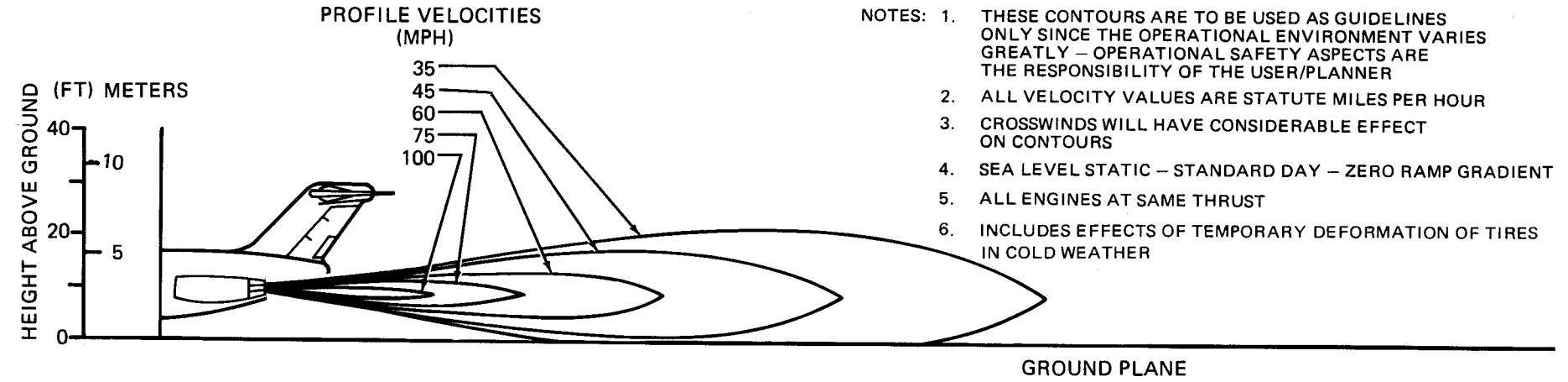
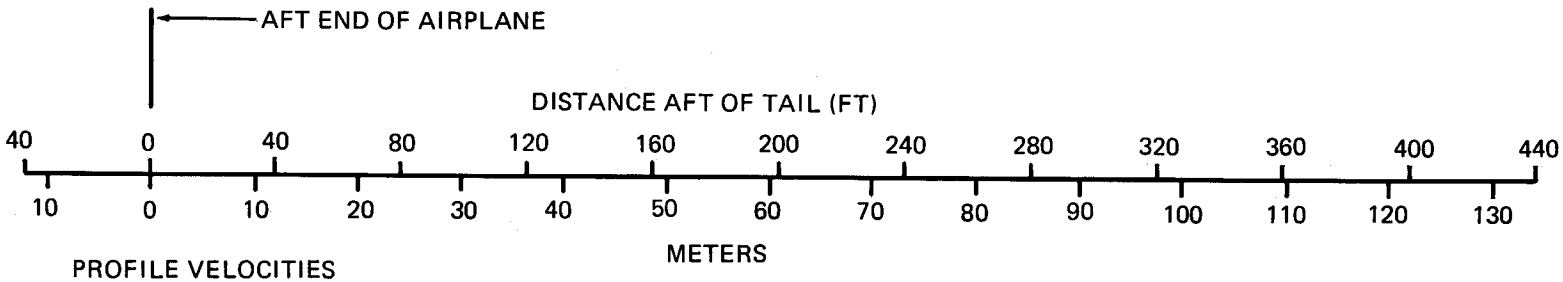
6.0 OPERATING CONDITIONS

