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Connecting Rome, Ostia and Portus by land

Understanding the road network in the Lower Tiber Valley through archaeological and computational approaches

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20. Connecting Rome, Ostia, and Portus by Land: Understanding the Road Network in the Lower Tiber Valley through Archaeological and Computational Approaches

Dragana Mladenović and Maria del Carmen Moreno Escobar

1. Introduction

Simon Keay always found it paradoxical that ports have often been studied in geographical isolation, although they occupy a privileged liminal position between land and sea and are connected to networks of land-based towns and other ports. He has thus made sure that his own project at Portus does not fall into the same trap: *Portus Romae* has been extensively contextualised, within its immediate hinterland, the port-system of Imperial Rome, and the Mediterranean network of Roman ports and Imperial supply systems.¹ Furthermore, the connectivity and movement between the Imperial capital, its maritime port of Portus, the fluvial port of Ostia, and the River Tiber has lately received due scholarly attention, with the main focus resting on the networks created by natural and artificial waterways, and the workings of the riverine traffic.²

In this paper we would like to add an additional element to the picture by concentrating on the land connection between the nodes of this system, i.e. the roads linking Rome, Ostia, and Portus: the *via Campana/Portuensis*, the *via Ostiensis*, and the *via Flavia* (Figure 20.1). By taking into account the physical geography and archaeological remains, the authors wish to explore the dynamic relationship between the roads, the settlements which they served and the River Tiber, and to tease out the roles that these communication links played in the Lower Tiber Valley port and settlement network. It is hoped that through this process some of the rationale that guided the choice of when and which terrestrial route to take between the mouth of the Tiber and Rome will be revealed, reflecting not only practices but perhaps also contemporary perceptions of these alternative communication lines.

The authors will restrict their enquiry to the early and middle Imperial period (late 1st century BC to early 3rd century AD), aiming to understand specifically the impact that the key episode in the development of the port system of Rome – the construction of the harbour complex at Portus – had on the existing communication

networks. Widening the chronological span would certainly reveal broader complexity of the changing relationship between Rome and its maritime front; due to the constraints of this paper, such an analysis remains outside of its scope.

2. The Dataset

The present study is based on an earlier data compilation that was used for analysing the occupation of the Lower Tiber Valley in relation to the development of Rome's port system.³ It resulted from an extensive archival and publication review and includes 494 entries, comprising archaeological sites found on both banks of the Tiber between the city walls of Rome and the mouth of the river, as well as on the Isola Sacra, dated between the late Republic and the late Empire. The data was compiled into a database, georeferenced, and included in an associated Geographic Information System, constituting the *Ager et Portus Tiberis* information resource (APT).⁴ In order to analyse the developments across time we classified the evidence into five periods, based on the dating provided by original publications (Table 20.1). The application of this chronological classification results in the restriction of the dataset to 164 sites for which we have enough temporal resolution to define their occupation with this level of detail, thus leaving aside sites for which defining specific enough chronology was not possible. Though not used in the quantitative analysis, the excluded sites are at times brought in to discuss an observed phenomenon, if their features are particularly well suited to further elucidate it.

¹ Keay and Paroli 2011; Keay 2012; 2016; Keay *et al.* 2020.

² Boetto 2016; Keay *et al.* 2021; Moreno Escobar 2022.

³ Initial data gathering for the *via Portuensis* area was conducted by D. Mladenović in 2007–08, during the research stay in Rome that was funded by a grant from the Craven Committee (Faculty of Classics) and the Meyerstein fund (School of Archaeology) of the University of Oxford. This author would like to thank Laura Cianfriglia of the Soprintendenza Speciale per i Beni Archeologici di Roma for her kind support and help in this process. The dataset was further refined and significantly expanded by M.C. Moreno Escobar as a part of her postdoctoral research project 'Exploring the Port System of Imperial Rome' at the British School at Rome in 2016–17. The archaeological and spatial analysis of this dataset, however, was conducted while Moreno Escobar was working on the project 'Beyond Ports: Movement and Connectivity in the Roman Mediterranean', funded by the Swedish Research Council (grant application: 2020-01621).

⁴ Moreno Escobar 2022.



Figure 20.1. Main axes of communication between Rome, Ostia, and Portus in imperial times (source: M.C. Moreno Escobar).

Table 20.1: Chronological periods used to classify archaeological evidence in this study (Moreno Escobar 2022, Table 1).

Chronological period	Temporal extent
Period 1	Augustan to pre-Claudian (c. 27 BC to 40 AD)
Period 2	Claudian to Flavian (c. 40 to 100)
Period 3	Trajanic and Hadrianic (c. 100 to 140)
Period 4	Antonines (c. 140 to 190)
Period 5	Severan (c. 190 to 235)

A new layer of interpretation was added to this data through re-evaluating the typology and/or functionality of sites, distinguishing 12 site types (Table 20.2).

The courses of the roads under study have been reconstructed following those traditionally accepted in modern scholarship, amended to align with remains of road stretches known from archaeological evidence.⁵

In order to explore how the different regions in the

⁵ Tomassetti 1979a, b; Venditti 1992; Serra 2007. It should be noted that we are following the traditional identification of the *via Campana* route with the modern course of the Via della Magliana, despite Scheid 1976 who believed Via della Magliana to be significantly more modern and proposed the identification of the haulage road along the Tiber with the *via Campana*. Our decision is based on the fact that no archaeological evidence has emerged since the 1970s that would place the *via Campana* closer to the river, while the excavations at Ponte Galeria demonstrated that the *via Campana* could not have been used for ship towing, at least not on its last stretch (Serlorenzi et al. 2004).

Table 20.2: Functional typologies used to classify the archaeological evidence in this study (Moreno Escobar 2022, Table 2).

Generic typology	Specific typology
Settlement	Cities, towns, <i>villae</i> , rural settlements...
Funerary	Necropolis, isolated burials, funerary monuments...
Sacred structures and places	Temples, sacred locations, sacred complexes...
Productive activities	Glass workshops, kilns, quarries, fish farming facilities...
Storage and trade	Warehouses, storerooms, <i>tabernae</i> ...
Port infrastructure	Structures enhancing connectivity between land and water, usually placed at locations where the two environments meet: moles, landings, quays, lighthouses...
Road infrastructure	Road sections, <i>stationes</i> , bridges...
Infrastructure	Territorial markers (e.g. <i>cippi</i>)
Urban infrastructure	Gates, city walls...
Water infrastructure	Cisterns, water drainage...
Other	Inscriptions, honorific monuments, dumping sites...
Undefined	Building structures and surface scatters offering insufficient information for reliable interpretation

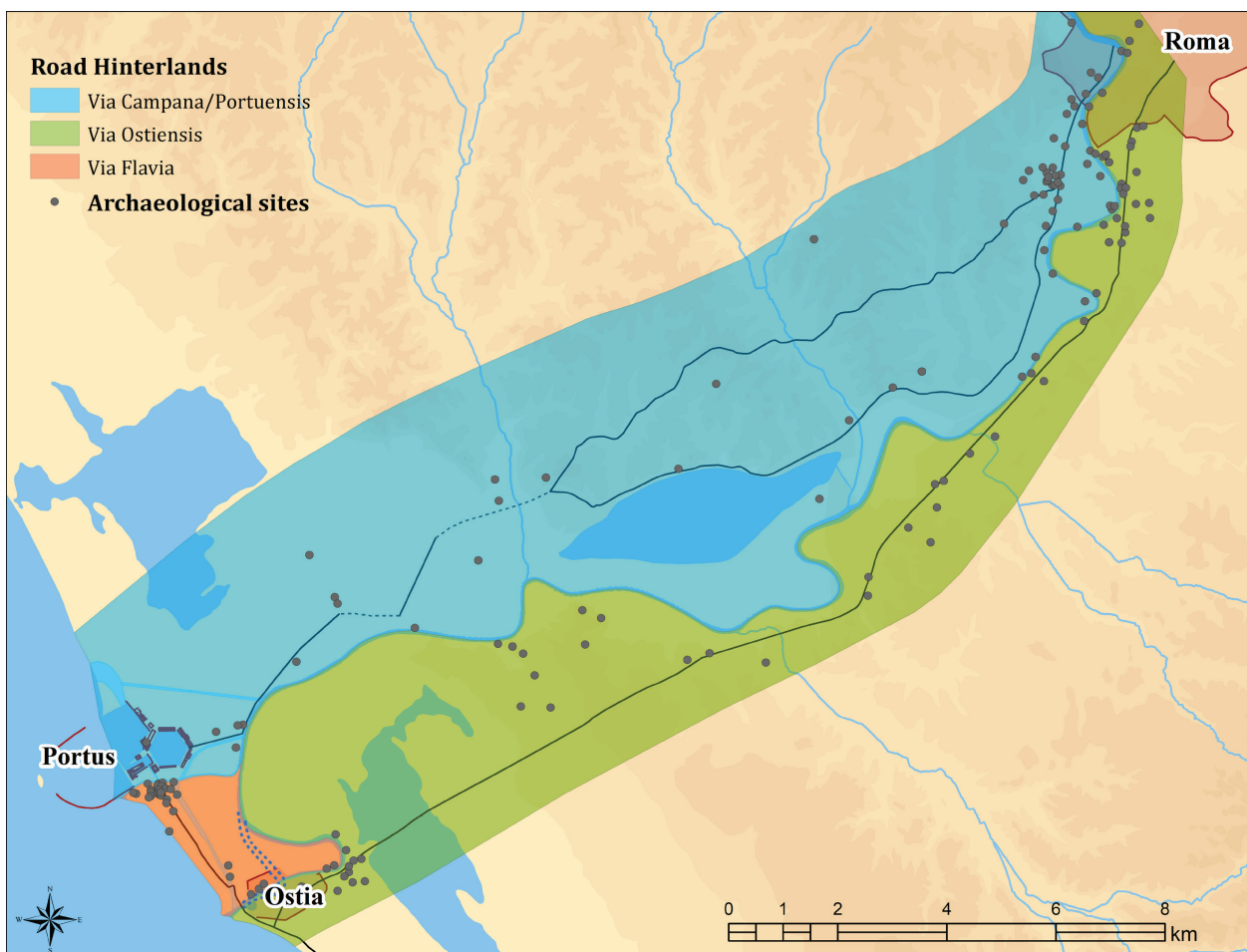


Figure 20.2. The study area divided into road hinterlands and the distribution of archaeological sites of the early and middle Imperial period (source: M.C. Moreno Escobar, with data from APT).

