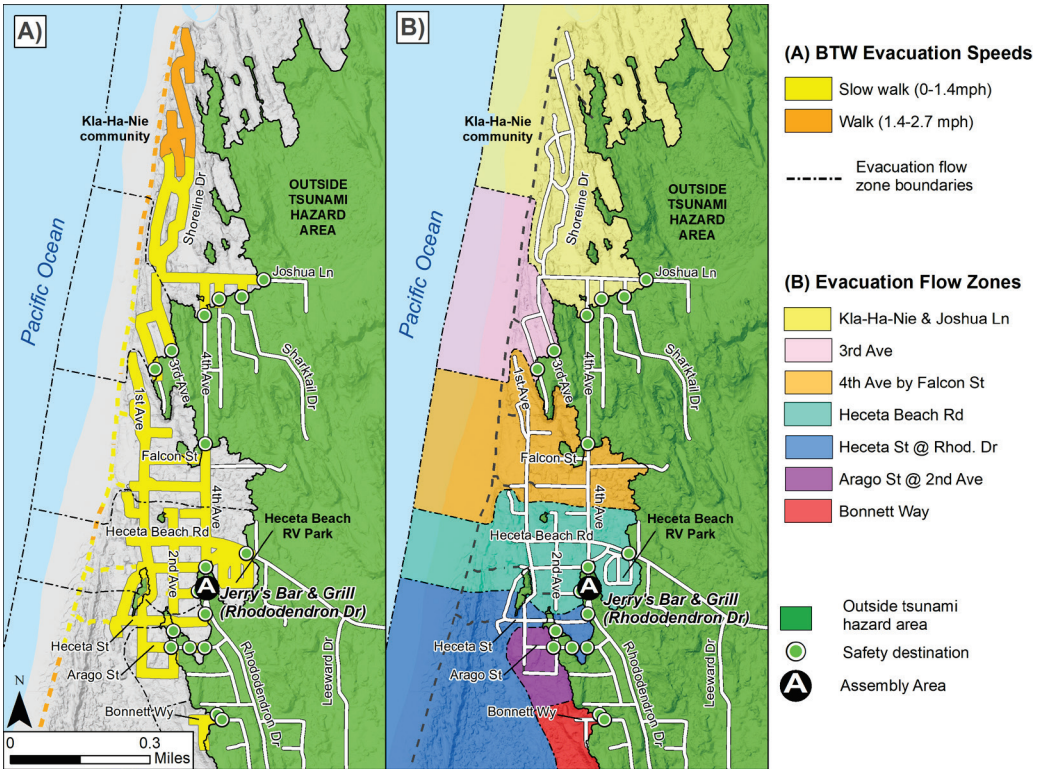
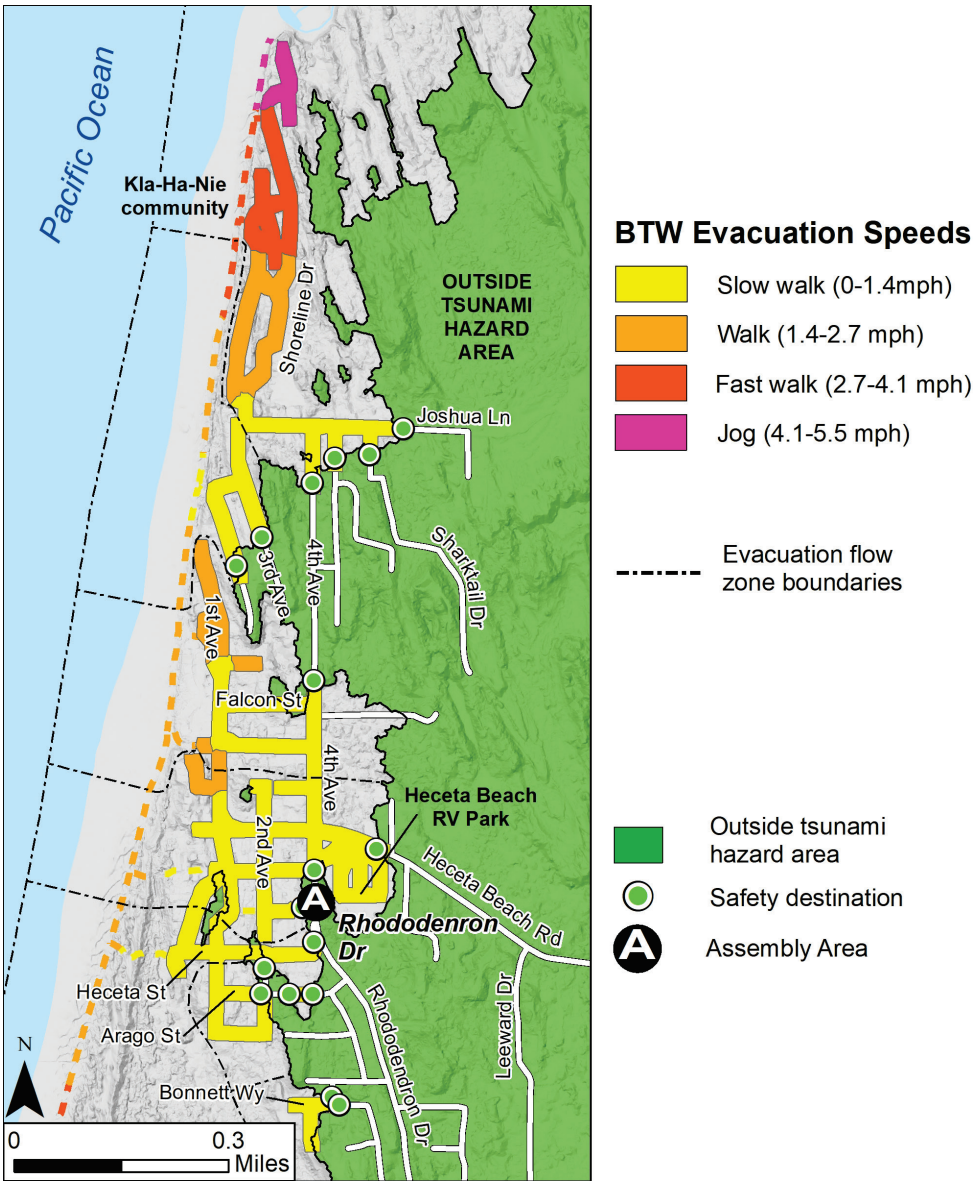
Figure 3-16. Beat the Wave modeling for Heceta Beach assuming the existing road network remains intact. A) BTW minimum walking speeds and B) evacuation zone zones only.



