13)	50ft (15m)	50ft (15m)
Straight Segments	*100ft (30m)	*50ft (15m)

* Short straight taxiway segments may require shorter spacing in accordance with Paragraph 3h (a minimum 4 taxiway center line lights are required).

d. Acute-Angled Exits. For acute-angled exits, taxiway centerline "lead off" lights begin 200 feet (60 m) prior to the point of curvature of the designated taxiway path, as shown in Appendix 2, Figure 3. The row of taxiway centerline lights may be offset laterally up to 2 feet (610 mm) on either side of the taxiway centerline marking, but should not be installed closer than 2 feet (610 mm) to the row of runway centerline lights.

e. Taxiway/Runway Intersections Other Than Acute-Angled Exits. For these exits which lie on low visibility taxi routes, taxiway centerline "lead off" lights begin at the point of curvature on the runway if the runway has approach or departure minimums below 600 ft (183 m) RVR. "Lead off" lights are recommended below 1,200 ft (365 m) RVR. (Extra "lead off" lights should not be installed before the point of curvature on the runway because it would erode the visual distinction between acute-angled exits and other exits.) Taxiway centerline "lead on" lights should extend to the point of tangency on the runway, as shown in Appendix 2, Figure 4b, if the runway has departure minimums below 600 ft (183 m) RVR. "Lead on" lights are recommended for departure minimums below 1,200 ft (365 m) RVR. Where operations are not conducted below 1,200 ft (365 m) RVR, neither taxiway centerline "lead on" nor "lead off" lights should be installed within the confines of the runway. Further, if the taxiway is perpendicular to, and dead-ends into, the runway, the taxiway centerline light nearest the runway should be installed 150 feet (46 m) from the centerline of the runway where "long-bodied" aircraft are involved. For this purpose, "long-bodied" refers to aircraft

whose distance between the nose gear and main gear is approximately 60 feet (18 m) or greater.

f. Taxiways Crossing a Runway. At airports where operations below 600 ft (183 m) RVR are conducted, taxiway centerline lights should continue across a runway if they are installed on a designated low visibility taxi route. It is recommended that centerline lights continue across a runway for operations below 1,200 ft (365 m) RVR where the taxiway is an often used route or there is a jog in the taxiway at the intersection with the runway. Otherwise, taxiway centerline lights should not extend into the confines of the runway.

g. Taxiways Crossing Another Taxiway. Continue taxiway centerline lighting across the intersection when a taxiway intersects and crosses another taxiway. If the fillets at a given taxiway intersection meet the design criteria of AC 150/5300-13, *Airport Design*, and the taxiway centerline markings follow the taxiway curves in accordance with AC 150/5340-1, then taxiway centerline lights should be installed as shown in Appendix 2, Figure 5. Otherwise, they should be installed as shown in Appendix 2, Figure 1. See Paragraph 7a for criteria on the installation of taxiway intersection centerline lights and clearance bars.

h. Short Straight Taxiway Segments. There should be a minimum of four taxiway centerline lights installed on short straight taxiway segments.

...j. Supplemental Taxiway Edge Lights and Elevated Edge Reflectors. Refer to AC 120-57 for criteria on supplementing taxiway centerline lights with taxiway edge lights (L-861T) or elevated edge reflectors (L-853) for low visibility operations. For higher visibilities, where taxiway edge lights are not installed, taxiway centerline lighting should be supplemented with elevated edge reflectors installed adjacent to the taxiway edge on paved fillets and on curves of radii less than 800 feet (244 m) (measured to the taxiway centerline). Supplemental edge lights may be installed to aid taxi operations when centerline lights are obscured by snow. Space edge lights and reflectors in accordance with the requirements of AC 150/5340-24. Supplemental reflectors may be used in ramp areas.