

## CHAPTER 7



# The 1930s: The European Utopia and the Nationalist Fulfillment

## The Genoa–Serravalle “Truckway”: The Fight between Automobile and Train

The interruption of the motorway program in 1930 should not distract us from the fact that Italy was in a phase of favorable public policies for the development of motoring. The creation of AASS came in a context of a land transportation policy that aimed more decisively—but not yet in a unilateral way—at ordinary roads. During the 1930s, AASS developed an incisive portfolio of improvement of national roads, realizing long-hoped for works of renewal and dust elimination. Although nationally the results were still uneven, by 1938 around 70 to 80 percent of the state roads network in northern Italy and Sicily was now macadam protected by a surface of asphalt and bitumen. This percentage sank to 30 to 40 percent in the south.<sup>1</sup>

The activities of the central government were not only aimed at developing the roads network: the railways still played a relevant role, because of their effective importance for the transport of goods and passengers and in the imagery that fascist propaganda had created around trains.<sup>2</sup> However, road traffic was favored. “Thanks to the approval of various provisions aimed at facilitating the heavy-vehicle road transport of goods, the exceptional diffusion of trucks had begun, which between 1927 and 1928 reported an increase of 53 percent of products transported. The tonnage increased in 1928 to 42.8 million tons, and the following year to 55.9 million, and, despite the economic crisis, in 1933 it touched 101 million.”<sup>3</sup> The battle between the two systems of transport particularly intensified after the 1929 economic crisis.<sup>4</sup> The railways experienced a marked drop in their market quotas and their deficits were increased: the extent and uncontrollability of those financial troubles reached the political agenda.<sup>5</sup> To address the railway sector’s loss of competitiveness, the Italian government adopted a series of measures to protect rail transport: first, in June 1935, it instituted a compulsory concession system for the road transport of goods; subsequently, in

December of the same year, it introduced a tax on goods transported by trucks. These choices drastically reduced the number of trucks, which until that moment had skyrocketed, partly due to the lack of controls.<sup>6</sup> In other words, in Italy, “the system of land transport is characterized by two reasonably distinct periods: the first finished with the 1935 regulation of road transport of goods, in which the interests of the automobile industry had the upper hand over those of the railway lobby. The second finished at the declaration of war [1940] and was characterized by a division of roles aimed at a driven control of the market conditions for freight transport on roads.”<sup>7</sup> The construction of the Genoa–Serravalle heavy-vehicle motorway falls into this framework, confirming the bias in favor of road transport made in the first half of the 1930s. In February 1932, it was again Mussolini, who became an overnight transport expert, who decided unequivocally in favor of road transport and against rail. The evolution of traffic in the port of Genoa and the fear of an inadequate flow of goods toward the Padan plains led the Genoa port and industrial community to investigate opportunities for an additional railway line. This “direct” route would have meant a third axis passing the Apennines, assuring the future of the city. Mussolini—writing to the prefect of Genoa—instead directed them toward the construction of a “heavy-vehicle” motorway between Genoa and Milan.

In recent times, the *Giornale di Genova* newspaper published a series of articles on the direct Milan–Genoa rail line. Having reflected on the problem, I asked myself if it would not be better and more consonant with the times to build a direct heavy-vehicle motorway instead of a direct railway. It would cost the state less, offer a more rapid service, and carry the goods from the quay to the doors of the factories, or even more, to the doors of the factory warehouses. An important detail!

I don’t think that unitary cost of transport—effected with diesel trucks and with one, or occasionally two, trailers—would be higher than that of the railway. It would however be more rapid and convenient. The railway would remain for mass or less valuable goods. In your capacity as president of the provincial economic board [that is, the former Chamber of Commerce], deliberate on the problem. And report to me. Mussolini.<sup>8</sup>

The project was promptly adopted, abandoning the railway idea and opting for the construction of a new heavy-vehicle motorway. It is significant that the classification of the new road was not actually “motorway,” a term perhaps worn out by overuse and evident lack of success. The preferred new term was “*auto-camionabile*,” translating as something like “auto-truckway,” and then more simply “*camionabile*” or “truckway.” There was no lack of engineers, even serious ones, who described the project as not just a change of classification, but as a

passage to a new phase in the field of road mobility. They included Italo Vandone, who in the pages of TCI's journal *Le Strade* explained to his public that the motorway had been a kind of enormous playground for the sporting activities of rich vehicle owners, while now the "truckway" meant that industrial and commercial uses would dominate. "Here then, after the 'motorway' is the 'truckway,' a new and expressive word, which means a motorway in which the characteristics of a road for transport of goods in motor vehicles prevail, while in second place are those with what we may call sporting characteristics, that is, linked to the high speeds permitted by the modern motor car."<sup>9</sup>

Given the situation of the motorway sector and the lack of adequate motor vehicle traffic, it was obvious that the state would take on the care and expense of the project. So in April 1932, the government appointed a "consulting committee" to study the "truckable road" between Genoa, Turin, and Milan (in which, remarkably, Puricelli did not take part). By May, they had established the route of the tract between the port and the Po Valley, with the truckway abutting the Serravalle Scrivia, from where the forks toward Turin and Milan would begin. While the planning toward Milan did not create any sort of problems, the choice of route toward Turin was between two different options, each with different supporters behind it. In summarizing the meeting for the head of the government, the Genoa prefect listed the difficulties encountered. "All those assembled approve the first trunk of the Genoa–Serravalle for immediate execution . . . The Milanese representatives voted to construct the Serravalle–Milan trunk as fast as possible to Tortona [and] Voghera. Instead, the Turin representatives were not in agreement about the route, with the [Turin] *podestà* and federal secretary desiring Asti, with a direct route to Turin, while others wanted Alessandria [and] Chivasso. The Hon. minister postponed the discussion to develop further reports and comparisons on this point, involving just the Turin representatives."<sup>10</sup>

The Turin prefect Umberto Ricci, in evident cahoots with Fiat, had proposed in a memo in April 1932 that the Serravalle–Turin pass by Casale Monferrato and Chivasso, nominating the Turin–Milan motorway society to carry out studies for the project.<sup>11</sup> This option notably lengthened the artery, favoring the Fiat-controlled company. The prefect's proposal triggered reactions from the other actors in the picture, who unanimously expressed themselves in favor of the shorter tract passing by Asti and Alessandria.<sup>12</sup> This is not the place to deepen this theme, but it is interesting to note that several private groups attempted without hesitation to insinuate themselves afresh in the motorway sector the moment that even a small crack appeared. The role of the state, this

time not one of support but rather of full and exclusive presence in the construction, could guarantee secure resources that would not be subject to the unpredictability of private investment.