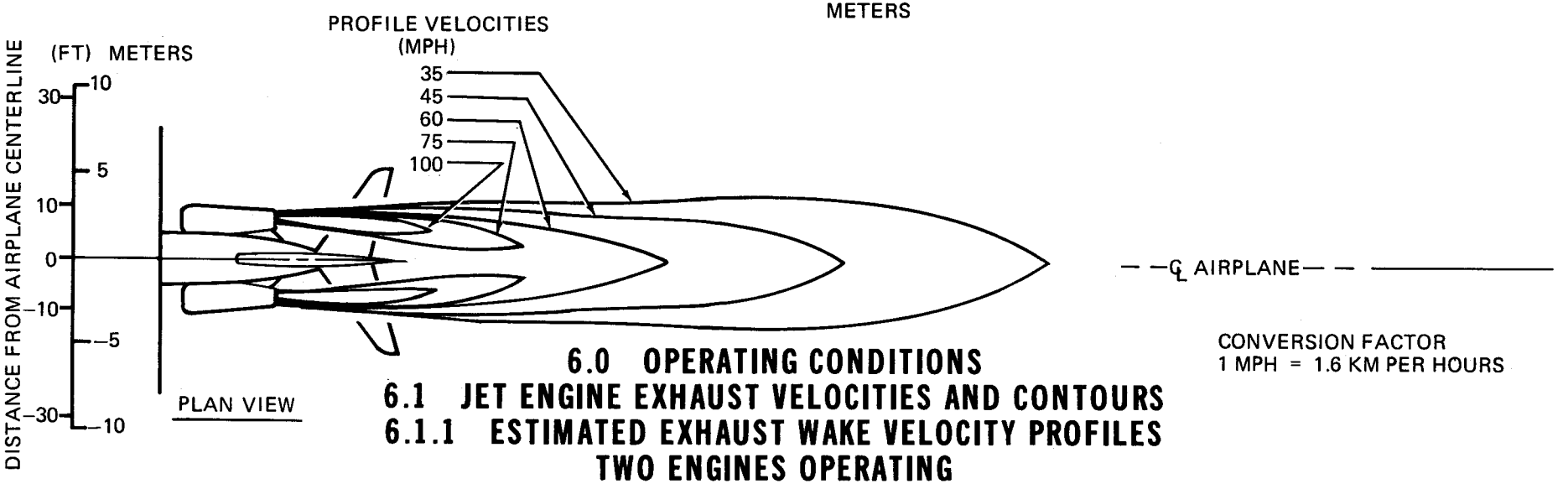
6.1 Jet Engine Exhaust Velocities and Temperatures
6.2 Airport and Community Noise



NOTES:
1. THESE CONTOURS ARE TO BE USED AS GUIDELINES ONLY SINCE THE OPERATIONAL ENVIRONMENT VARIES GREATLY – OPERATIONAL SAFETY ASPECTS ARE THE RESPONSIBILITY OF THE USER/PLANNER
2. ALL VELOCITY VALUES ARE STATUTE MILES PER HOUR
3. CROSSWINDS WILL HAVE CONSIDERABLE EFFECT ON CONTOURS
4. SEA LEVEL STATIC – STANDARD DAY – ZERO RAMP GRADIENT
5. ALL ENGINES AT SAME THRUST
6. INCLUDES EFFECTS OF TEMPORARY DEFORMATION OF TIRES IN COLD WEATHER

