



Figure 1-16. New TERPS departure procedures.

## Departure Procedures

Instrument departure procedures are preplanned IFR procedures that provide obstruction clearance from the terminal area to the appropriate en route structure. Primarily, these procedures are designed to provide obstacle protection for departing aircraft. There are two types of Departure Procedures (DPs):

- Obstacle Departure Procedures (ODPs) and
- Standard Instrument Departures (SIDs).

When an instrument approach is initially developed for an airport, the need for an ODP is assessed. If an aircraft may turn in any direction from a runway within the limits of the assessment area and remain clear of obstacles that runway passes what is called a diverse departure assessment, and no ODP is published. A diverse departure assessment ensures that a prescribed, expanding amount of required obstacle clearance (ROC) is achieved during the climb-out until the aircraft can obtain a minimum 1,000 feet ROC in non-mountainous areas or a minimum 2,000 feet ROC in mountainous areas. Unless specified otherwise, required obstacle clearance for all departures, including diverse, is

based on the pilot crossing the departure end of the runway (DER) at least 35 feet above the DER elevation, climbing to 400 feet above the DER elevation before making the initial turn, and maintaining a minimum climb gradient of 200 ft/NM, unless required to level off by a crossing restriction, until the minimum IFR altitude is reached. Following ODP assessment, a SID may still be established for the purposes of ATC flow management, system enhancement, or noise abatement.

## Design Criteria

The design of a departure procedure is based on FAA Order 8260.3, United States Standard for Terminal Instrument Procedures (TERPS), which is a living document that is updated frequently. Departure design criterion begins with the assumption of an initial climb of 200 ft/NM after crossing the DER at a height of at least 35 feet. [Figure 1-14] The aircraft climb path assumption provides a minimum of 35 feet of additional obstacle clearance above the required obstacle clearance (ROC), from the DER outward, to absorb variations ranging from the distance of the static source to the landing gear, to differences in establishing the minimum 200 ft/NM climb gradient, etc. The ROC is the planned