In any case, the truckway was limited to the 50 kilometers between Genoa and Serravalle: the new road was planned by personnel from the *Servizio nuove costruzioni ferroviarie* (new railway construction service), as would happen in 1933 for the German Nazi *Autobahn*, and its execution was entrusted to AASS, which elected to impose a toll.<sup>13</sup> The cost of the works, completed in 1935, was high, even considering the pass through the Apennine mountain chain, coming to around 210 million lire (about USD 240 million today), which means about 4 million (USD 4.2 million) a kilometer.<sup>14</sup> As stated above, the limited nature of available public resources exhausted the push for construction after just the Genoa–Serravalle trunk, postponing the remaining tracts, toward Milan and Turin, to an uncertain future, just as had happened for the Pedemontana. As with the other motorways, the truckway was a relatively isolated event in the regime’s transportation policies—from which we cannot exclude a propagandistic desire to convey the image of public works as anticyclical to the economic crisis and part of the fight against unemployment.

Anyway, even if the Genoa–Serravalle was expressly aimed at a prevalently commercial use, the traffic along the length of the truckway was not “as intense as had been predicted.” To artificially sustain the income, the circulation of heavy vehicles on the ordinary “Giovi” state road, which ran parallel to the truckway, was prohibited,<sup>15</sup> forcing trucks to use the motorway. However, the decision did not help remunerate the public capital invested in the works, which remained minimal, as many engineers had predicted since 1932.<sup>16</sup>

### The International Motorway Congresses of 1931 and 1932

Although the Genoa–Serravalle, like the other motorway projects during the 1920s, had a local, or at most, regional, nature, we nevertheless witness a change of pace in the early 1930s, in which the debate assumed a national or even continental scale.

Projects for a European network were not entirely new: as seen in chapter 3, as early as 1927 the unavoidable Puricelli had already drafted a “Probable map of future European motorway networks,”<sup>17</sup> perhaps one of the first outcomes of his involvement in German and French committees and a consequence of the 1926 PIARC meeting in Milan. In the late 1920s, the horizon of motorway planning and committees was still

national, though the second wave of Italian construction in 1928–1929, as well as the more assertive role of the committees, offered a great confidence to motorway proponents who were then able to scale up their proposals. Additionally, on the European level, the debate around the myriad of motorway projects was a problem that echoed the epic railways of the past, leading many stakeholders to fantasize about motor vehicle–only roads, in which touristic, commercial, and imperialistic purposes were entangled. An example can be seen in the proposal to construct a great international modern road across Europe from Calais to Constantinople, as proposed in 1930 to the annual assembly of the

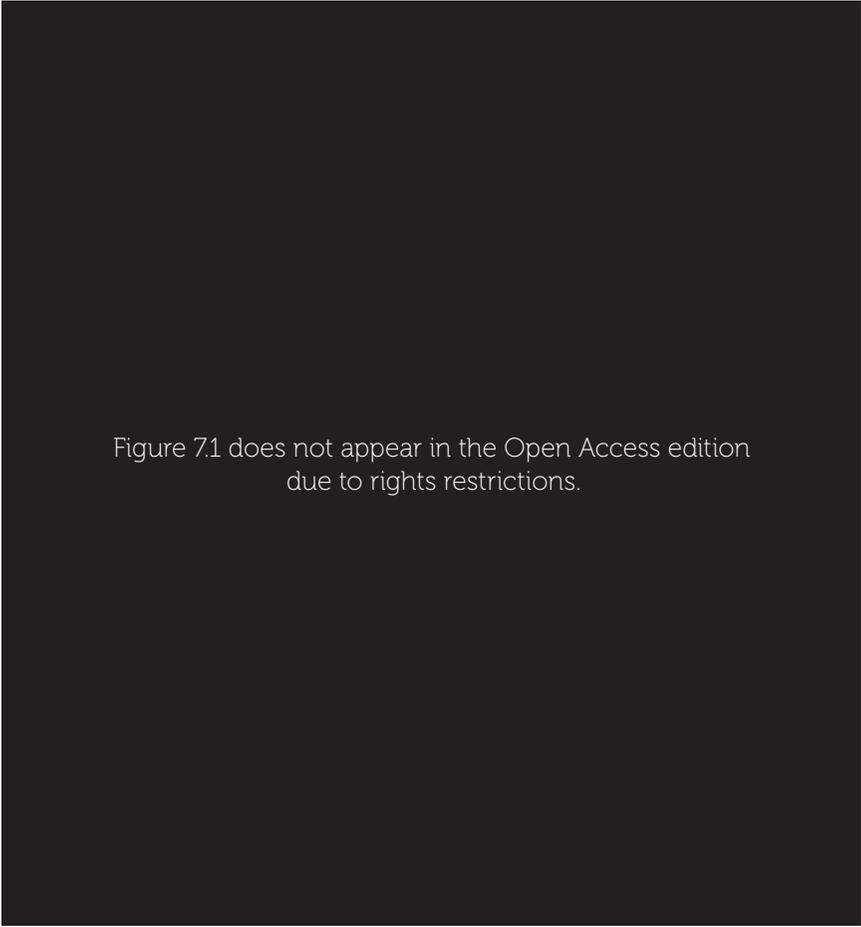


Figure 7.1 does not appear in the Open Access edition due to rights restrictions.

**Figure 7.1.** First “European” motorway network, drafted by Puricelli, 1927.

Piero Puricelli, “Che cos’è un’autostrada e dove occorre,” in *L’autostrada Bergamo–Milano* (Bergamo: Istituto italiano d’arti grafiche, 1927), 3–7. Courtesy of Autostrade per l’Italia S.p.A.

