

Canterbury River Navigation Company

Westgate Punts

CoVid-19 Operations Risk Assessment

This risk assessment has been carried out in accordance with government's "working safely during coronavirus" document as updated on the 24th July 2020.

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1. Managing Risk

1. In every workplace, increasing the frequency of hand-washing and surface cleaning

2 As an outdoor attraction in the visitor Economy we have no possibility of working from home. As such it is imperative that we make every reasonable effort to comply with social distancing guidelines.

3 For the most part, we are able to work while maintaining a safe 2 meter distance from each other and from customers. The exceptions to this are when taking a payment and when punting a boat with more than 2 passengers. There are mitigation that we can apply to resolve this, these will be detailed in the assessments.

4 We are looking into means to take the bulk of our payments online so as to avoid the exchange of card readers. It is expected that some payments will still need to occur in person and these can be carried out using precautions. The other issue is in helping people into the boats with impaired mobility. We will endeavour to maintain a high level of accessibility but it is likely that we may have to turn away customers who we otherwise may have accommodated.

5 We are a small company and as such have no need to divide the workforce into groups. Navigators, who normally undertake the work in a communal manner will have to overcome their usual team oriented approach in favour of a somewhat more distanced, solitary attitude. If a task can be accomplished alone, then it should be accomplished alone. This includes getting drinks and food for others, unless it can be disinfected easily by the recipient. Where this is the case, cash should not be continuously changing hands.

6 There are some activities, such as trips with multiple boats, that did require sustained contact with other Navigators. While it is possible for two Navigators to punt back to back, and where appropriate it should be, for the most part, multiple boat trips will happen in single file.

7 Navigators will only be engaged in the business of taking trips on the river if they are low risk in regard to the illness.

We must accept that no planning for health and safety is perfect, particularly when it concerns a danger that is new and little understood. With this in mind it is imperative that this risk assessment be under a process of continuous review. Management and staff are compelled to

approach the day to day operations with the implications of the pandemic in general awareness at all times. With a continuous, raised sense of alertness, not only will the procedures be carried out more effectively but also omissions from this document can be identified and mitigations included for the improved safety of all. The management commits to maintaining an open mind to input from both workers and the general public in order to attain this standard of diligence.

2. Our understanding of the nature of the virus and its modes of transmission

According to current evidence, CoVid-19 is primarily transmitted between people through respiratory droplets and contact routes. Airborne transmission is possible in specific settings in which procedures or support treatments that generate aerosols are performed. (COVID-19: epidemiology, virology and clinical features, 2020)

In other words, infection is caused primarily by large respiratory droplets and the residues they leave on surfaces (fomites). Infection via aerosol droplets (also called droplet nuclei) is believed only to occur in specific circumstances (such as during hospital procedures). This risk assessment will therefore mainly focus on the infection route presented by respiratory droplets. That being said, the scientific literature on the subject makes it apparent that there is disagreement on the relative danger presented by these modes of transmission. With this in mind, we believe it is wisest to consider the dangers posed by clouds of droplet nuclei even though the government guidelines do not require it of us.

The essential difference between respiratory and droplets nuclei is that the former are large enough that they are subject to gravity and so fall from the air, while the second are so small that they are subject to convection currents and the laws of brownian motion, therefore temperature and humidity (considerably variable in our work) have a greater impact on the ability for droplet nuclei to propagate through the air. (Jayaweera, Perera, Gunawardana and Manatunge, 2020)

As such, it is much simpler to plan for and mitigate the effects of the former than the latter.