3.2.3.2 Scenario 2—Liquefaction

Heceta Beach is highly susceptible to earthquake-induced liquefaction (Burns and others, 2016). For this scenario, the road network was classified as loose sand. The results are presented in **Figure 3-17**. As can be seen in the figure, evacuation remains feasible for most neighborhoods with the **minimum** BTW speeds based around a ***slow walk***. However, beach trails increase to ***walk***, while the Kla-Ha-Nee neighborhood increases to ***walk*** at the south end and ***jog*** at the north end. The inclusion of a footpath at the north end of this neighborhood to nearby high ground will likely help to lower the evacuation speeds to ***slow walk***. Evacuation flow zones remain unchanged from scenario 1 (**Figure 3-16**B).

Figure 3-17. Beat the Wave minimum walking speeds for Heceta Beach assuming liquefaction blankets the roads with loose sand and mud, making travel more difficult. Evacuation flow zones remain unchanged from scenario 1 (Figure 3-16B).



3.2.3.3 Discussion

Unlike Florence, Heceta Beach is on the open coast and has less time to reach safety. The tsunami is expected to arrive some 20–25 minutes after the earthquake. Despite this, the BTW evacuation model results are encouraging, with evacuees on nearly every street able to reach high ground at **minimum** speeds based around a ***slow walk***. The exception is at the north end of the Kla-Ha-Nie community, where residents must travel faster, at a ***walk***, in order to reach safety in time to "beat the wave." The inclusion of a footpath connecting the north end of the Kla-Ha-Nie community with high ground immediately to its east, would almost certainly reduce the necessary travel speeds needed to reach safety.

Because there is no need to model vertical evacuation at Heceta Beach, the main vulnerability we evaluated further was liquefaction. Unlike for Florence, we do see a slight increase in the required BTW