Alliance internationale de tourisme.<sup>18</sup> In 1932, the idea for a motorway from Calcutta to Cape Town followed,<sup>19</sup> as well as a "London to Bombay by road" in 1938.

An important role was played by the ephemeral European détente that followed the 1928 Kellogg–Briand Pact, and, more particularly, the speech by French foreign minister Aristide Briand on 5 September 1929 to the League of Nations: both unleashed ideas of transnational cooperation and of European networks in the field of transport energy, as well as megaprojects.<sup>20</sup> In 1931 the Committee for European Economic Cooperation established "a Committee of Enquiry on Questions relating to Public Works and National Technical Equipment,"<sup>21</sup> CEUE, and in cooperation with the International Labor Organization, ILO, desired the formulation of general plans for public works.<sup>22</sup> This program of action was interpreted by the roads lobby as a huge entrepreneurial opportunity, rich with symbolic repercussions, and is a topic that has fortunately been deeply researched in the past decade.<sup>23</sup>

ILO and CEUE initiatives immediately pushed Willy Hof, director of Hafraba, to contact the ILO's president, Albert Thomas, presenting his association's plan, followed by his French, Italian, and Swiss peers. This led, very soon after, to the creation of the *Bureau International des Auto Routes* (BIAR), later renamed the *Office International des Auto Routes* (OJAR).<sup>24</sup> With support from the ILO, the motorway association organized two international motorway congresses.

The first congress was held from 31 August to 2 September 1931, at the ILO headquarters in Geneva. During the meeting, a project for a European motorway network was proposed, limited to continental Europe, from Barcelona to Warsaw, excluding the Scandinavian and Balkan countries.<sup>25</sup> In particular, the technical commission approved an agenda outlining which of several tracts should be given precedence in the construction program (Frankfurt–Heidelberg; Frankfurt–Wiesbaden; Paris–Brussels, the stump of a future Rotterdam–Gibraltar; Calais–Paris; Evian-les-Bains–Geneva; and Bern–Thun).<sup>26</sup> With such a plan in mind, BIAR started its activities, chaired by the French industrialist Lucien Lainé.

The second BIAR/OJAR congress was held in Milan from 18 to 20 April 1932, due to the interest of Puricelli, honorary president of OJAR, and Suardo.<sup>27</sup> The 1932 congress was a smaller replica of the 1926 PIARC meeting, also held in Milan, and once more the participants had the opportunity to visit the Italian motorway construction and to "admire the marvels of Italian road construction."<sup>28</sup> At this second meeting, "though absent at the congress itself, Thomas once more was among its protagonists. His speech, read by his personal representative Joucla-Pelous, underlined that motorways would give new life to

international communications. They would also provide Europe with a new form of cooperation, and serve as an immediate remedy against the unemployment crisis.”<sup>29</sup> There was the presentation of a new plan, vaster and more ambitious, which was most likely drafted by Puricelli—who was, more than presumably, the mastermind of the 1931 and 1932 plans. Actually, to confirm the dominant role of Puricelli, prior to the Milan congress, the Milanese entrepreneur had an informal meeting with Albert Thomas, president of the ILO, and presented in “preview” OIAR’s grandiose scheme. Puricelli, well aware of the political relevance of those transnational plans, first asked for a meeting with Mussolini to define what position Italy would assume. “In a conversation held in these days, Albert Thomas discussed an international motorway project with me, showing me the proposal he wished to announce at the next congress in Milan, and fixing an appointment in Geneva for 2 April, to get information, news, and suggestions from me. The project, as it is sketched out, would have a particular importance also for our country. But I, before the said meeting, desire to present it to Your Excellency, to ensure my conduct is in line with those criteria that would please Your Excellency.”<sup>30</sup>

The early death of Albert Thomas, in May 1932, just a few weeks after the Milan meeting, was a sign of future difficulties to come for the continental network. As European countries enclosed themselves more deeply in their respective nationalisms—economic and political—OIAR’s work was certainly not made easier, and Hitler’s rise to power was another blow. The new German government actually forbade the third congress from being held in Germany as planned,<sup>31</sup> causing the breakup of the nominally international (but more accurately European) motorway organization.

The brief episode of the CEUE and BIAR/OIAR can be interpreted as a failed attempt to construct a European space in the motor vehicle transport sector. The 1931 and 1932 motorway congresses were part of an isolated initiative, but they demonstrate the depth of feeling around the motorway theme, indicating the level of knowledge and shared sentiment in Europe among the road lobby representatives of different countries. Reusing suggestions and themes linked to the railways, they abandoned the local scale, typical of projects of the 1920s: instead they dreamed of a European dimension of motorway construction, entering a new phase in which the existing national experiences would be explicitly coordinated. The short and unsuccessful adventure of BIAR/OIAR shows the maturity reached by the motorway debate, and confirms Gij’s Mom’s statement that motorway building was an “example of a self-fulfilling prophecy.”<sup>32</sup>

## A New Phase: The German Reichsautobahnen

The experience of the European motorway congresses was at the same time cause and effect of a new phase of motorway planning, by now uncoupled from local initiatives and increasingly aimed at a national and international dimension. The local and episodic character of construction proposals was abandoned, replaced by a firm centralization of transport sector decisions in the hands of the state—or its agencies—and the exclusion of private actors from the motorway sector. After 1929, motorway plans were also stained with colonial or imperialistic attitudes: new proposals on a continental scale were made,<sup>33</sup> and various people (engineers, geographers, entrepreneurs) proceeded to publish construction plans that covered Eurasia and Africa, with late colonial characteristics.<sup>34</sup> This is the case, among others, of Lainé's 1935 proposals for big European–African and European–Asiatic communication axes.<sup>35</sup>

The German example best represents this new phase, with several notable points of difference with the recent past, and above all with the Italian model of the 1920s. Germany had undergone a frenetic planning season in the 1920s: the Nazi regime used the preceding studies to launch an enormous program of works at a previously unthinkable pace. Between 1934 and the end of 1941, it constructed over 3,625 km of motorway, known as *Reichsautobahnen*.<sup>36</sup>