It would be helpful to consider the qualities of differing human exhalations in regard to droplet production:

1. Breathing produces very few droplets and they do not travel far at all
2. Talking also produces few droplets with minimal travel. It is worth noting that the both size and spread of a droplet could be related to the amplitude of the speaker. (Asadi et al., 2019) In other words, the louder you speak the more likely you are to infect those around you. Ironically raising your voice to speak with someone two meters away may be worse than normal speech at a smaller distance.
3. Shouting is notably more propulsive than a raised voice
4. Singing produces notably fewer droplets than talking but results in as much as six times as many droplet nuclei. (Loudon and Roberts, 1968)

5. Sneezing and coughing are explosive events that produce a cloud of moist, hot air containing suspended droplets. The larger of these droplets follow ballistic trajectories while the rest become droplet nuclei and are carried for longer periods in the cloud. (Bourouiba, Dehandschoewercker and Bush, 2014)

We have taken the decision to arrange the risk assessments in a manner reflecting its modes of transmission. This is because each requires a different set of mitigations and general way of thinking. We believe this will be most effective in fostering an awareness of the necessary behaviour in our workforce.

2.1 General Considerations

The Navigator is most at risk as they will be exposed to multiple groups of passengers throughout their time at work. This has the added implication that, if infected, they could become a “super-spreader”. This is mitigated by the fact that our Navigators are standing, while the passengers are seated. Since... *“Natural human exhalation flows such as coughing, sneezing and breathing can be considered as jet-like airflows in the sense that they are produced from a single source in a single exhalation effort, with a relatively symmetrical, conical geometry.”* (Tang et al., 2013) as such the respiratory droplets potentially containing the virus will travel away from the Navigator and fall into the boat, or the river if the passenger faces to the side. Furthermore, as stated above, respiratory droplets are subject to the laws of gravity. As such, they cannot lift themselves high enough into the air to reach the Navigators face provided the passenger is not facing directly at them. Some droplet nuclei may rise up on the warm air, but these are not considered to be of great risk, or the disease would be categorised an airborne infection and there would be far greater restrictions placed upon the public.

The small size of our boats will make it unavoidable that passengers will expose each other to respiratory droplets. This makes passenger to passenger contamination highly likely. Fortunately, we have never had a policy of assigning multiple groups to a single boat. For the most part, each boat will only carry a single family or couple, possibly two and the assumption will be that where two families go together, they are in the same social bubble. When taking bookings of multiple families or groups, care must be taken not to place two families on the same boat if they are not in a bubble.

With these points in mind we do not believe it necessary to require our customers to wear masks unless in very specific circumstances, to be detailed in the risk assessments themselves.

3. Assessments

3.1 Risks to workforce

Table 1 - Droplets

Risk	Actions to be taken
Exposure to droplets from fellow staff	<p data-bbox="472 613 1437 748">Navigators to maintain a safe 2 meter distance as much as is realistically possible. Where two or more have to remain in closer proximity for any length of time masks will be worn.</p> <p data-bbox="472 824 1437 857">Boats will no longer be cleaned side to side but lined up against the wall</p> <p data-bbox="472 934 1437 1171">Voices to be kept at low volumes except in cases of emergency. New procedures to be put into practice at times where multiple boats require access to the embarkation/debarkation point to mitigate the need for boatmen to call out to each other. New training will be given on these procedures.</p>
Exposure to droplets from Customers and general public at the steps	<p data-bbox="472 1211 1334 1294">Signs to be positioned on display boards reminding customers to observe social distancing guidelines</p> <p data-bbox="472 1370 1422 1498">Navigators are advised to use the space within the site of operation and the barriers created by the fencing to create space with customers that approach too closely.</p> <p data-bbox="472 1574 1385 1702">A rope with sign will be used to indicate that only one group of customers should enter the steps at any time. Navigators will enforce this policy when necessary.</p> <p data-bbox="472 1778 1430 1861">Navigators are advised not to sit at the bottom of the steps as the public walk past above us.</p> <p data-bbox="472 1937 1422 2011">When taking a card payment that is too large to use contactless a mask should be worn.</p>

Exposure to droplets from passengers	<p>Maintain safe 2 meter distance while passengers embark/disembark.</p> <p>Navigators to wear masks when there are passengers in the rear seats, closest to them.</p> <p>Navigators should politely request that passengers do not turn to talk to them when passing under bridges.</p>
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Table 2 - Fomites