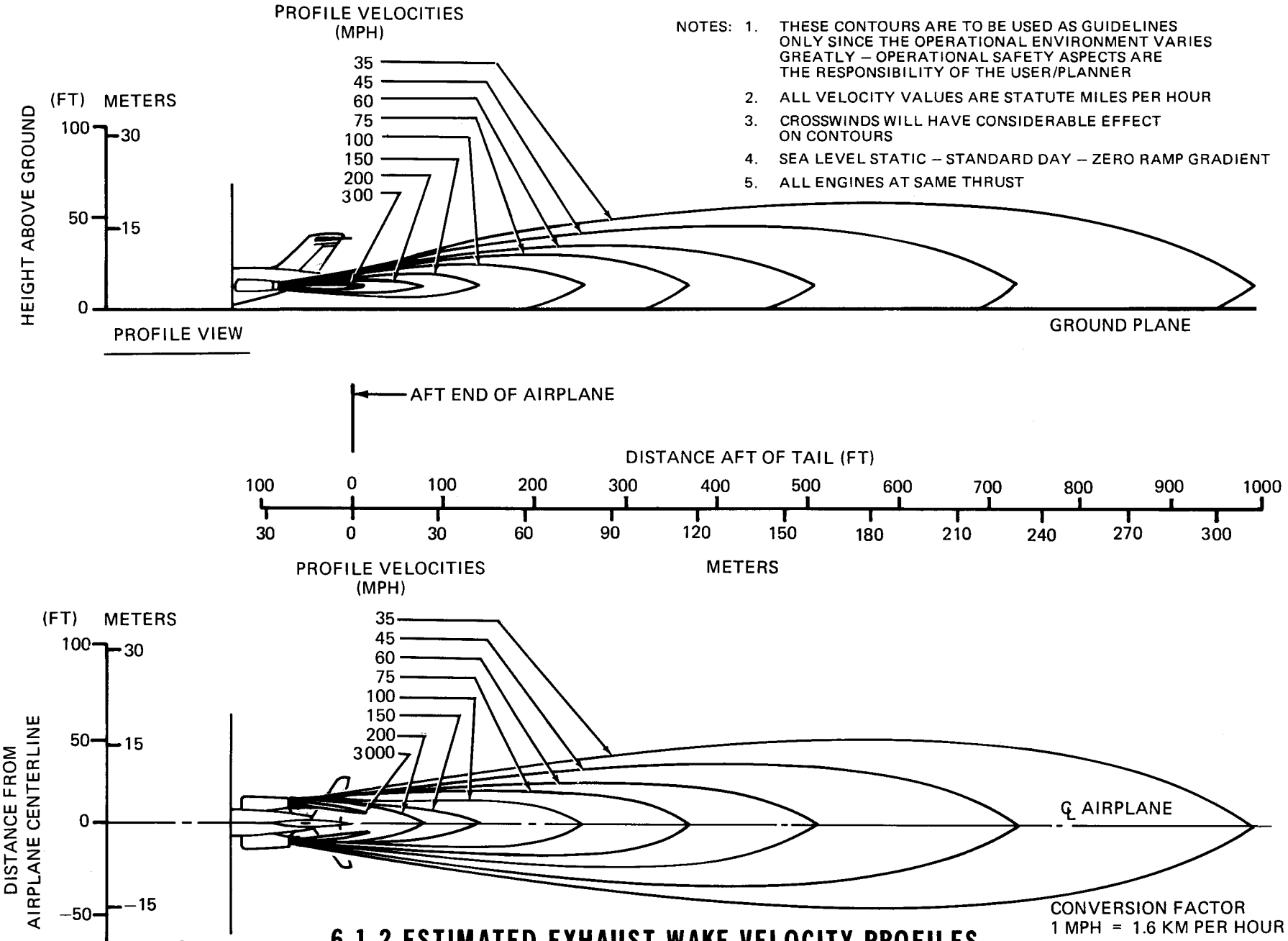
ELEVATION





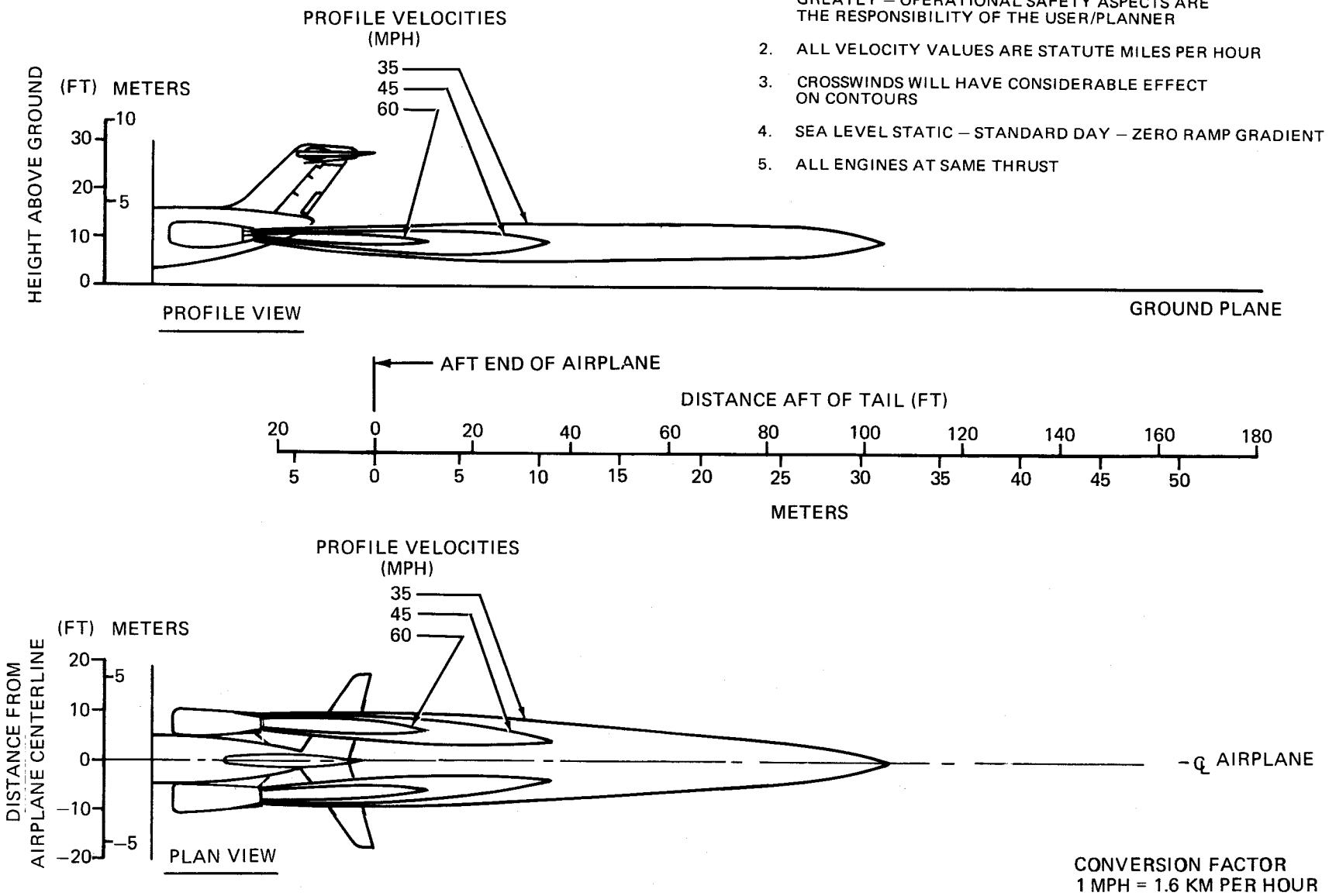
CONVERSION FACTOR
1 MPH = 1.6 KM PER HOURS