Such a massive construction program had a huge impact on German culture and heritage, and it has become an obligatory reference in any study regarding Nazi Germany. At a more detailed level, we can now count on a vast specific body of literature dealing with *Autobahnen*, culminating with the publication, in 1996, of Erhard Schütz and Eckhard Gruber's seminal *Mythos Reichautobahnen*<sup>37</sup> and eventually with Thomas Zeller's works.<sup>38</sup> The participation of Puricelli in enlivening and supporting the 1920s German initiatives is now clearly confirmed by the literature, as well as his well-known (failed) attempts to get involved in the Nazi construction programs after 1933.<sup>39</sup>

A comparison of the motorway achievements of the two dictators is a useful way to note the similarities and differences between the two models, and to understand the radical evolution of mobility policies that the German construction methods brought about. The political and propaganda uses employed by the two totalitarian systems appear at first glance to be similar. Going beyond military and occupational motivations—almost absent in Italy and controversial in the case of Germany<sup>40</sup>—the dictatorial regimes' interest in motorways was substantially based on the same ideological patterns, with common factors

of modernity and development that the two political systems made their own. So there were certainly coherent elements between the two models, but still the characteristics of the motorway systems were very different.

Let's start with a glance at the quantitative data. In 1935, the year in which the Genoa–Serravalle truckway was completed, Italy possessed barely 500 kilometers of motorway. Germany achieved a network of over 3,600 kilometers between 1934 and 1941. In addition, all the Italian motorways had just one carriageway for the two directions, with a width of 8 meters, in rare examples extended to 10 meters. In comparison, the German *Autobahnen* had two separated carriageways, each of which had two lanes, for a total of four lanes. This profound quantitative and qualitative difference was evident to contemporaries. In 1934, Italo Vandone described the German projects with ill-concealed envy, highlighting how Hitler's program contained elements of radical innovation.

We consider that the development of this network of great density reaches 6,500 kilometers. To make a comparison, Italy would need to have a network of 4,000 kilometers to have an equal density of motorway for its territorial surface. We see therefore how different the functional conception of the motorway is in the two countries.

Another highly relevant difference is in the different typology of the transverse section. Here it has become normal to have a carriageway of 8 meters flanked by two shoulders of 1 meter. Instead, the German motorways, we are told, have a much larger width, being composed of two distinct carriageways, each 7.5 meters wide, separated by a green zone of 5 meters width. This constitutes not just a reserve for the future, but also a defense against the danger of being dazzled by the bright lights of headlights. We are therefore clearly in the field of "superhighways" and on a scale that until now has not been foreseen even in the United States. By now the reality closely follows the most daring flights of fantasy and today our first motorways seem modest conceptions, though just ten years ago they seemed bravely futuristic.<sup>41</sup>

The German motorways therefore had technical and functional characteristics that were much more "advanced" than the Italian ones, which just ten years from their opening presented elements that were revealed as inadequate, if not archaic. The German achievements could also rely on a coordinated construction plan, while in Italy, the opening of the motorways had occurred on the basis of decisions made by private actors, following local interests untied to any unified plan. In Italy, the decisions regarding which routes to construct, the type of intervention, and the priority were almost the exclusive privilege of concessionaires. The concessionaires—following the model of the first phase

of railway construction—freely chose where to intervene and obtained state financial support, according to the modalities of the last half of the nineteenth century. The German motorway projects instead responded to a general plan, designed, put into action, and directly managed by state apparatuses, according to modalities and choices made by the state.<sup>42</sup> This did not mean that there were not lobbies actively favoring construction; they were already petitioning for the improvement of the network during the Weimar Republic.

If we look at the arrangement of the projects in Italy, with the exception of the short Genoa–Serravalle trunk, the last authorizations for construction were in 1930, that is, three or four years before the German projects got underway. Using the great economic crisis as a dividing line, the Italian motorway projects were mostly realized *before* the 1929 crisis made its effects felt in Europe, while in Germany, they were realized *after*. The fact that the two countries were so out of sync temporally opens a new field of reflection. The German construction programs became possible only after the Nazis came to power in 1933: in other words, the German motorways were strongly intertwined with the totalitarian experience. “The [German] dictatorship fashioned these roads into an icon of German power and economic strength and its resurgence after the calamities of the Depression.”<sup>43</sup> The *Reichsautobahnen*, at least as intended by the Nazi regime, were the proxemic and functional representation of the new and “autochthonous” relationship between nature and modernity—a never-before-seen dimension of technology, following a “German” path to modernity.

### **Adapting to the Times: From AASS Projects to the Rome–Berlin Motorway**

The construction block put in place in Italy in February 1930 was interpreted in a variety of ways: some saw it as a simple delay of the Pedemontana’s completion; others felt the temporary pause would prove to be indefinite. It is also true that the choice to interrupt motorway construction was clamorously contradicted by the decision to create the Genoa–Serravalle truckway and, symbolically, by the international motorway congresses, the second of which was even held in Italy. It was therefore very legitimate that in 1932, the view was to some extent optimistic, so much so that the roads magazine of the TCI still saw the future of the motorway through rose-colored glasses. “The current attitude of the government regarding construction of new motorways in Italy is a ‘time of pause.’ There are greater needs not just

for the state, but also for the local authorities and also for private investment. But the initiatives will start again when we are past this present depression and the world feels the need to bounce back from the long penance with a new passion for strenuous and distant objectives."<sup>44</sup>

After 1933, Italian plans for motorways were back on the table due to the effects of the choices being made in Germany. The German model pushed the Fascist regime to rethink its programs for reasons of prestige. Motorways could no longer be achieved by private companies, which were sharply abandoning the sector, but would be realized by the state. Fascist Italy was not the only nation to propose similar projects: also following the German example, in the second half of the 1930s, France and Holland began construction works on their first motorway trunks, while news of new projects in Denmark, Belgium, Poland, and Czechoslovakia filled the specialized journals.<sup>45</sup>