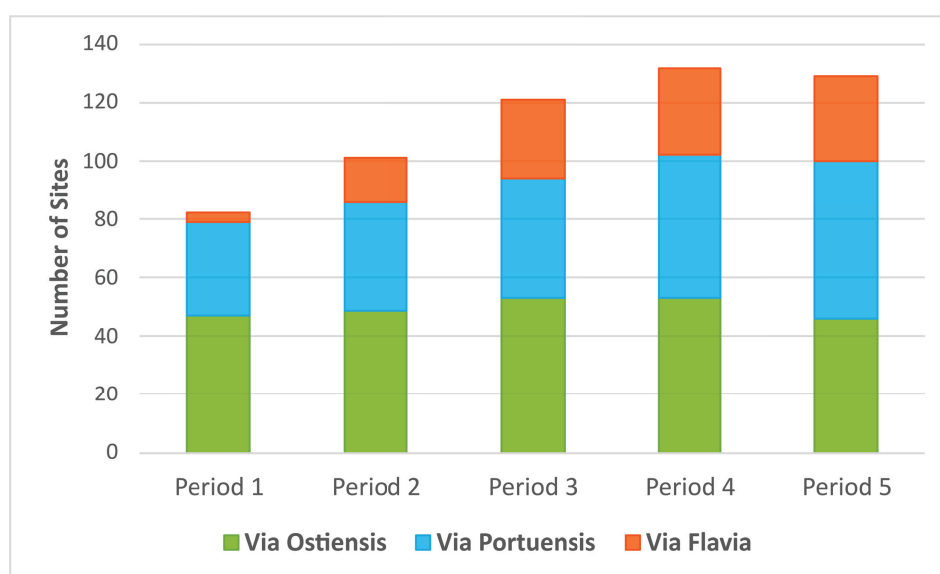


Figure 20.3. Number of sites identified in the hinterlands of the *via Campana/Portuensis*, *via Ostiensis*, and *via Flavia* in the periods under study (source: M.C. Moreno Escobar).

Lower Tiber Valley were occupied we have divided the study area into sections associated with each of the roads, defined as road hinterlands: the *via Campana/Portuensis*, the *via Ostiensis*, and the *via Flavia* hinterland (Figure 20.2). In the following sections, we will use different techniques of quantitative and spatial analysis to explore the articulation between the occupation evidence and the road communication axes.

3. Intensity and Spatial Distribution of Occupation along the Road Network through Time

Our first analyses focus on the number (Figure 20.3) and the spatial distribution (Figure 20.4) of sites that existed in each of the roads' hinterlands at the different periods under consideration.

In the time of the early Empire substantial occupation existed in the Ostiensis and Portuensis hinterlands (Figure 20.3), with the Claudian foundation of Portus having very little impact on the settlement numbers along these two roads, though they both experienced modest occupation growth in Periods 2 and 3 (Period 2: two additional sites on the Ostiensis and five on the Portuensis, Period 3: four additional sites on each road). Instead, the foundation of the *Portus Romae* had a greater impact on Isola Sacra where occupation significantly increased between the mid-1st and the mid-2nd centuries AD (Periods 2 and 3). The Isola Sacra stretch of the *via Flavia* has been dated to the Flavian period,⁶ and our analysis offers further support to the proposition

that the original bridge at the location of the later *Ponte di Matidia* should also be dated to the same period,⁷ as it is hard to imagine that the establishment of Portus would have had such a significant and immediate impact on Isola Sacra had a link between the two not already been in place. The spatial distribution of sites on the Isola Sacra shows two distinct groupings at either end of the *via Flavia* (Figure 20.4), the larger one gravitating towards the imperial port, and the smaller one towards the urban community at Ostia. The new settlements and structures at the Portus end are clearly limited to the south side of the *Fossa Traiana* canal in all periods under consideration,⁸ leading us to conclude that the controlled environment of the imperial port did not allow for such developments on its territory.

We would like to briefly turn to the contested question of the *via Campana/via Portuensis* duality. Traditional scholarship maintains that the *via Portuensis* was constructed by Claudius to serve the port, with the pre-existing road on the same bank, the *via Campana*, becoming a hauling road at this point.⁹ They are believed to partly share a route: for the first two miles the *via Portuensis* follows the *via Campana*, branching off at Pozzo Pantaleo (present Via Q. Majorana) and crossing through the valley of Monteverde, before the roads join again around the 11th mile, at Ponte Galeria.

⁷ Keay *et al.* 2020, in particular p. 151.

⁸ Though one should also allow for a possibility of a bias in the dataset due to the extensive works in this area by Germoni *et al.* 2011 and more recently Keay *et al.* 2020.

⁹ Cf. s.v. *Campana, via* in *LTURS II*, 56-58 (J. Scheid).

⁶ By coin evidence from excavation, Baldassarre 1996: 13-14.

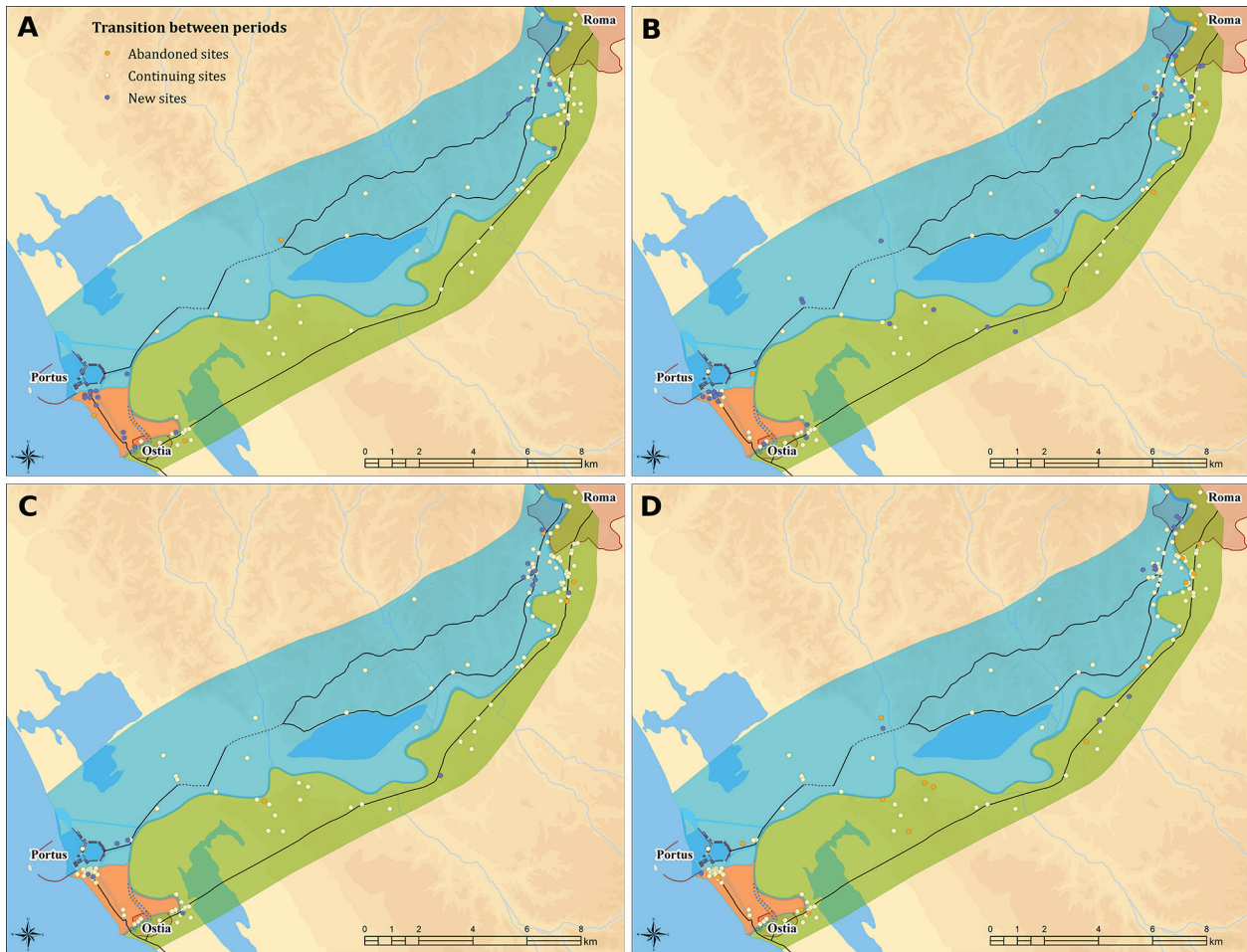


Figure 20.4. Maps showing the continuity, abandonment, and new foundation of sites in the transitions between Period 1 to Period 2 (A), Period 2 to Period 3 (B), Period 3 to Period 4 (C), and Period 4 to Period 5 (D) (source: M.C. Moreno Escobar, data from APT).

