

Section 3.6 Electromagnetic Fields

Introduction

This section discusses the effects of the alternatives analyzed in this Supplemental DEIS with regard to electromagnetic fields (EMFs). The section updates information from the prior 2005 FEIR and 2007 SEIR and relies upon EMF analysis prepared for the Vasona LRT project in 1995 and 2005. Please refer to these reports for background information on the conclusions of this section. A copy of these reports can be obtained from VTA Environmental Programs.

Environmental Consequences

EFFECTS AND MITIGATION MEASURES

No-Build Alternative

The No-Build Alternative would have no adverse effects related to EMFs.

Light Rail Alternative

Impact: Human Exposure to New Electromagnetic Fields

The Light Rail Alternative would result in exposure to new sources of EMF generation. The sources would include the traction power system and substations; light rail stations with various lighting, communications, utilities, and fare machines; and the electrically powered light rail vehicles.

Under the Light Rail Alternative, the greatest potential for exposure to increased magnetic fields would be within the light rail vehicles and at the proposed stations, where passengers and train operators would be exposed. Other VTA staff, such as maintenance and security personnel, would also be exposed. The magnitude of the increased magnetic fields would vary considerably by location and from minute to minute. The magnetic field would fluctuate substantially depending on factors such as train length, train mode (acceleration, deceleration, or idle), number of trains, and number of passengers at any given time. The strength of the magnetic field would also vary relative to an individual's proximity to the system.

In 1999, the Vasona Corridor Extension, had magnetic fields levels that were approximately 50 percent below the American Conference of Governmental Hygienists' (ACGIH's) 5,000 milligauss (mG) standard. 2005 readings at 5-feet from the closest rail were 1,140 mG,

also more than 50 percent below the standard. The anticipated levels from the Light Rail Alternative would likely be similar.

Current studies on EMF show no clear pattern of health hazards. Until more information is available, the State of California recommends that exposure to EMF be minimized whenever possible (California Department of Health Services and the Public Health Institute 1999). Therefore, the Light Rail Alternative would not result in a substantial adverse physical impact related to generation of direct current (DC) magnetic fields that exceed the guidelines of the ACGIH.

No adverse effect. No mitigation required.

Proposed Options

The above discussion is inclusive of the Light Rail Alternative options.

CUMULATIVE EFFECTS

No-Build Alternative

The No-Build Alternative would not contribute to cumulative impacts related to EMFs.

Light Rail Alternative

The Light Rail Alternative in combination with other reasonably foreseeable projects could result in increased impacts related to EMFs. However, the Light Rail Alternative's contribution to EMFs is not considered to be a substantial adverse physical impact. Furthermore, the other reasonably foreseeable projects in the Capitol Expressway Corridor (Reid-Hillview Airport Master Plan and the Thompson Creek Trail Feasibility Study) are not anticipated to substantially contribute to EMFs. Therefore, the Light Rail Alternative will not contribute to adverse cumulative EMF impacts.