As for Italy, it was Giuseppe Pini—already the director general of AASS and president general of the High Council of the Ministry of Public Works—who recalled the events in his article, written after World War II, in a self-celebratory style. For Pini, the motorway had lost its reason to exist with the constitution of AASS, but he nonetheless felt that the interest in the German programs meant that taking up activities again was politically opportune. After 1928,

the renewal of roads with surfaces in bitumen, asphalt, and cement proceeded, above all due to the work of the AASS, . . . which, in short time, with specialized personnel and with a technique and organizational method that had no precedent in other countries, radically transformed the fundamental network of our roads in a way that made them responsive and efficient for motor vehicles. Therefore the need for motorways, after the construction of the first trunks, was not felt for several years, since the traffic itself had its contingent needs and characteristics met by an adequate roads system. This construction activity—of the first motorways—was accompanied by an intense movement in favor of motorways with proposals and projects from private and public bodies. This was increasingly demanded around 1934, after Germany's plan for a vast motorway network. To coordinate the various initiatives, the Ministry of Public Works appointed a commission, presided over by the author, to establish the main criteria draft for a master plan for Italian motorways; a commission that reached its conclusions in October 1934.<sup>46</sup>

The 1934 AASS plan, although it remained on paper, represented a turning point in Italian motorway policies. The constitution of the commission in the heart of the AASS, on the decision of the Ministry of Public Works, was in keeping with the duties of the public apparatuses, and reduced the viscosity and competition between them. Finally, and

perhaps most importantly for Italian motorway history, the 1934 plan made up the basis of the post–World War II motorway programs, compared to which it even seemed better devised.<sup>47</sup> The proposal covered a (massive) total amount of 6,850 kilometers of newly constructed motorway (curiously enough, the length of the existing 2017 Italian network), and was also attentive to the financial needs of the operation: “the extent of the costs and the notable development of the motorway network makes it necessary to distribute the construction over a long period of time: not less than a decade; and therefore we must establish a scale of urgency.” It was again Pini who noted that the commission evaluated the costs to be 13 billion lire at the time (about USD 15 billion today), dividing “the motorways into three groups: the first with a length of 3,360 kilometers and a cost of 6.7 billion [lire in 1934, i.e., USD 8 billion today] to be realized relatively rapidly. The second with a length of 2,670 kilometers and a cost of 4.8 billion [lire, i.e., USD 5.5 billion] to be executed on the completion of the first group of motorways. The third, with a length of 820 kilometers and a cost of 1.5 billion [lire, i.e., USD 1.8 billion], to be executed when and if the need for international connections arose.”<sup>48</sup>

From a technical point of view, the plan demonstrated a certain development. Initially, it envisioned a motorway of only 10.5 meters wide, identical to the motorways that had been realized in Italy up to that point. However, the motorway carriageways in Germany and the United States were much wider, and guaranteed a division into distinct carriageways for each direction, offering drivers two lanes in each direction. The AASS commission therefore thought it opportune, “without reaching the German level,” to fix the width at 16 meters, with two carriageways of 7 meters each, maintaining the single carriageway only for construction in the mountains.<sup>49</sup>

This adjustment to foreign standards implied a consequent increase in construction costs, with an increase of almost 6/7 billion lire (i.e., about USD 8.5 billion today). The AASS plan estimated a cost for the motorways of “initial realization” equal to almost 12 billion lire (USD 14 billion), an exorbitant sum if we consider that in the 1930s the average annual state budget for roads was around 650 million (circa USD 800 million today),<sup>50</sup> employed to guarantee the improvement of 20,000 kilometers of road. Even diluting the cost of the expenses over a decade, it came to over a billion per year, well beyond the range of the public finances—all for a project of dubious benefits, given that Italian motor vehicle traffic continued to be rather limited.<sup>51</sup>

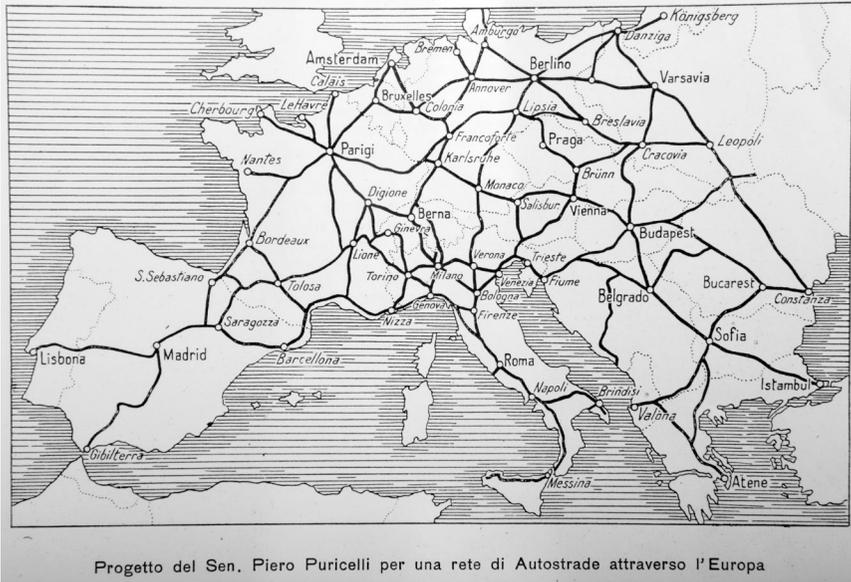
Puricelli did not appear among the planners of the 1934 scheme, but he understood the strength of the German motorway challenge and

the ambitions of prestige that drove the Fascist regime's reawakening of interest. He therefore prepared a motorway plan in his turn, or rather, he prepared two. An initial program considered Italy, with the aim to construct over 5,000 kilometers of motorway for a total cost—enormously underestimated—of 5 billion lire (USD 5.5 billion today). A second plan instead aimed at a European scale, and was, not coincidentally, published by the Milanese entrepreneur in Germany. The engineer Bruno Bolis, who pivoted post-World War II to adopt an antimotorway policy, recalled those events in an article in 1953, as well as the new motorway fever breaking out in Italy after 1933.