Looking at the changes in occupation between Period 1 and Period 2 (Figure 20.4A), one can indeed observe new sites appearing in Claudian-Flavian times along the course of the *via Portuensis*,¹⁰ mainly around the bifurcation with the *via Campana*, which seems to support the hypothesis of the Claudian construction of this section of the road.¹¹ Though the numbers are small, one should note the existence of sites in the vicinity of the *via Portuensis* that were active already in Period 1, and earlier, i.e. before the construction of Portus,¹² leading us to speculate about the existence of a communication link on this route already in previous

¹⁰ E.g. the funerary structures at Site 9 at Vigna Pia (Cianfriglia *et al.* 2002: 349-53; Cianfriglia 2006: 501, 505-10) and the family tomb at Vigna Jaconini (Tomassetti 1979b: 357-61).

¹¹ Recently, a Trajanic date has been put forward for the construction of the *via Portuensis* (Arnoldus Huyzendveld *et al.* 2009: 600); the analysis here described speaks in favour of the traditional Claudian date.

¹² Such as the republican fortification at Ponte Galeria-La Chiesola (Cianfriglia *et al.* 2002: 354-56), a republican villa at Via delle Vigne (L. Cianfriglia, pers. comm.), and an early imperial villa at the Grande Raccordo Anulare, svincolo Allitalia (L. Cianfriglia, pers. comm.).

periods, connecting Rome with the *Campus Salinarum* along the higher ground than the *via Campana*. On the other hand, not only is there no decline of occupation observable along the post-Claudian *via Campana*, but from the time of Trajan and Hadrian occupation along it intensifies (Figure 20.4B), while the newly built northern branch, the *via Portuensis*, sees sites being abandoned. From this moment on (Figure 20.4C and Figure 20.4D), new sites in the Portuensis hinterland concentrate in and around the bifurcation of the *via Campana* and the *via Portuensis* at Pozzo Pantaleo (mainly reflecting a growth of the urban necropolis) and along the *via Campana*. It would therefore seem that despite the Claudian construction of the *via Portuensis* branch, the southern *via Campana* route remained as the main axis of communication with Portus. Further implications of these observations will be explored in the Discussion section.

While the Antonine period (Period 4) sees further growth of occupation in the Portuensis hinterland

(eight additional sites) and Isola Sacra (three additional sites), the occupation of the Ostiensis side seems to have plateaued (Figure 20.3). Finally, Period 5 witnesses several new trends: firstly, a further intensification of the occupation of the Portuensis hinterland (five additional sites), and the decrease in the intensity of occupation in the Ostiensis area (seven sites less), whereas the occupation of Isola Sacra remains practically unchanged (one site less). The trends in the occupation between the Portuensis and Ostiensis hinterlands in Periods 4 and 5 may be early signs of the increasing importance of Portus, culminating with it gaining its municipal status at the beginning of the 4th century AD,¹³ and the dwindling influence of Ostia which saw the reduction of its population and urban infrastructure from the early and middle 3rd century AD.¹⁴ The decline of Ostia was felt also on the city territory, particularly in the plains next to the river (Figure 20.4D), where three *villae* and a sanctuary were abandoned, with funerary structures being the only new sites in the area.¹⁵

4. Changes in the Mode of Occupation along the Road Network across Time

Expanding the chronological analysis to consider types of sites provides further insight into the observed trends, allowing for different uses and organisation of the study areas to be traced (Figure 20.5).

The importance of the vicinity of the River Tiber and its role as a transport axis is clear across the whole study period and for all three hinterlands, as evidenced by the presence of port infrastructure.¹⁶ The establishment of the port infrastructure and its eventual disuse fall mainly outside our study period in the Campana/Portuensis and the Ostiensis hinterlands, with little change in the number of sites over time. The Isola Sacra port infrastructure, on the other hand, gets established only after the foundation of Portus and grows over Periods 2 and 3. The modest numbers for this type of evidence seem surprising, bearing in mind the Isola Sacra is an island further traversed by an artificial channel (the Portus-to-Ostia canal), and are likely due to unequal survival and intensity of study: evidence on the eastern side of the island was most likely obliterated by the lateral movement of the Tiber,

while little is known about the infrastructure linked to the Portus-to-Ostia canal, likely completed during the time of Hadrian, which remains poorly investigated. The greatest concentration of port infrastructure was to be found on the Portuensis side instead (nine-ten sites, against seven-eight on the Ostiensis, and one-two on the Isola Sacra) and port infrastructure there has the highest relative importance when compared with other types of occupation (20-30%, against 15-17% on the Ostiensis and 7-8% on Isola Sacra), which may point to a port service role of this river bank.

While storage facilities increase over time in the Ostiensis and Isola Sacra hinterlands, curiously no such trend is observable on the Portuensis bank, despite its port infrastructure and proposed role in river transport. Between the 1st and the 3rd century AD both Ostia and Portus witnessed outstanding increases in storage capacity through construction of warehouses at both sites,¹⁷ but clearly this was not enough and the growing presence of storage infrastructure outside Portus, Ostia, and Rome is indicative of the need to expand the storage capacity of the port system. The exclusion of the Portuensis hinterland from such developments is curious. It could be that the massive increase of the storage capacity at Portus itself made any further development on this side of the river redundant, or storage was simply not the designated function of this Tiber bank before goods reached the capital itself.

Other categories of occupation reveal additional trends. Settlement numbers remain relatively stable across all areas and periods (in the case of Isola Sacra after its establishment and increase in Period 2), with the exception of the Ostiensis hinterland where between Periods 4 and 5 there is a 33% decrease. Interestingly, other types of sites in the Ostiensis area do not decline as sharply, or not at all (e.g. the quantity of port and storage infrastructure remains constant), which seems to suggest a depopulation of the countryside rather than reduced importance of the lower Tiber's left bank within the port and transport system. Funerary evidence, conversely, shows a distinctive trend of general growth across time, which in the case of Ostiensis and Portuensis hinterlands can clearly be linked to the growth of the metropolitan cemeteries along the routes of the two roads.

5. Linking Occupation and Communication Axes in the Lower Tiber Valley

Due to the strategic importance that the Lower Tiber Valley played in connecting Rome to its maritime and fluvial ports, and via them the wider Empire, the area contained a number of important axes of

¹³ Keay and Millett 2005a, 13.

¹⁴ Pavolini 2002; Pensabene 2007: 434-38.

¹⁵ The mentioned sites include two *villae* in Ficana (Cordano 1981: 108-10; Fischer-Hansen 1990: 63-85 and one at Dragoncello (Pellegrino 1983), a possible temple (Pellegrino 1984; Zevi 2002: 18), and funerary structures, such as the tomb of *M. Antonius Antius Lupus* (s.v. *M. Antonii Antii Lupi Sepulcrum* in *LTURS* 1, 72-74 (A. Bianchi)), and the tombs mentioned in Vaglieri 1907: 285.

¹⁶ Port infrastructure is taken to incorporate all structures enhancing the connectivity between land and water, usually placed where the two environments meet. Examples include landing facilities such as moles and quays, as well as other support port infrastructure (e.g. lighthouses).

¹⁷ Keay and Millett 2005b, in particular, table 9.1, pp. 302-03; Boetto *et al.* 2016.

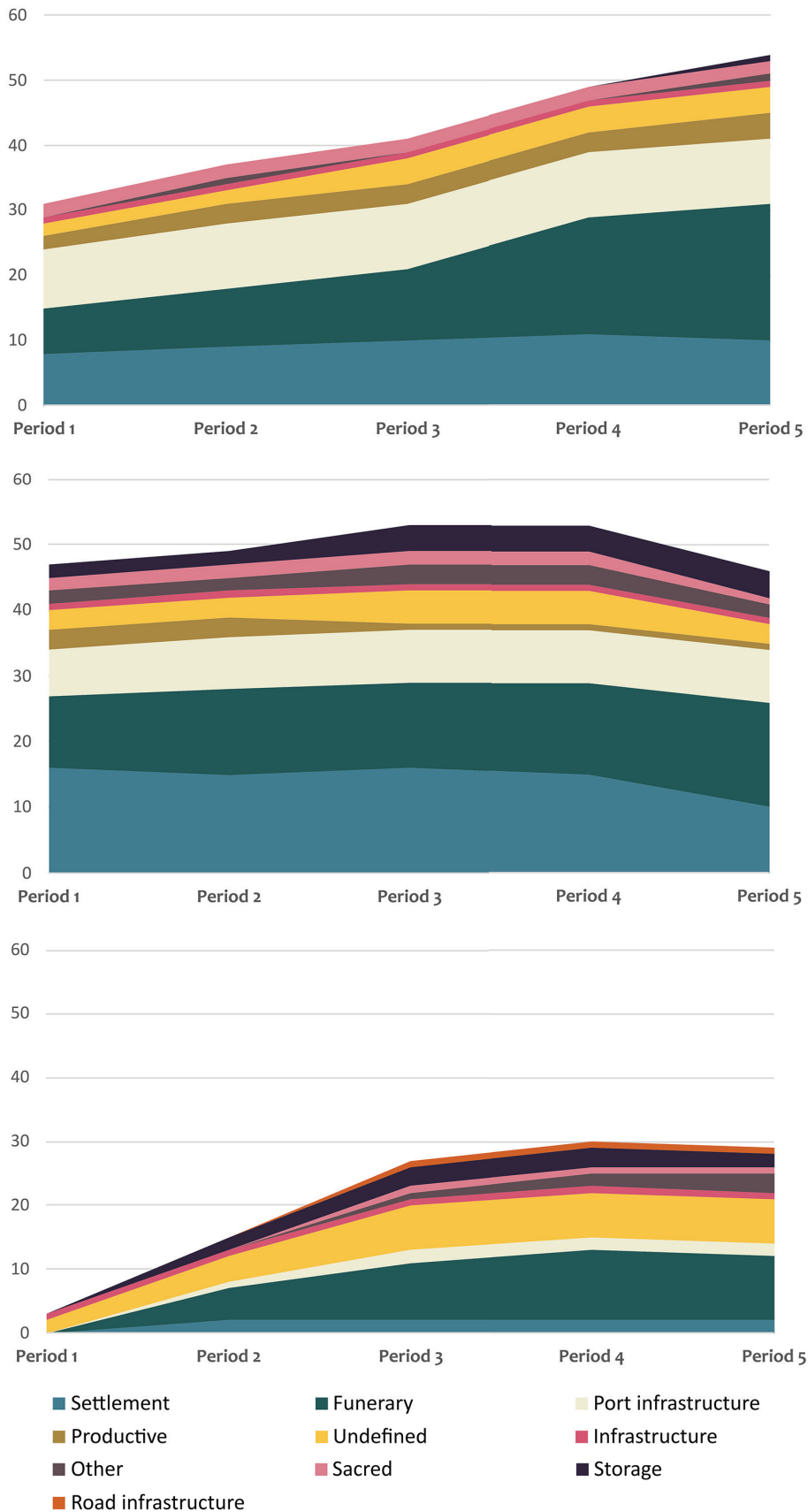


Figure 20.5. Development of occupation in the *via Campana/Portuensis* (upper), the *via Ostiensis* (centre), and the *via Flavia* (lower) hinterlands through time (source: M.C. Moreno Escobar).