Risk	Actions to be taken
<p>Exposure to fomites on boat/boating equipment</p>	<p>Each Navigator will be assigned a boat at the start of the day. They will clean it, and all equipment with disinfectant. After this, they alone will touch it.</p> <p>The front clips are the only part of each boat that must be used by all Navigators. These must be cleaned before and after use.</p> <p>The passenger area of the boat and any equipment they have touched must be cleaned after each trip.</p>
<p>Exposure to fomites at embarkation/debarkation point</p>	<p>The handrail at the embarkation/debarkation point must be cleaned before a Navigator pulls away to park their boat.</p>
<p>Exposure to fomites during payment</p>	<p>Cash payments to be avoided as much as possible. If a customer can only pay with cash, put it in a sealed box and do not touch it again until it can be washed. The Navigator must wash their hands directly after handling cash.</p> <p>The card reader must be wiped with disinfectant before and after being handed to a customer and the Navigator must then wash their hands.</p>
<p>Exposure to fomites on leaves and branches</p>	<p>Management will maintain clear pathways for boats as much is reasonably possible</p> <p>Navigators are advised to duck below leaves where possible and if they must pass through some, then do not let them touch their face and hold their breath</p> <p>Extra training on how to punt while crouched will be given to inexperienced Navigators</p>

Table 3 - Droplet nuclei

Risk	Actions to be taken
Enclosed spaces in the city	<p data-bbox="474 400 1414 490">Navigators to wear masks when passing through the bridges in the city unless the other companies are not operating.</p> <p data-bbox="474 553 1439 642">Passengers advised to talk quietly and refrain from singing under bridges and tunnels in the city.</p> <p data-bbox="474 705 1433 795">Communicate this risk to other operators and ensure that they are taking similar precautions</p>

3.2 Risks to Customers

Table 1 - Droplets

Exposure to droplets from other customers	Crowd management and control of flow, achieved by directions from staff and clear signs for those with impaired hearing Use a rope and sign to limit the number of groups on the steps to 1 Establish an online booking system to limit need for large queues to develop Make use of pavement and grassy area as queue and waiting zone Ensure sales point is kept clear of customers waiting for trips
Exposure to droplets from Navigators	As with risks to workforce

Table 2 - Fomites

<p>Exposure to fomites at sales and embarkation/debarkation on point</p>	<p>Hand sanitising station to be installed with direction to use before and after a trip</p> <p>Entire area to be disinfected at the start of the day with regular washing of likely touch-points</p> <p>Handrail for assistance onto and off of boats to be cleaned immediately after a boat is loaded or unloaded</p>
<p>Exposure to fomites on the trip</p>	<p>Seating area of vessel to be disinfected immediately after debarkation and again should the skipper need to change the seating arrangement</p> <p>All umbrellas to be disinfected at start of day and immediately after use by customers</p>
<p>Exposure to fomites during payment</p>	<p>Card readers to be cleaned prior to use by customers. Contactless payments to be preferred. Always ask if Customer has apple/android pay or other method with no payment limit</p> <p>Cash payments to be avoided. Customers to be advised before trip that if they wish to pay with cash, no change can be given</p>

Table 3 - Droplet nuclei

Risk	Actions to be taken
<p>Enclosed spaces in the city</p>	<p>Navigators to recommend passengers wear masks when the river in the city is busy</p> <p>Passengers advised to talk quietly and refrain from singing under bridges and tunnels in the city.</p>

3.2 Risks to General Public

Table 1 - Droplets

Exposure to Droplets from Navigators	As with risks to workforce
Exposure to Droplets from our customers	An efficient queueing system to be introduced in order to reduce crowds at our place of operations Only customers whose boat is at steps to wait directly at our location, all others to be instructed to wait nearby, and to observe social distancing

Table 2 - Fomites

Exposure to Fomites from Navigators	All company literature to be withheld until pandemic is resolved Company to investigate contactless means of sharing social media content to avoid the passing on of contaminated materials
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Table 3 - Droplet nuclei

Risk	Actions to be taken
No specific risk resulting from our operations	None

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