The motorway, created by our Puricelli and perfected by the Germans, was then—in the 1930s—at its zenith and that plan [to improve the roads] therefore, naturally, must be completely born from the base of the motorways. In 1934, on a map of the peninsula, they were tracing the great lines of new arteries that should be constructed to make the flows of the principal traffic currents simpler and in this way they added . . . a total of around 5,061 kilometers of motorway to the network at a cost of “roughly” 5 billion lire at the time. But in the course of events that plan was relegated to the dust of the archives and it was soon forgotten. In the same year of 1934, a grand motorway network, with a length of 37,176 kilometers, was planned by Puricelli for Europe and was published in the luxurious journal *Die Strasse* with the text in four languages (Puricelli wrote, in that text, “Motorway” with a capital m).<sup>52</sup>

The drafting of Puricelli's European motorway project in four languages had three motivations. First, the publication was most likely presented at the seventh international roads congress held in Munich in 1934, an unrepeatably chance to publicize the project. Second, the Munich congress could be the occasion to relaunch Puricelli's contacts with the Germans, given that the Nazis' rise to power had thrown the technical panorama into disorder and had reduced the influence of many of the engineers known to the Milanese entrepreneur, despite their prompt adherence to the new regime.<sup>53</sup> Finally, Puricelli had several meetings with Hitler, one in particular in 1934,<sup>54</sup> in which he probably proposed his European project and tried to guarantee himself entrepreneurial and political space.

The inflamed nationalism impeded every possible realization of the continental programs: meanwhile, the bellicose Italian foreign policy and the aggression in Ethiopia soaked up the public finances<sup>55</sup> and made Italian motorway plans unfeasible in both the short and medium terms. Again, Pini recalled how a series of difficulties and different reasons were placed in the way over the course of time. “The master plan of the motorways could not be achieved: the war with Ethiopia



**Figure 72.** Puricelli's 1934 European motorway network, as presented at the PIARC conference.

Piero Puricelli, "La rete autostradale europea," *Le strade 12* (1934), 732–733. Courtesy of Touring Club Italiano.

and the annexation of Albania absorbed huge financial means and caused the transfer of masses of motor vehicles, taking them out of national circulation. Then followed World War II, with the near abolition of private motor circulation.<sup>56</sup> Indeed "between 1935 and 1940 Italy spent 53 billion lire for the war and civilian building projects in Ethiopia," a sum that "reached over 10% of GNP in 1936, the year of greatest expenditure."<sup>57</sup>

Nonetheless, motorway projects were still proposed. During the third congress of Italian Engineers, held in Trieste in 1935, the theme of motorways was widely debated. Among others, the engineer Miani advanced the idea of having five truckways that would cross Europe from north to south, concentrating in particular on the Livorno–Brenner Pass axis.<sup>58</sup> In 1935 Puricelli was in Paris with Edoardo Agnelli (son of Giovanni, Fiat's owner) and Gino Olivetti to discuss a hypothetical motorway tunnel beneath Mont Blanc<sup>59</sup> in order to facilitate communication between France and Italy. An idea of a Rome–Paris motorway had already been advanced in 1929 by Louis Thomas, a correspondent for the journals *L'Illustration* and *L'Intransigeant* and not to be confused with the ILO director. The journalist had had a meeting with Giuriati,

then minister of public works, during which he proposed to have a road route "between Paris and Rome, a summer one toward Moncenisio [in the Alps] and one toward Ventimiglia [on the Mediterranean coastline] open the entire year."<sup>60</sup> Mussolini's explicit refusal to support the French proposal in 1929 and the worsening of the Italian relationship with France in 1936 caused both projects to fail. There was a new short season of initiatives—which also failed—proposing "the construction of a motorway to unite Rome with Paris and Berlin via the Simplon Pass, utilizing one of the two railway tunnels."<sup>61</sup>

With the waning political relationship with France, the idea of a motorway between Rome and Berlin was advanced, a research topic studied some decades ago by Lando Bortolotti. The Hafraba project in the 1920s had already envisioned an extension of the Hamburg–Frankfurt–Basle axis, with a pass through the Alps, extending to Genoa.<sup>62</sup> A 1934 German project imagined an Augsburg–Verona motorway through the Reschen pass, similar to an AASS project in the same year that planned a truckway through the Reschen Pass and a second through the Brenner Pass. In January 1937, the proposal of a Rome–Berlin motorway "axis" took form and became politically possible: it was once again Puricelli (whose company had meanwhile passed into the hands of the IRI, the government-owned industrial company founded after the 1929 crisis), who traveled between Berlin, Vienna, and Rome in an attempt to achieve the motorway's success, nominating his son Franco—also an engineer—to drive the planning of the project.<sup>63</sup> In March a memo for Mussolini was prepared, with a preliminary draft of the motorway, which Puricelli dreamed would be ready in time for the 1942 World's Fair, as he declared in a well-timed interview in *Il Popolo d'Italia*, the Mussolini-owned newspaper.<sup>64</sup> The theme of a motorway from Rome toward the north was also presented at the Littoriali della cultura e dell'arte (a fascist cultural and artistic event) in 1937, with an "engineering competition for a preliminary project for a Rome–Florence motorway."<sup>65</sup>

As already indicated by Bortolotti, the Rome–Berlin failed due to the diffidence of the Ministry of Public Works, the doubts of the military on the advantages of the project, and, after his initial openness, the absolute opposition of Mussolini,<sup>66</sup> made definitive by the Austrian *Anschluss*. The project was abandoned.