communication on a fairly small territory. The following analyses aim to clarify the influence of these axes on how the area was occupied. The potential relationship between communication axes and occupation will be explored using two different parameters: first, the proximity between communication axes and sites (based on Euclidean distance), and second, the visibility from the communication axes to sites in the area.

a. Exploring Proximity

The visual inspection of the maps in Figures 20.2 and 20.4 hints at the influence of roads in articulating the occupation of the Lower Tiber Valley. This possibility remains strong even after discounting the relatively high proportion of funerary sites present in the dataset (33%), as these are known to have been roadside by design.¹⁸ In order to achieve a more integrated picture, alongside roads we will include the River Tiber as a communication axis in our proximity analysis. Our focus will be on the areas in the immediate surroundings of roads and the river, defined as a distance of up to 100m from each.

The analysis thus conducted revealed a close relationship between archaeological sites and communication axes (Figure 20.6): of the 164 sites, 50 (30%) are found within the 100m buffer zone of the Tiber, and 57 (35%) within 100m of the roads. More interestingly, there are 14 sites (9%) within 100m of both the river and the roads, pointing at potential transshipment locations. Contextualising these figures historically reveals several trends (Figure 20.6). The river had a stronger pull on the occupation of the valley than the roads between Periods 1 and 3. This situation changes in Period 4 when road-orientated sites overtake those in the vicinity of the river, a trend that continues into Period 5. It is also interesting that the potential locations of transshipment (understood as sites placed in the intersection areas of the road and river buffers) increased from the time of the Claudian foundation of Portus (from seven in Period 1 to ten in Period 2 and 13 in Periods 3 to 5) (Table 20.3) and that the majority are located on the Ostiensis side of the Tiber Valley. This is unsurprising bearing in mind that the *via Ostiensis* is closer to the Tiber along longer stretches than the *via Portuensis*, but is also likely linked with this side hosting more storage facilities, more settlements than some of these transshipment points likely served, and offering links to a number of secondary roads.¹⁹ Ammianus Marcellinus describes one such transshipment

operation: the transport of a 32m obelisk for the Circus Maximus in 357, which was brought by ship till *vicus Alexandri*, then transported along the *via Ostiensis* for c. 4km to the city.²⁰ It is interesting to note that although the Portuensis side had more port infrastructure, it has less in terms of transshipment points, which coupled with the storage facilities also being grouped on the Ostiensis side, underscores once more the functional duality of the two river margins.

While the cited figures speak clearly of a close association between the occupation of the area and the vicinity of the river and the roads, proximity alone, however, may not be the most appropriate means to explore these relationships. A high number of funerary sites, traditionally located along the roads, and locations of port infrastructure that are inherently situated in close proximity to the river could be largely boosting these trends. A more nuanced approach would be to use visibility as a means to explore the impact of these communication axes in the territorial configuration of the Tiber Valley, under the assumption that if the communication axes were indeed factors influencing the territorial organisation, the sites would appear in the areas visible from these axes.

b. Exploring Visibility

In order to explore the intervisibility between the sites on the one hand, and the roads and the Tiber on the other, we will rely on the application of the concept of fuzzy viewsheds²¹ and its implementation within GIS environments,²² which in contrast to other ways of estimating visibility (e.g. binary viewsheds)²³ allows for the decay in visual acuity related to the increasing distance between the observer and the features in the landscape to be accounted for, as well as to take into consideration the size of the elements seen. Using this approach, we calculated multiple fuzzy viewsheds from observers distributed every 200m along the communication axes active in the periods under study (i.e. the *via Campana/Portuensis*, the *via Ostiensis*, and the River Tiber),²⁴ with an exception of the *via Flavia*

¹⁸ Cf. Hesberg and Zanker 1987.

¹⁹ In addition to the *vicus Alexandri* discussed below, another example of a possible transshipment point can be found mid-way along the *via Ostiensis* in Torrino Mezzocammino where we find remains of few structures close to both the river and the road, in the vicinity of an intersection between the *via Ostiensis* and a secondary road, with several settlements within a 1.5km radius (Mancini 1913).

²⁰ *Rerum gestarum libri XXVII*, 4.14; s.v. *Alexandri Vicus* in *LTURSI*, 42-43 (P.M. Barbini).

²¹ A fuzzy viewshed represents (cartographically) how visible an object is depending on its size and the distance from the observer (Rášová 2014). For an introduction to this topic, see also Fisher 1994.

²² For its implementation within GIS, see Ogburn 2006; Rášová 2014; Moreno Escobar 2022.

²³ A binary viewshed represents the visible and non-visible areas from the location of one or more observers. For an introduction on the topic, see Wheatley and Gillings 2002: 204-06.

²⁴ The analyses were carried out using the ESRI ArcGIS 10.1 software. Observers were placed every 200m, with a defined height of 1.60m, representing the height of the eyes of an adult walking along the roads, and at 2.60m to represent an individual sailing along the Tiber on a *navis caudicaria* (accounting for 1m of air draught). Given the diversity of archaeological sites and structures present the height of the features observed was set conservatively at 2m above the surface, reflecting the height of standing architectural structures,

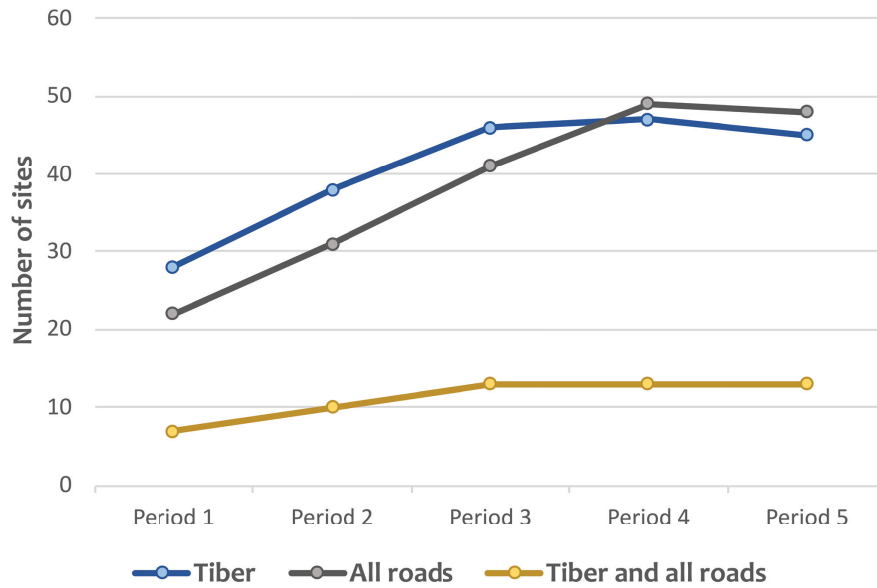


Figure 20.6. Number of sites within 100m of the Tiber, the roads, and both the Tiber and the roads across time (source: M.C. Moreno Escobar).

Table 20.3. Number of sites with a potential role as transshipment location in the *via Campana/Portuensis*, the *via Ostiensis*, and the *via Flavia* hinterlands through time (source: M.C. Moreno Escobar).

Hinterland	Period 1	Period 2	Period 3	Period 4	Period 5
Campana/Portuensis	0	1	2	2	2
Ostiensis	7	7	7	7	7
Flavia	0	2	4	4	4
Total	7	10	13	13	13

which was left out due to the insufficient quality of the Digital Elevation Model²⁵ for Isola Sacra to guarantee representative results. This procedure resulted in the calculation of c. 500 individual fuzzy viewsheds from the Tiber and the roads for each of the periods under study, which were then added up to calculate cumulative fuzzy viewsheds²⁶ for each of the communication axes

as well as the active use of port infrastructure by individuals. These analyses were performed over a modified DEM that removed the main modern road infrastructure in the Tiber Valley and modified the modern course of the river to represent the known situation from the antiquity (more details in Moreno Escobar 2022).

²⁵ The model combined the LiDAR-based DTM of the Ministero dell’Ambiente e della Tutela del Territorio e del Mare (2013 version) and data from the TIN Italy raster dataset (Tarquini *et al.* 2012). This model has been used for all analyses and in all the figures in this paper.