6.0 OPERATING CONDITIONS
6.1 JET ENGINE EXHAUST VELOCITIES AND CONTOURS
6.1.1 ESTIMATED EXHAUST WAKE VELOCITY PROFILES
TWO ENGINES OPERATING
BREAKAWAY THRUST
MD-80 SERIES



6.1.2 ESTIMATED EXHAUST WAKE VELOCITY PROFILES TWO ENGINES OPERATING TAKEOFF THRUST MD-80

NOTES:
1. THESE CONTOURS ARE TO BE USED AS GUIDELINES ONLY SINCE THE OPERATIONAL ENVIRONMENT VARIES GREATLY – OPERATIONAL SAFETY ASPECTS ARE THE RESPONSIBILITY OF THE USER/PLANNER
2. ALL VELOCITY VALUES ARE STATUTE MILES PER HOUR
3. CROSSWINDS WILL HAVE CONSIDERABLE EFFECT ON CONTOURS
4. SEA LEVEL STATIC – STANDARD DAY – ZERO RAMP GRADIENT
5. ALL ENGINES AT SAME THRUST



CONVERSION FACTOR
1 MPH = 1.6 KM PER HOUR

6.1.3 ESTIMATED EXHAUST WAKE VELOCITY PROFILES TWO ENGINES OPERATING IDLE THRUST MD-80

6.1.4 JET ENGINE VELOCITIES AND TEMPERATURES
JET ENGINE EXHAUST TEMPERATURE CONTOURS, BREAKAWAY, TAKEOFF AND IDLE POWER
MD-80

Temperature contours for the MD-80 with any JT8D engines for idle, breakaway, and takeoff power settings were not prepared because the effects of the exhaust temperatures are considerably less adverse than exhaust velocity at any given position behind the aircraft.

6.2 Airport and Community Noise

Aircraft noise is of major concern to the airport and community planner. The airport is a major element in the community's transportation system and, as such, is vital to its growth. However, the airport must also be a good neighbor, and this can be accomplished only with proper planning. Since aircraft noise extends beyond the boundaries of the airport, it is vital to consider the impact on surrounding communities. Many means have been devised to provide the planner with a tool to estimate the impact of airport operations. Too often they oversimplify noise to the point where the results become erroneous. Noise is not a simple subject; therefore, there are no simple answers.

The cumulative noise contour is an effective tool. However, care must be exercised to ensure that the contours, used correctly, estimate the noise resulting from aircraft operations conducted at an airport.

The size and shape of the single-event contours, which are inputs into the cumulative noise contours, are dependent upon numerous factors. They include:

1. Operational Factors

   (a) Aircraft Weight – Aircraft weight is dependent on distance to be traveled, en route winds, payload, and anticipated aircraft delay upon reaching the destination.

   (b) Engine Power Settings – The rates of ascent and descent and the noise levels emitted at the source are influenced by the power setting used.

   (c) Airport Altitude – Higher airport altitude will affect engine performance and thus can influence noise.

2. Atmospheric Conditions – Sound Propagation

   (a) Wind – With stronger headwinds, the aircraft can take off and climb more rapidly relative to the ground. Also, winds can influence the distribution of noise in surrounding communities.

   (b) Temperature and Relative Humidity – The absorption of noise in the atmosphere along the transmission path between the aircraft and the ground observer varies with both temperature and relative humidity.

3. Surface Condition Shielding, Extra Ground Attenuation (EGA)

   (a) Terrain – If the ground slopes down after takeoff or up before landing, noise will be reduced since the aircraft will be at a higher altitude above ground. Additionally, hills, shrubs, trees, and large buildings can act as sound buffers.

All of these factors can alter the shape and size of the contours appreciably. To demonstrate the effect of some of these factors, estimated noise level contours for two different operating conditions are shown below. These contours reflect a given noise level upon a ground level plane at runway elevation.