## Notes

1. See Mochi, "I trasporti," 245. However, the municipal and provincial road networks did not have additional resources; the local authorities actually saw a marked reduction of available funds. It is not surprising therefore that "the maintenance of the minor roads remained at sea and there was no lack of strong critics" regarding the scarce attention by the Ministry of Public Works. See Mochi, "I trasporti," 201.
2. See Maggi, *Le ferrovie*, 165 et seq.
3. Stefano Maggi, "La circolazione automobilistica in Italia: normative e istituzioni dall'Unità alla Repubblica," *Le carte e la storia* 2 (2002), 129–143, here 139.
4. For a wider scrutiny of the struggle and cooperation between rails and roads transport, see also Colin Divall and Ralf Roth, eds., *From Rails to Roads and Back Again? A Century of Transport Competition and Interdependency* (Surrey: Ashgate, 2015).
5. See Robert Millward, *Private and Public Enterprise in Europe*, 146 et seq.
6. See Mochi, "I trasporti," 253. For a European comparison, see Millward, *Private and Public Enterprise in Europe*, 161 et seq.
7. Mochi, "I trasporti," 217.
8. Copy of letter signed by the prime minister to the Genoa prefect dated 8 February 1932, in Acs, Pcm, 1934–36, 7/1-2/3215, *Autocamionabile Genova–Torino–Milano*.
9. Italo Vandone, "L' 'autocamionabile' Genova–Milano–Torino," *Le strade* 7 (1932), 177–194, here 177.
10. Telegram from the Genoa prefect to the Pcm dated 14 May 1932, in Acs, Pcm, 1934–36, 7/1-2/3215, *Autocamionabile Genova–Torino–Milano*.
11. Letter from the president of the Turin provincial economic board to the Ministry of Public Works, dated 19 April 1932, in Acs, Pcm, 1934–36, 7/1-2/3215, *Autocamionabile Genova–Torino–Milano*.
12. See Italo Vandone, "L' 'Autocamionabile' e le strade di Val Padana," *Le strade* 8 (1932), 209–219.
13. See Giovanni Da Rios and Savino Rinelli, "Autocamionabile Genova–Valle del Po," in *Autostrade della prima generazione* (Milano: Spa per l'Autostrada Serravalle–Milano–Ponte Chiasso, 1984), 120–136, here 126.
14. *Ibid.*, 132.
15. See Vito Rocco, "La 'tassa' di pedaggio," 167. See also Giovanni Da Rios, "Le prime autostrade italiane," 18.
16. See Bruno Bolis and Giuseppe Chesi, *L'autocamionabile Genova–Milano. Monografia illustrativa. Contributo allo studio dei problemi tecnici ed economici con una prefazione del prof. C. I. Azimonti* (Milano: Libreria editrice politecnica, 1932), and Vandone, "L' 'autocamionabile' Genova–Milano–Torino," 193.
17. Piero Puricelli, "Che cos'è un'autostrada e dove occorre," in *L'autostrada Bergamo–Milano* (Bergamo: Istituto italiano d'arti grafiche, 1927), 3–7, here 7.
18. For an insightful historical scrutiny, see Alexander Badenoch, "Touring between War and Peace: Imagining the 'Transcontinental Motorway', 1930–1950," *The Journal of Transport History* 28, no. 2 (2007), 192–210.
19. See Gijs Mom, "Roads without Rails," 761.
20. About the perception of large-scale public works in Europe in the 1930s see Patricia Clavin, *The Great Depression in Europe, 1929–1939* (Basingstoke: St. Martin's Press, 2000), 143 et seq.

21. Frank Schipper, *Driving Europe*, 99.
22. Denis Guérin, *Albert Thomas au BIT, 1920–1932: De l'internationalisme à l'Europe* (Geneva: Institut Européen de l'Université de Genève, 1996), 94.
23. See, among others, Frank Schipper's and Joah Schot's works.
24. See Schipper, *Driving Europe*, 103 and Mom, "Roads without Rails," 761–763. See also Bortolotti, "I congressi autostradali internazionali," 20.
25. See the minutes of the congress published in the journal *Storia urbana* 100 (2002) and, naturally, Schipper, *Driving Europe*, 103 et seq.
26. "Procès-verbal du Ier Congrès International des Autoroutes tenu à Genève dans les salles du Bit les 31 août, 1er et 2 septembre 1931," 3, copy kept in Agpto, 3-6583.
27. "On the proposal of the government Commissioner for motorways, the honorable Count Giacomo Suardo, his excellency the prime minister has agreed that the second international motorway congress, under the auspices of the International office of motorways headquartered in Geneva, will be held next April in Milan, at the same time as the international trade fair." See MR, "L'autostrada: problema internazionale."
28. Schipper, *Driving Europe*, 106.
29. Ibid.
30. Letter from Piero Puricelli to Benito Mussolini dated 23 March 1932, in Acs, Spd, Cr, busta 60, Piero Puricelli.
31. "The location of the next congress has been chosen as Frankfurt am Main." See "Il congresso delle autostrade," *Corriere della sera*, 21 April 1932.
32. Mom, "Roads without Rails," 750.
33. See, among others, Karl Krüger, *Motorizing Russia and Asia* (Berlin: Verlag der Neue Orient G.m.b.H., 1934); Piero Puricelli, "La rete autostradale europea," *Le strade* 12 (1934), 732–733; Kurt Gustav Kaftan, *Europa Braucht Autobahnen* (Berlin: Reichssportverlag, 1937). For the Italian debate, see PC Elischer, "Una strada intercontinentale dall'Europa all'India e all'Africa del Sud," *Le strade* 7 (1933), 201–203; Cesare Albertini, "Occorre una rete autostradale europea?," *Le strade* 9 (1937), 497–500; "Le strade del mondo," *Le strade* 2 (1939), 87–89; GD, "Il problema delle strade di grande comunicazione," *Le strade* 8 (1939), 425–428.
34. See Lando Bortolotti, "Italia, Europa e oltre: proposte e utopie autostradali al tramonto degli imperialismi e del colonialismo," *Storia urbana* 72 (1995), 133–162; FI, "Un progetto di 'Transafricana' in funzione 'Euroafricana,'" *Le strade* 8 (1941), 391–392.
35. Schipper, *Driving Europe*, 112. For post-World War II projects see Dirk van Laak, "Detours around Africa: The Connection between Developing Colonies and Integrating Europe," in *Materializing Europe Transnational Infrastructures and the Project of Europe*, ed. Alexander Badenoch and Andreas Fickers (Basingstoke: Palgrave Macmillan, 2010), 27–43.
36. See Zeller, *Driving Germany*. For an insightful summary of the historiography on German motorways, see Reiner Ruppmann, "The Development of the European Highway Network," 281–283.
37. Erhard Schütz and Eckhard Gruber, *Mythos Reichsautobahn. Bau und Inszenierung der "Straßen des Führers" 1933–1941* (Berlin: Ch. Links, 1996).
38. See Zeller, *Driving Germany*.
39. See Ruppmann, "The Development of the European Highway Network," and Lando Bortolotti, "Fra politica, propaganda e affari: l'autostrada Roma–Berlino 1927–1942," *Storia urbana* 81 (1997), 47–80.