²⁶ Cumulative fuzzy viewsheds could be considered as the sum of several fuzzy viewshed maps; they represent how clearly an object can be seen by multiple observers, depending on the size of the object and the distance from the observers.

in each of the periods (for an example²⁷ of the viewshed from the *via Ostiensis*, see Figure 20.7). Based on this data we were able to estimate the visual ranges of individual communication axes (i.e. how far you could see from each of them), and then compare them against the distribution of known archaeological sites in each period, enabling us to identify which sites were visible and which not. These findings were then converted into summaries showing the relative proportions of visible/non-visible sites from each axis (Figure 20.8), and in order to explore if the observable trends are a reflection of a change in the organisation of these areas, we further disaggregated this data by period

²⁷ Given the limitations of this paper, it is not possible to show all cumulative fuzzy viewsheds calculated for each period and route of communication (one viewshed per route (3) per period (5), a total of 15). This multiplicity of viewsheds is derived from the need to acknowledge the diachronic changes in the topography occurring in the Lower Tiber Valley between Period 1 and 3; for more details on this, see Moreno Escobar 2022.

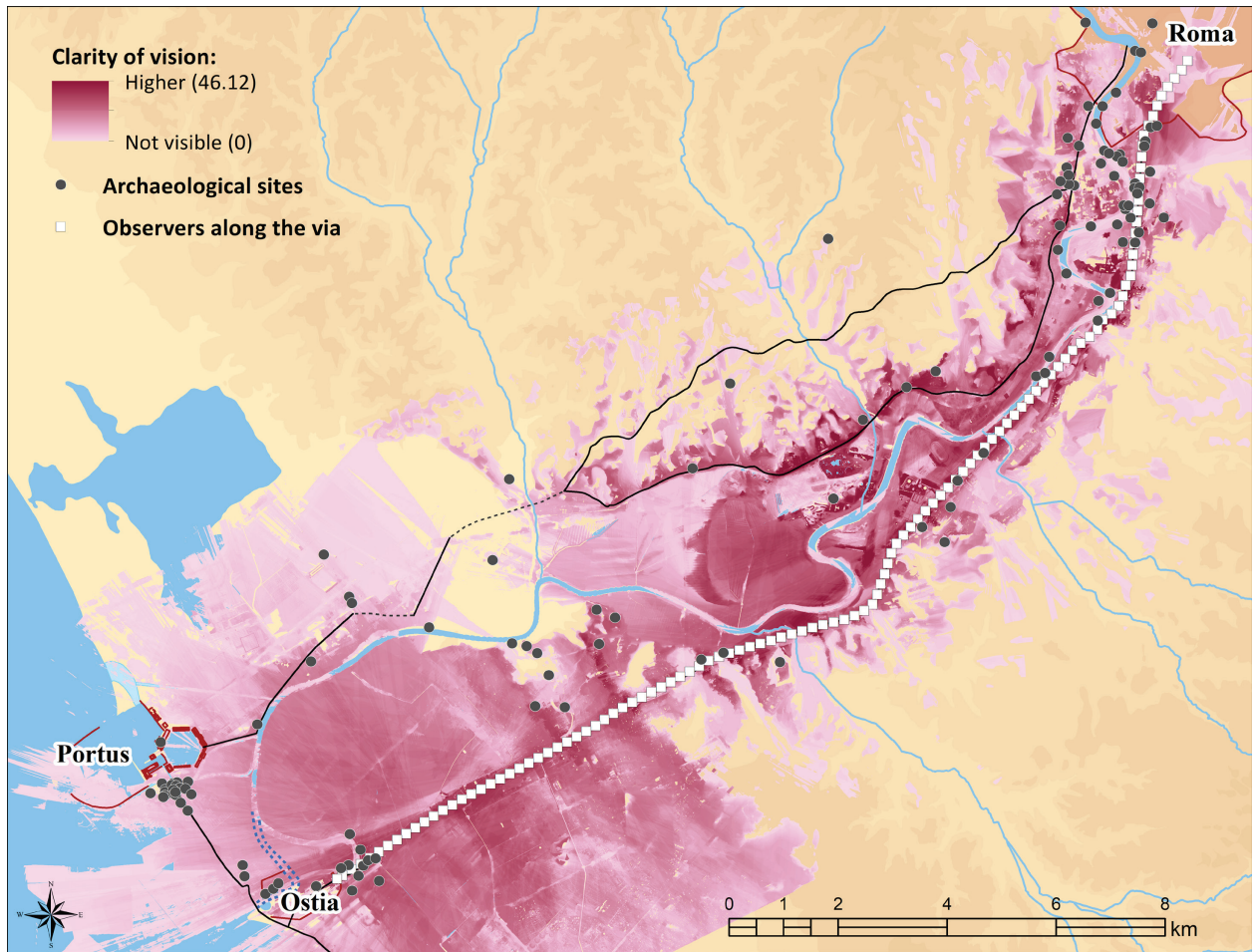


Figure 20.7. Example of a cumulative fuzzy viewshed along the *via Ostiensis* in Period 3 (source: M.C. Moreno Escobar).

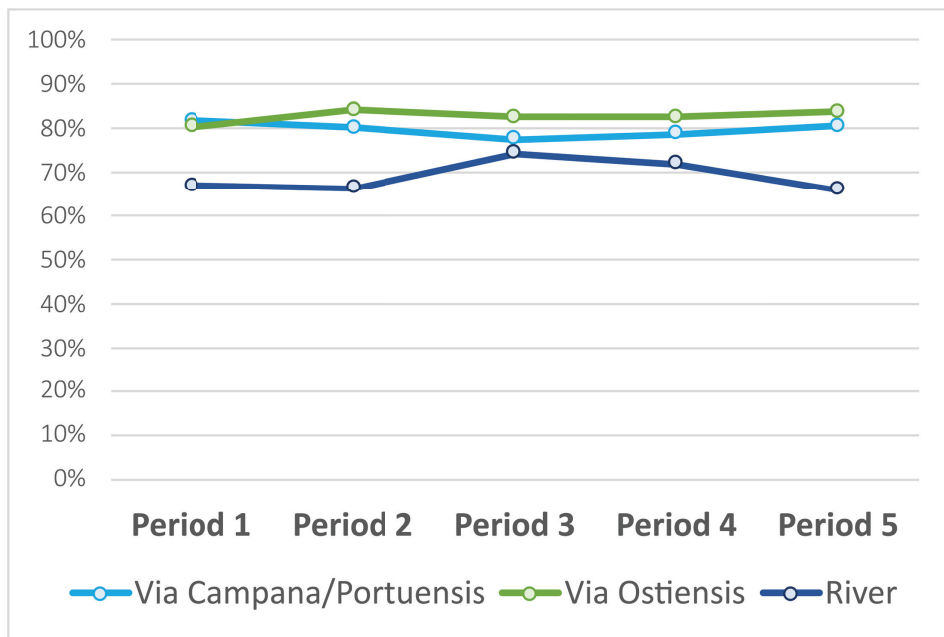


Figure 20.8. Percentage of visible sites from the *via Campana/Portuensis*, the *via Ostiensis*, and the River Tiber through time (source: M.C. Moreno Escobar).

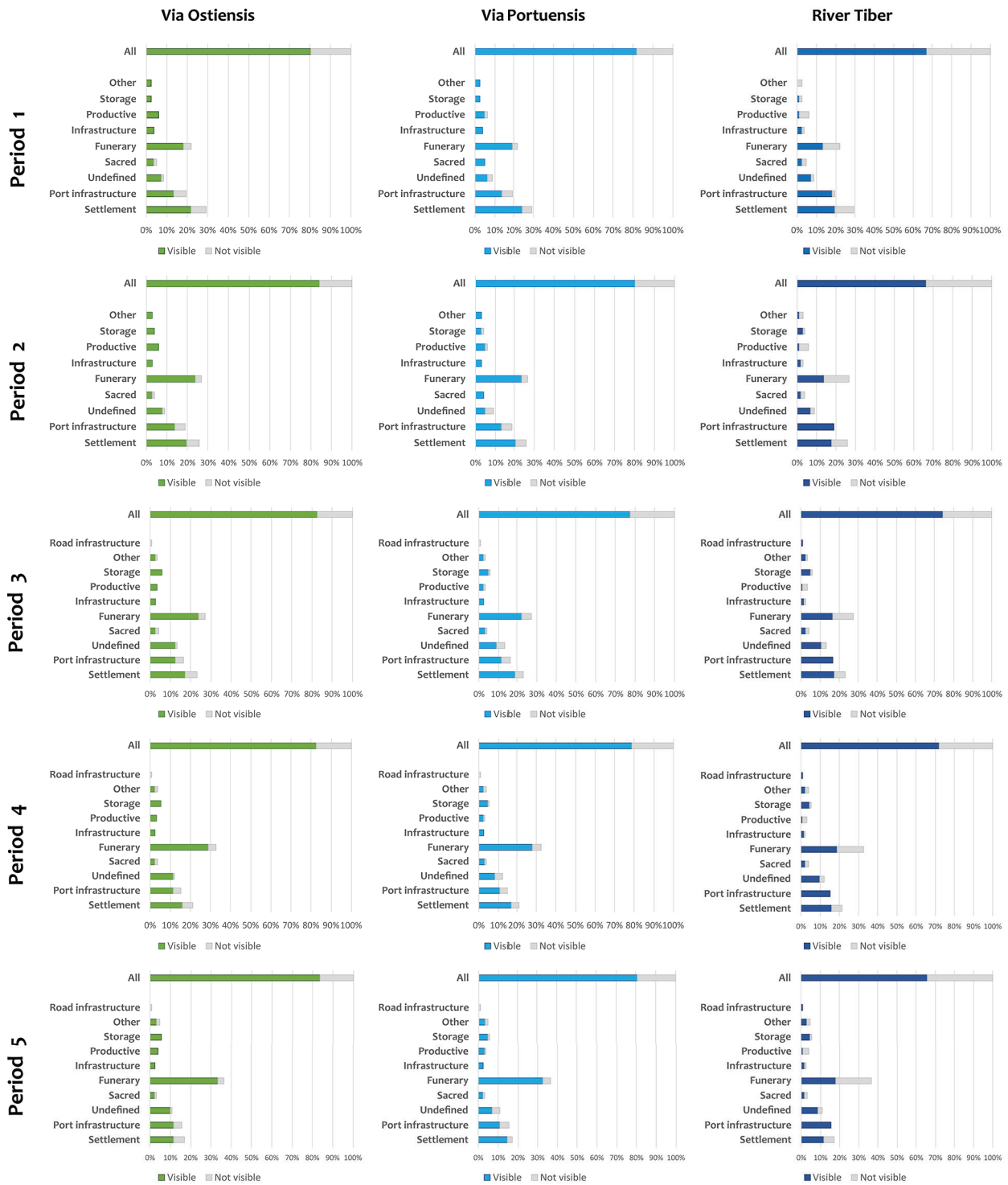


Figure 20.9. Relative proportion of sites visible and not visible from the via *Campana/Portuensis*, the via *Ostiensis* and the River Tiber in the periods under study (source: M.C. Moreno Escobar).

and type of occupation (Figure 20.9). These analyses together with individual viewshed results informed the discussion that follows.

