

# Developing the Vessel Movement Module: Movements associated with other vessels



More information

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## How you can help:

We are looking for feedback on this draft approach from tribes and stakeholders, especially those with expertise and interest in the operational patterns for vessels that provide services to other vessels, such as:

- Bunkering
- Escort tugs
- Assist tugs
- Pilot boats

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## Special accommodations

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## Introduction

This focus sheet describes our approach to modeling vessel movements that are associated with the movements of other vessels. We are seeking your input on this draft approach.

Our draft list of vessel types whose movements are linked to other vessels is shown on the left. On page 2, we have included questions that may help you provide your thoughts.

You can provide feedback using our [eComment system](#). We are also hosting [a technical discussion of rules affecting vessel movements October 29, 2020](#).

To learn more about the model we are building, and how these types of vessel movements relate to the Vessel Movement Module (VMM) please review our [Modeling Approach focus sheet](#).

## Vessel movements associated with other vessels

As part of our development of the Vessel Movement Module, we need to determine how to represent vessels whose movements are dependent on the behavior of other vessels. For instance, escort tugs only run out to escort a tanker if a tanker is arriving, and bunkers are only delivered to anchorages that are occupied by vessels in need of bunkers.

To represent this type of dependent vessel movement, we cannot solely rely on AIS data. We need to produce a series of rules that outline which vessels need escorts, pilots, and bunkers, where they need them, and when. In addition, we have to come up with a strategy for representing the movements of the dependent vessels before and after they provide their service – where did they come from and where are they going.



Figure 1: Photo of a shipping vessel

## Incorporating these rules into the Vessel Movement Module

For each vessel type that behaves like this, we need to determine their area and pattern of operation. For pilot boats, we will need to determine the usual locations for pilot transfer, and the regular homeport of the pilot vessels.

For bunkering vessels, we can determine the locations where bunkering takes place. We need your input on routes taken by vessels providing bunkering services, and typical operating patterns (e.g., anchor between multiple bunker jobs?).

Similarly for assist and/or escort tugs, we need to identify where services begin and end, and where the tug arrives from and departs to.

## How to provide input on how these rules will affect the simulation of vessel movement?

We welcome feedback and input on this topic at our upcoming technical discussion session as well as in writing. All feedback is welcome, but you may find the following questions helpful in guiding your comments:

- Are there other vessel types besides those listed that regularly operate based on the presence or movements of other vessels?
- For each of the listed vessel types, where do they operate, and where are they homeported?
- What strategies would you suggest for identifying the operational areas and homeports of the vessel types listed?

[Register for our October 29<sup>th</sup>, 2020 Discussion Session](#)

[Provide written feedback via eComment](#)