40. See Thomas Zeller, "'The Landscape's Crown': Landscape, Perceptions, and Modernizing: Effects of the German Autobahn System, 1934–1941," in *Technologies of Landscape: From Reaping to Recycling*, ed. David Nye (Amherst: University of Massachusetts Press, 1999), 218–239; and Richard Vahrenkamp, "Planning and Constructing the Autobahn Network in Germany During the Nazi-Period: Styles and Strategies," in *Road History: Planning, Building and Use*, ed. Gijs Mom and Laurent Tissot (Neuchatel: Alphil, 2007), 87–98.
41. Italo Vandone, "Le autostrade della Germania," *Le strade 2* (1934), 80–84, here 84.
42. Direct state intervention meant that the German motorways, unlike the Italian ones, were not subject to tolls.
43. Zeller, "'The Landscape's Crown,'" 222.
44. Italo Vandone, "Autostrade internazionali," *Le Strade 4* (1932), 91–92, here 91–92.
45. See Gijs Mom, *Atlantic Automobilmism*, especially chapter 7. In this vein, focusing on Europe, Ruppmann suggested clustering those interbellum initiatives into two "categories: pioneers (Italy, Germany, The Netherlands) and followers (Austria, Belgium, Britannia, France, Luxemburg, Portugal, Spain, Switzerland)." Ruppmann, "The Development of the European Highway Network," 277.
46. Giuseppe Pini, "Piano regolatore delle autostrade italiane," 151–153.
47. See the appraisal of Lando Bortolotti in "Origine e primordi della rete autostradale in Italia, 1922–1933," 61.
48. Pini, "Piano regolatore delle autostrade italiane," 154.
49. See *ibid.*, 154–155. Pini's statements on the width of the roadbed should however be verified with further research, given that, for example, in 1938, that is, four years after the AASS plan, engineers like Polese considered a motorway of 12 meters to be oversized in Italy—see Arturo Polese, *Criteri costruttivi delle autostrade* (Napoli: Guf Mussolini, 1938), 27—and ANAS, after the war, constructed the Genoa–Savona with a single carriageway and a width of 10 meters; see Savino Rinelli, "A10 Genova–Ventimiglia," in *Le autostrade della seconda generazione* (Milano: Spa per l'Autostrada Serravalle–Milano–Ponte Chiasso, 1990), 158–165, here 159.
50. See Istat, *Sommario di statistiche storiche dell'Italia*, 87.
51. In 1934 there were 316,582 motor vehicles in circulation, a figure that reached 391,121 in 1939, the historical peak of the period from 1922 to 1943; see Anfia, *Automobile in cifre*, 29.
52. Bolis, "I piani per il miglioramento della viabilità," 370. In truth, Bolis, like engineers who were contemporaries of Puricelli, also always wrote the word "motorway" beginning with a capital letter: see among others Bruno Bolis, "Le autostrade italiane dal 1924-II al 1939-XVII," *Le strade 11* (1939), 574–584, and 12 (1939), 614–623.
53. See Schütz and Gruber, *Mythos Reichsautobahn*.
54. See Bortolotti, "Fra politica, propaganda e affari," 61.
55. See Clavin, *The Great Depression in Europe*, emphasizing how the "years 1935 and 1936 also proved a watershed in Italy," 183, in which not even "a series of new, extraordinary taxes" were enough "to cover the considerable increase in government spending," 185.
56. Pini, "Piano regolatore delle autostrade italiane," 156.
57. Gian Luca Podestà, "Building the Empire: Public Works in Italian East Africa (1936–1941)," *Entreprises et histoire 70* (2013), 37–53, here 37.

58. See *Atti del III congresso nazionale degli ingegneri italiani* (Trieste: s.e, 1935), cited in Rinelli, "L'evoluzione della tecnica autostradale dall'anteguerra agli anni cinquanta," 3–4.
59. See Bortolotti, "Fra politica, propaganda e affari," 62.
60. Notes for the Psm dated 28 April 1929 (with attached text in French of the roads itinerary convention for Italy–France), in Acs, Pcm, 1928–30, 7/1-2/6491, *Itinerari stradali fra Roma e Parigi. Proposta*.
61. Letter from the Minister of Communications to the Minister for the Press and propaganda dated 20 August 1935, in Acs, Pcm, 1934–36, 7/1-2/4963, *Autostrada attraverso il Sempione*.
62. See Schütz and Gruber, *Mythos Reichsautobahn*, figure 1.
63. See Bortolotti, "Fra politica, propaganda e affari," 64 et seq.
64. See O. Gregorio, "L'autostrada Roma–Berlino," *Il popolo d'Italia*, 16 March 1937.
65. Polese, *Criteri costruttivi delle autostrade*, 6.
66. See the documents in Acs, Pcm, 1937–39, 7/1-2/4820, *Lavori stradali e ferroviari alla frontiera settentrionale*. In particular, the cover of the subfolder has the following indications: "n.b. For the royal decree law regarding the spending of 7 million lire [circa USD 7 million today] for the editing of the construction project of the Rome–Brenner Pass motorway (for which the Duce expressed his opposition) see the folder of Public Works (between the suspension of the session of April 1938–XVI)." However, research in the Acs did not result in further outcomes, due to the lack of the folder related to the planning and that used by Bortolotti for his research and indicated as Pcm, 1937–39, 7/1-2/2088, *Autostrada Roma–Berlino*.