As we can observe in Figure 20.8, the larger proportion of sites was visible from the roads than from the river through time, and the trend holds across all site types (Figure 20.9). In Period 1 the highest percentage of sites visible from the road is found in the *Portuensis* hinterland (82%), marginally higher than of the *Ostiensis* (80%). This trend inverts in Period 2, when the *via Ostiensis* becomes the one with the highest percentage of sites visible (84%), mainly due to the higher number of visible funerary sites (cf. Figure 20.9), the primacy it will keep for the rest of the study period. In Period 3 it will have 5% more visible sites than the *Portuensis*, even though at this precise moment the percentage of visible sites from both roads decreases. The percentage of sites visible from the roads will increase again from the Period 4 onwards, and those visible from the river will decrease.

While the percentages related to road visibility vary almost negligibly, the situation with the Tiber is a little different. The Tiber visibility registers the highest fluctuation: after remaining stable in Periods 1 and 2, when the proportion of visible sites was 67% and 66% respectively, Period 3 sees a marked increase to 74% of sites visible from the river. This rise is attributed to new storage facilities, funerary, and undefined sites.

The increase in storage facilities is made up of newly founded sites on the riverfront related to the transshipment activities discussed earlier, and underscores once more the rising importance of river transport after the construction of Portus and the further development of Rome's port system.

The change in the number of funerary sites visible from the river, on the other hand, could be taken as evidence of the revaluation of the river as a communication axis between the city of Rome and its maritime front. Roman tombs have a long history of being positioned along the thoroughfares, designed to catch a passer-by's eye, with epitaphs that directly engage with the observer, all in an effort to perpetuate memory.²⁸ In all periods we find tombs of well-off Romans being positioned in locations visible from the river, often in a place where they would be much less visible from the nearby road (and sometimes not visible at all), clearly showing that the river is a more prestigious thoroughfare. Thus, we find a riverside mausoleum at Santa Passera, turned into a defensive tower for the local dock in the Middle Ages, while at Idrovore della Magliana the 'il Trullo dei Massimi' mausoleum is still visible to the passing river

traffic.²⁹ It is highly likely that these tombs were located on the land owned by the deceased, but knowing that visibility was an important factor in tomb location, the choice to position them towards the river rather than facing a road or an entrance to their properties, as was a preference at the time,³⁰ clearly indicates the prestige of the riparian location. From Period 2 it is no longer just the elite burials, but also necropoleis that favour visibility from the river than from the road, in particular those located in the wider area of the Tiber delta,³¹ where the traffic along the natural and artificial waterways would have been particularly lively. Despite the general decrease in the proportion of visible sites, this trend seems to continue into Period 4 (58% of the funerary sites are visible from the river in Period 4, compared to 61% in Period 3), although the increase in the proportion of non-visible funerary sites likely indicates that the river's prestige is starting to decrease, a trend that continues in Period 5.

6. Discussion

The three roads featured in this study have very different histories. The *via Campana/Portuensis* and the *via Ostiensis* are roads of great antiquity, both possibly starting off as a southern continuation of the *via Salaria*,³² facilitating transport of salt collected at the mouth of the Tiber further into Lazio. Along the course of both roads there were extraction activities, mainly tufa and pozzolana quarries,³³ with their output likely being transported both along the roads and via the river. The initial transport function of both roads is underlined by the choice of their routes. A cost surface analysis for the *via Campana/Portuensis* has shown both branches of the road taking the highly efficient route through the topography of the right bank of the Tiber,³⁴ and while there was no space in this paper to conduct the same analysis for the *via Ostiensis*, it seems extremely likely that the same rationale was followed. Their shared function, as well as geographical proximity, was likely the reason why the same official was in charge of the *via Campana* and the *via Ostiensis*,³⁵ clearly designating them as a part of a joint system.

We would like to return briefly to the proposed duality of the *via Campana/Portuensis* at this point. The presented analyses, as well as recent archaeological excavations at Ponte Galeria, indicate that Claudius's mid-1st-century AD 'construction of the *via Portuensis*' most

²⁸ Koortbojian 1996; Hope 2009: 151-82.

²⁹ For the Santa Passera mausoleum, see Kammerer-Grothaus 2000; for il Trullo dei Massimi, Tomassetti 1979b: 347, 372-75.

³⁰ Griesbach 2007: esp. 28-30, 50-56, 146-49; Borg 2019: 24-27.

³¹ Buzzetti and Virgili 1985: 435, 438-40; Keay *et al.* 2020, G16, G19, G20, G32, G34, G35, G39, G40.

³² Quilici 1990: 69, 89.

³³ Cianfriglia and Filippini 1987; Roggio 2012: UC 73, UC 76, UC 83, UC 104, UC 113; Buccellato and Coletti 2014.

³⁴ Moreno Escobar 2009.

³⁵ *CIL* VI 1610, *CIL* X 1795.

likely represented merely an addition of a road section connecting the new imperial port and the *via Campana* (which originally terminated in the salt pans north-east of Portus),³⁶ a partial restoration of the *via Campana*,³⁷ and a consolidation of a pre-existing northern branch of the road between present-day Pozzo Pantaleo and Ponte Galeria. This northern branch was only around 1km shorter than the old *via Campana* section, and in addition more rugged,³⁸ making it unlikely that it was conceived merely as a short-cut. Instead, this section offered a hillside alternative to the *via Campana* during floods,³⁹ a concern further addressed by the construction of viaducts on the final stretches of the road towards Portus.⁴⁰ The existence of sites along the northern branch that predate Portus reveals that this stretch was already in use as an alternative route in times of floods at least since the Republican period, now being formalised and consolidated under Claudius and Trajan rather than constructed from scratch. The low-lying branch of the *via Campana* seems to have remained the primary route though whenever conditions allowed it, as sites continue to gravitate primarily towards it. The fact that no source actually distinguishes between the *via Campana* and *via Portuensis*, with the later name coming into use at some point before the 3rd century AD,⁴¹ points to the two branches with a common course at the origin and terminus being viewed as a single communication route. It is now equally clear that though lying relatively low in the Tiber Valley the *via Campana* could not have served as a hauling road, as some have suggested,⁴² since its known stretches are too far from the river.⁴³ As on the *Ostiensis* site, that function was instead fulfilled by a 'strada delle bufale'/'*via del tiro delle barche*', a route closely hugging the riverbank that has been attested as separate from the *via Campana/Portuensis/Via della Magliana* in cartography till the late medieval period,⁴⁴ and it is this road, perhaps little

more than a dirt path, that the sources are referring to in reference to ship hauling,⁴⁵ and not the *via Campana*.

Though both the *via Ostiensis* and the *via Campana/Portuensis* start off as transport and commercial links between Lazio/Rome and the Tyrrhenian coast, their development trajectories diverge at one point, likely from the time of the establishment of Rome's first maritime colony – Ostia.⁴⁶ The *via Ostiensis* is now linking two settlements and, with Ostia becoming Rome's maritime gateway, also supporting overseas traffic. A towpath would have been presently constructed, facilitating the transfer of goods via hauled rivercraft to the growing facilities at *Emporium* and *Portus Tiberinus*.⁴⁷ Numerous individuals have departed from the capital down the *via Ostiensis*, possibly most famously Paul who is believed to have walked the road to sail out of Ostia, leading to the *via Ostiense* becoming a pilgrimage route in later centuries.⁴⁸ In the Imperial period Ostia enjoyed imperial patronage and that of Roman senators and knights, as did its wider hinterland.⁴⁹ The area just south of Ostia became popular with wealthy men in the Republic, with the number of villas increasing in the 2nd century AD, and the villa owners used the *via Ostiensis* and the *via Laurentina* (which branched off from the *via Ostiensis* at two different locations),⁵⁰ to reach their properties. Pliny the Younger, who himself had a villa near Laurentum, describes this scenic and pleasant road journey and highlights the role that Ostia played in attending to the villa owners' needs.⁵¹ The *via Ostiensis* was clearly a route that served several metropolitan elite networks, making it an attractive location for the well-off suburban *domus*, *horti*, and villas, as well as burials.⁵² Even after the intensity of occupation in the

⁴⁵ Procopius (*Goth.* 1.26) describes the process on the *Portuensis* side of the river. For a full list of ancient sources that refer to ships being towed up the Tiber along both banks, see Malmberg 2015: n. 12.

⁴⁶ Unfortunately, we are not in a position to offer settlement analysis in support of this hypothesis as the events fall outside of the chronological scope of this paper.

⁴⁷ For a proposed reconstruction of the towing route on the *Ostiensis* bank, see Aguilera Martín 2012, esp. 111–13. For a concise bibliography on the commercial and storage facilities at the *via Ostiensis* terminus, see s.v. *Emporium* in *LTUR* II, 221–23 (C. Mocchegiani Carpano), s.v. *Porticus Aemilia* in *LTUR* IV, 116–17 (F. Coarelli), Aguilera Martín 2002: 54–104; Serlorenzi and Sebastiani 2008; Bisconti and Ferri 2018: 20–42.

⁴⁸ *The Apocryphal Acts of Peter*, chapter 3; on the Christianisation of the *via Ostiensis*, see Bisconti and Ferri 2018: 75–87, 101–38.

⁴⁹ For the town, see Meiggs 1973: 41–82; in the hinterland, the *vicus Laurentium Augustanorum* counted members of the Ostian council and a procurator *annonae* (*CIL* XIV 341, 2045) among its patrons.

⁵⁰ At the third and the eleventh mile of the *via Ostiensis*, cf. Tomassetti 1979a.

⁵¹ Plin., *Ep.* 2.17.

⁵² E.g. the tomb of Ser. Sulpicius Galba (*CIL* I 695 = *ILS* 863), a suburban *domus* of Marco Annio Vero (Roggio 2012: UC 11), several villas in the area of the later Basilica San Paolo fuori le Mura (Roggio 2012: UC 21, UC 90, UC 94), the *horti olitorii* owned by the *collegium magnum arkarum Faustinarum matris et Piae* (*CIL* VI 33840 = *ILS* 7455), multiple villas in the vicinity of Tenuta del Torrino, Vitinia and Dragoncello (De Franceschini 2005: nos 87–92), the property belonging to Symmachus was likely located in Ficana (*Epistulae* 2.52.2; 3.82; 6.72), a large mausoleum at *vicus Alexandri* belonged to M. Anonius Antius Lupus (s.v. *M. Antonii Antii Lupi Sepulcrum* in *LTURS* I, 72–74 (A. Bianchi)), a

³⁶ The original course of the last section of the *via Campana* is not clear, see Serlorenzi and Di Giuseppe 2009.

³⁷ A section of the *via Campana* excavated at Ponte Galeria testifies to this intervention, as well as to further significant rebuilding work by Trajan (Serlorenzi *et al.* 2004; Arnoldus Huyzendveld *et al.* 2009).

³⁸ The length of the upper branch, as reconstructed in our model, is 11,866m, while the lower branch measures 13,043m; the mean slope of the northern route is 5.3°, while that of the southern one is 4.5°.

³⁹ As there are no hydrology models for the Lower Tiber Valley known to the authors that take into account palaeotopography outside of the city of Rome, it is not possible to decisively prove this hypothesis. Bearing in mind, however, that the lateral extent of the valley is still fairly constrained on that section of the Tiber causing the flood water to rise higher, and that during some of the recorded floods water levels reached even the modern *Via Portuense* (Bersani and Bencivenga 2001, fig. 8), it seems inevitable that the lower branch of the road would have suffered from regular flooding. The authors would like to thank Ferréol Salomon (CNRS) for the helpful discussion of the topic.

⁴⁰ Arnoldus Huyzendveld *et al.* 2009.

⁴¹ Scheid 1976: 645; Serra 2007: 19.

⁴² Originally suggested by R. Lanciani in Henzen 1868: 106, later championed by Scheid 1976 and followed by many.

⁴³ Cf. Arnoldus Huyzendveld *et al.* 2009; Serlorenzi and Di Giuseppe 2009 for the Ponte Galeria section.

⁴⁴ Serra 2007: 19; Tella 2018: 56 and fig. 16.

Portuensis hinterland surpasses that of the Ostiensis side in Period 5, the well-to-do still opted for the left Tiber bank location for their residences.⁵³

The *via Campana/Portuensis* hinterland seems to have attracted much less elite attention. The area at the outskirts of the *horti Caesaris* hosted several sanctuaries,⁵⁴ and further down the road the collegium of the *Fratres Arvales* maintained the *Dea Dia* cult,⁵⁵ founded according to tradition by Romulus himself. A number of private estates can be identified along the road, some through *fistulae* providing names of their owners,⁵⁶ while others are known from excavation; the latter reveal properties that could be described as comfortable production farms, not on par with the luxury suburban villas found in the Ostiensis hinterland.⁵⁷ Rural settlements seem to have been more common on this side of the river instead, with one epigraphically attested in the area of Janiculum,⁵⁸ and several known from archaeological evidence in the area of Ponte Galeria.⁵⁹ A relative lack of activity along the *via Campana/Portuensis* is not surprising for the Republican period when the road led to the salt pans at the mouth of the Tiber and not much else, but it is interesting that no great changes are observable after the road received an imperial harbour installation at its marine terminus in the mid-1st century AD. Rural

settlements and farms seem to in fact decline during the 2nd century AD,⁶⁰ at least in the area closest to Portus. While the rising number of funerary sites primarily relates to the metropolitan necropolis outside Porta Portese expanding into the disused republican tufa quarry,⁶¹ mirroring the contemporary development of the *via Ostiensis* necropolis, the only observable growth along the *via Campana/Portuensis* following the establishment of Portus is an increase in the port infrastructure, reflecting the growing importance of the Tiber traffic.⁶² The already-mentioned increase in the Tiber-facing position of the funerary monuments on the Portuensis bank further highlights the importance of the river communication corridor in comparison to the road, which clearly gained no prestige following the establishment of Portus. Signs of reversal of fortunes observable through the intensification of settlement in the Portuensis hinterland start from Period 4 and are likely linked to the growth and a legal recognition of the civilian settlement at Portus in the early 4th century.

Instead of the *via Campana/Portuensis*, it was the *via Flavia* that gained from Portus's foundation. Clearly built for the purpose of linking Portus and Ostia, the *via Flavia* likely had two primary roles. Research at Portus has thus far provided no evidence of living quarters and while one can think of a number of alternative living arrangements and locations,⁶³ these are unlikely to amount to significant numbers and the large workforce that would have been required at Portus likely commuted to the site instead. A few possibly came from the Portuensis hinterland, where some burial but no settlement evidence attests to their presence,⁶⁴ but the majority likely used the *via Flavia*. Moreover, apart from those arriving on important imperial business, it is unlikely that Portus offered any facilities for those coming to or through the port. Instead, those that had to linger at the port would have had to proceed to Isola Sacra, where immediately south of the *Fossa Traiana* we find a set of *thermae* (di Matidia) and further remains that might indicate a *statio*, as well as another *thermae* in the north-western corner of the island,⁶⁵ or continue to Ostia, which had facilities for visitors with any paying power. Commuters and visitors travelling

property of the Acilii Glabrones family was located in the vicinity of Acilia (CIL VI 809 = CIL XIV 74), and an imperial family sarcophagus from the first half of the 3rd century that was found in a secondary position near Casal Palocco came from Acilia too (Andreae 1969). For further epigraphic evidence attesting to elite properties in the Ostiensis hinterland, see Bisconti and Ferri 2018: 45-48.

⁵³ In Period 1 we find only three villas in the Campana/Portuensis hinterland, compared to 13 in the Ostiensis. By period 4 there are still only five villas on the Campana/Portuensis side (the maximum number reached), compared to 12 on the Ostiensis. Even as settlement density on the Ostiensis drops off in Period 5, it still has seven villas compared to four in the Campana/Portuensis hinterland. In Franceschini's survey of villas on the wider territory of Rome, she links only two villas to the *via Campana/Portuensis*, compared with seven related to the *via Ostiensis* (De Franceschini 2005: 347).

⁵⁴ E.g. two sanctuaries of Hercules (*Herculis Hesychniani sacellum* (AE 1924, 15) and *Herculis Victoris aedes* (CIL VI 332 = ILS 1135)). Another sanctuary to Hercules was made in the wall of the quarry further down the road (CIL VI 30891 a-b, 30892). Existence of a sanctuary to Bel and Dea Syria is postulated based on inscription finds (s.v. *Beli Aedes* in LTURS I, 217-19 (E. Equini Schneider), s.v. *Deae Syriae templum* in LTURS II, 191-96 (S. Ensolli)), while Fors Fortuna sanctuaries were to be found on the first and the sixth mile of the road (s.v. *Fortis Fortunae fanum, templum* in LTURS II, 271-72 (F. Coarelli)).

⁵⁵ Broise et al. 1987; Scheid 1990

⁵⁶ E.g. *Grapti praedium* (CIL XV 7466), *Candidae praedium* (CIL XV 7634), *Caedicii Crescentis praedium* (LTURS II, no. 167, p. 23 (W. Eck)), *Cocceiani et Titiani horti* (CIL VI 8675, 29772), *domus L. Valerius Paetus* (Iacopi 1943: 44).

⁵⁷ E.g. villas at Colle dell'Infernaccio, Magliana Vecchia (De Franceschini 2005, nos 79 and 86), and Ospedale della Vittoria (Mancini 1924).

⁵⁸ *Ianicolensis pagus*, attested on inscriptions from the late 2nd/early 1st century BC (CIL VI 2219, 2220). It has been recently proposed that another rural settlement, *vicus Septem Caesaris* (CIL IX 4680; XIV 2886; VI 712), was also located along the *via Campana* (Aguilera Martín 2012: 115), but its location is highly uncertain.

⁵⁹ Petriaggi et al. 1995; Serlorenzi et al. 2004: 49; Morelli et al. 2011, Sito 4.

⁶⁰ cf. Petriaggi et al. 1995: 366-68; Serlorenzi et al. 2004: 49.

⁶¹ Tomassetti 1979b: 327-31, 339-43, 354; Cianfriglia 2006.

⁶² On the increase of Tiber traffic following the development of Portus, see Malmberg 2015.

⁶³ One could envisage e.g. workers residing in living quarters on the upper floors of warehouses, some sleeping on ships, or in shanty towns in the vicinity of the port that have left no trace.

⁶⁴ Two Imperial-period necropoleis have been excavated north-east of Portus, at Castel Malnome and at Tenuta de Ducca (Cianfriglia et al. 2003; Fabrizio Felici, pers. comm.). Most graves were of adult males whose skeletal remains revealed a life of hard manual labour. The Castel Malnome burials have, however, been associated with the workforce of the nearby salt pans, with osteological material displaying work-specific stress markers.

⁶⁵ For the mentioned Isola Sacra sites, see Keay et al. 2020, G7, G10, G12.

between Portus and Ostia could have completed the journey on foot in under an hour,⁶⁶ with the necropolis of Isola Sacra that rapidly developed along the *via Flavia* providing the 'street front' for parts of their journey, attesting to the growing importance of this communication route.

At the time of the foundation of Portus, the functionality of Ostia's own port was significantly diminished; recent geological research seems to suggest that from some time in the 1st century AD the harbour at the river mouth could serve only small craft thus precluding it from receiving large cargos, though opinions on the speed and the extent of the port's demise vary.⁶⁷ The *via Ostiensis*, however, never quite loses the transport function, due to transshipment logistics that we discussed earlier, and it is likely that some ship towing still took place on this bank to facilitate these operations. With the main transshipment of goods from maritime to fluvial craft now taking place at Portus and entering the Tiber along the right bank via *Fossa Traiana* and *Canale Romano*, it is the *Portuensis* side towpath that becomes the principal, and ultimately the only, ship hauling route into Rome.⁶⁸

It is clear that the *Ostiensis* and the *Campana/Portuensis* hinterlands had slightly different functions in the transport system between the ports, the Tiber, and Rome. While the *Ostiensis* had a number of transshipment locations, all established in the period when Ostia handled Rome's maritime imports and kept in operation since, the *Portuensis* side had more general port facilities, but next to no points where goods from river craft could be transhipped onto land before reaching the city. Furthermore, the majority of the *Portuensis* port facilities have been established or significantly enlarged only after the establishment of Portus; clearly this bank had limited involvement with the river traffic between the mouth of the Tiber and Rome before that. The operation of the above-mentioned towpath, likely only constructed after the establishment of Portus, could be what predicated the functional difference between the two banks: men and animals needed to rest and spend a night during the several days that it took to pull the ships upstream to Rome,⁶⁹ for which landing facilities would have been required; at the same time, the transshipment activities

might have been avoided on this bank not to cause disruption to hauling operations.

It is also conceivable that some goods were transported from Portus to the capital directly along *via Campana/Portuensis*, never entering the river system. This would have certainly been the case when summer droughts and high waters and floods in autumn/winter disrupted navigation on the river,⁷⁰ but those might not have been the only times. The remains of the *via Campana/Portuensis* reveal it as very solidly built and in heavy use,⁷¹ and its terminus in Trastevere, though less well known and investigated than the *Emporium* area on the left bank, had significant warehouse capacities with inscriptions attesting to a wealth of commercial and storage activities.⁷² Some facilities were clearly designed to receive the goods transported on river craft, with extensive urban fluvial port and dock structures extending downstream for about 2km,⁷³ but their clear concentration around *Porta Portese*, both inside the city and for at least till the first milestone of the *via Campana/Portuensis* (where the marble fragment of *Forma urbis* from which these features are known ends),⁷⁴ points to the road being a significant transport artery into the capital. Furthermore, a cart could reach Rome in several hours, while we know it took three days to haul a boat from the seaport to Rome,⁷⁵ making the road a preferable route when speed rather than cost was of the essence.

While we can use different classes of evidence to discuss the transport of goods, the movement of people in this ports-roads-river-capital system leaves insufficient trace, allowing one only to speculate. One would assume that overseas passengers used roads to complete their voyage, given a significant difference in journey time. While those that moved from Portus to use the facilities at Ostia might have continued along the *via Ostiensis* into Rome, it is to be expected that the majority of people sailing via Portus would have used the *via Campana/Portuensis* for their journey, it being the significantly shorter route.⁷⁶ With Portus being a closely controlled piece of imperial infrastructure rather than a commercial port, and the operations at

⁶⁶ Keay *et al.* 2020: 168.

⁶⁷ Goiran *et al.* 2014, *contra* Vött *et al.* 2020.

⁶⁸ Aguilera Martín 2012: 111 is of the same opinion; *contra* Malmberg 2015: 192 who proposes three-lane traffic on the Tiber with both tow paths in operation and the middle lane being used by ships travelling downstream on the river's current. The width of the Tiber is, however, not sufficient to allow safe three-lane navigation of the *naves caudiacariae* (Keay *et al.* 2021: 402-04), leading us to opt for the single tow path scenario.

⁶⁹ On the logistics of towing the ships up the Tiber in antiquity and later periods, see Le Gall 1953: 226-28, 257-58; Eckoldt 1980: 24-25; Malmberg 2015: 190-92; Tella 2018.

⁷⁰ Malmberg 2015: 189-90; Boetto 2016: 274-76.

⁷¹ L. Borsari, *NSc* 1893: 519; *NSc* 1897: 147; Cianfriglia and Corsini 1986/87; Petriaggi *et al.* 2001; Catalli 2006.

⁷² E.g. *CIL* VI 1152, 29702, 36954, s.v. *cella Civicana* in *LTUR* I, 256 (L. Chioffi).

⁷³ Remains were investigated at Ponte de Mattatoio, Pietra Papa, the vicinity of Santa Passera, and in Zona della Magliana, cf. Castagnoli 1980; Mocchegiani Carpano 1984: 30-31; Tucci 2004.

⁷⁴ Lanciani 1988: 34.

⁷⁵ The three-day journey is attested in Philostr., *Vit. Apoll.* 7.16; see also Le Gall 1953: 255, 257.

⁷⁶ Based on our road reconstructions, the journey from Portus via Isola Sacra and then *via Ostiensis* to Rome is almost 27km long, while the same journey along the *via Campana/Portuensis* is 23.4km along the northern branch, and 24.6km on the southern branch. All distances are calculated with journeys terminating at the city walls.

Ostia's river port declining, it is unlikely that great numbers of private travellers came via this route. Ostia in its heyday mainly served those travelling from the western Mediterranean,⁷⁷ with some coming from Spain or Gaul now likely opting for disembarking at Centumcellae and continuing along the *via Aurelia* to the capital. Travellers from Greece normally arrived at Brindisi, and many from the East or Alexandria used Puteoli, both reaching Rome along the *via Appia*.⁷⁸

As for those arriving through Portus on official business, we can only ponder at the numbers and the variety of these travellers. Using the quickest route into the city would have been essential for imperial messengers and couriers carrying information and post. We can be certain that the military was among the road's regular users. The fleets from Misenum and Ravenna had barracks in Rome that they used mainly in winter (the Misenum fleet was stationed on the *via Labicana*, while the *Castra Ravennatium* was in Trastevere).⁷⁹ Soldiers of both fleets likely went through Portus, and in the case of the Misenum fleet, this is confirmed by a letter from a sailor to his mother describing the journey.⁸⁰ Both Belisarius and Totila were certainly equally appreciative of the ease and speed of reaching Rome along the *via Portuensis* when manoeuvring their armies.⁸¹ Imperial officials and likely emperors themselves travelled through Portus and along the *via Campana/Portuensis*, but we hear of no *profectiones* or *adventus* celebrated in relation to such travel.⁸² If an emperor wanted to make a conspicuous entrance when travelling via the Tiber mouth to Rome, arriving by river seems to have been the approach of choice, with the upstream river journey adding a symbolic dimension to their voyage.⁸³ The *via Campana/Portuensis* – and Portus itself – clearly served the business rather than the ceremonial side of the imperial affairs. It is possible that the state and military use, the transport of goods along the road, and the hauling of ships on the right bank, cemented the perception of the former salt and agricultural produce road and its hinterland as less prestigious, further shaping the development of settlement patterns described in this study.

In this paper, we explore the dynamic relationship between people in the past and the regions they inhabited, aiming to ultimately cast new light onto the

key period in the changing organisation of Rome's port system, its communication network, and the people that used it routinely. We approached this objective through a compilation and re-evaluation of a dispersed body of data, followed by a quantitative method involving computational and spatial analyses of the thus collected dataset to reveal patterns, and rounded off with a qualitative discussion where by integrating historical, epigraphic, archaeological, and geoarchaeological evidence we provided contextualisation and offered an interpretation of the observed patterns. It is our hope that the paper goes some way to demonstrate the potential that integrative approaches and interdisciplinary collaborations hold, and we offer it here in memory of a scholar who not only pioneered, championed, and excelled in such inquiry, but has also profoundly reshaped the scholarship on Roman ports, thus creating the proverbial shoulders that this study aspires to stand on.

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⁷⁷ Plin., *HN* 19.1.

⁷⁸ Cf. Meiggs 1973: 56; Noy 2000: 141-44. The *Historia Augusta* claims that Septimius Severus built the Septizodium facing the *via Appia* for the sole purpose of greeting those arriving from Africa (SHA Sev. 24).

⁷⁹ *Castra Misenum*: Lanciani 1988: 30 and *CIL* VI 1091; *Castra Ravennatium*: Giorgetti 1977.

⁸⁰ *P.Mich.* 8 490-91.

⁸¹ Cf. Procop., *Goth.* 3.19.

⁸² Lehnen 1997; 2001. For Claudius's underwhelming *adventus* at Ostia that predates the construction of Portus, see Suet., *Claud.* 38.1.

⁸³ Suet., *Tib.* 72.1; *Calig.* 15.1. On the symbolism of such an act, see Görler 1993.

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