Chapter 6

Aviation: Into the West – Rineanna and the Jumbo Jet

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6.1 Photograph from 13 March 1970 showing the pier building and new main terminal building at Shannon under construction. Image courtesy of Shannon Development.
**Introduction**

On 9 July 1965, along the broad estuary where Ireland’s longest river completes its westward journey towards the Atlantic Ocean, the Taoiseach Seán Lemass spoke at a luncheon at Shannon Airport. Twenty-six years in operation, the transatlantic airport, built on marsh and bog before and during World War II, had by now spawned a six-year old industrial estate and a four-year old housing complex on Drumgeely Hill, the beginning of Shannon New Town. The luncheon marked the opening of five new factories at the industrial estate, and the sentiment was high. In Lemass’s words:

> We feel we have created at Shannon, in the airport, industrial estate and community centre, something of which we are entitled to be proud, and which we can present to the world as typifying the spirit of the new Ireland – a spirit which refuses to be intimidated by any difficulties, which rejects absolutely the thought of failure, which reflects a capacity to adapt quickly and smoothly to changing conditions and changing needs – welcoming, rather than resisting, changes which present new challenges and open new opportunities – and backed by an unshakeable determination to make a success of everything we undertake (NAI DFA/96/6/374).

This decade from the early 1960s marked a series of accelerated developments in the infrastructure of aviation in Ireland, responding to and foreseeing the rapid growth taking place in technology and tourism. During this period the Irish state continued to build on its strategic approach in terms of its provision of aviation infrastructure, to keep apace with, or even ahead of, global developments. Aviation was associated with modernity and the building of the country; as noted in a government memo of 1969:

> Air travel has now developed to such a stage that airports must be regarded as an essential part of the national infrastructure of any progressive country (NAI 2006/6/190).

**Transatlantic**

In the years immediately preceding World War II as well as during it, the development of physical infrastructure for civic aviation in Ireland happened at three sites simultaneously –
Foynes, Co. Limerick and Rineanna, Co. Clare for transatlantic services; and Collinstown, Co. Dublin for services with Britain. Éamon de Valera, President of the Executive Council of Saorstát Éireann since 1932, though fiercely driven by policies of independence and self-sufficiency for the Irish Free State, had recognised that its position, facing the edge of the wide Atlantic Ocean was, in the fast-growing world of international aviation, a highly critical location. As a result – along with Britain, Canada, and Newfoundland – the Irish Free State participated in a conference in Ottawa in December 1935, and agreed to co-operate with the other three nations to establish transatlantic air services. Seán Lemass, was by then Minister for Industry and Commerce, and almost 30 years later in 1964 he recalled:

In this country, although we had then many problems to tackle in the political field and in the development of our agriculture and industry, we understood very clearly the importance of this new transport medium, its particular significance for an island country like ours and the strategic position occupied by Ireland in relation to trans-Atlantic development (NAI TAOIS/S8814E/95).

At this stage in the development of aviation technology it was still uncertain whether the flying-boat or the landplane would be favoured for the transatlantic service, thus, in searching for a suitable base, the Irish Free State was future-focused in securing a site that would provide the opportunity to develop facilities for both land and seaplanes alongside one another. A range of sites were surveyed by a team of six Irish and British aviation officials (O’Sullivan 1982) and based on the December 1935 report from this survey party, the tidal estuarine mudflats, marsh and bog of Rineanna, the peninsula where the River Fergus meets the north side of the Shannon Estuary in de Valera’s East Clare constituency, was chosen as the site for Ireland’s transatlantic base.

Given that it would be a number of years before this area could be dredged and ready for flying boats and for runways to be constructed for landplanes, a decision was taken to establish the European terminal of the transatlantic flying-boat service at Foynes in the interim. Foynes, a small village and port further west on the south side of the estuary, had an already-established infrastructure of fuel storage tanks associated with its port. A deep anchorage area
was naturally sheltered by Foynes Island and the full width and length of the estuary presented itself for take-off and landing. The route was to fly from Britain to Foynes to Gander or Botwood in Newfoundland and from there to New York. De Valera included a clause in the Ottawa Agreement of 1935 that ‘subject to force majeure’ all eastbound and westbound aircraft ‘shall stop at the Irish Free State Airport’ (Quinlan 1990: 43). At this time, given the stage of technical advancement, there was no option but for the flying-boats to stop at Shannon for refuelling prior to or following the 2,000 mile Atlantic crossing, thus there was no sense of the future political tactics that this clause would enable. In this way, two tracts of watery land, rural and remote on both banks of the Shannon estuary, were launched into becoming an epicentre of modernity and global connectivity.

An inter-departmental government committee on airport construction was established, first meeting in September 1936 (Byrne and Fewer 2013: 110). The Office of Public Works (OPW) became central to the state’s aviation project, tasked firstly with the site works and engineering survey of Rineanna which commenced in October 1936 and, two months later, in December, with the design of a new civic airport for Dublin at Collinstown. At the same time, the Irish Free State was also establishing its national airline, Aer Lingus, to provide services to Britain, the first of which took place on 27 May 1936 when the five-seater Iolar carried passengers from Baldonnel Aerodrome to Bristol.

The original name for Rineanna in the Irish language varies from Rinn Eanch, the wet headland, to Rinn an Éanaigh, the headland of the birds (Rattigan 2003: 4), to Trá Dá Rí – the strand of the two kings (Share 1992: 39) or the point of the marsh (Lemass: NAI TAOIS/S8814E/95). The Shannon estuary has a long heritage of productive inhabitation of this condition of mudflat and saltmarsh, from Neolithic settlement to the mediaeval fish-trap (Keane 2012), but extensive physical work was required to turn this place from a network of small, marshy, boggy, floodable fields and mudflats into an international airport. Covering one square mile, three main drainage channels were cut along with a copious number of narrow lateral drains laid in trenches 22 feet apart, their fiddly four-inch pipes requiring patience to set in place

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Two hundred miles of concrete pipes of varying sizes were laid and previously existing drains were filled to level the land. The ground needed to be drained continuously, so at Knockbeg Point, one of the multiple points of higher land that reach into the mudflats of the estuary to create its scalloped shoreline, the first building on the site was constructed. A pump house for drainage, it continues to operate today, constantly pumping the drained water from beneath the airfield into the River Shannon.

The progress of modernity embraced manual labour by necessity. The excavation and drainage work was done by almost 1,000 men with shovels and picks as heavy machinery could not access the site given the narrow roads. In addition to the drainage network, two huge curving embankments were constructed from Knockbeg point to Dernish Island to enclose a sheltered harbour for the flying boats, known as The Basin. Local material knowledge became central to this construction of global ambitions when a method used successfully by local farmers became enacted on a grand scale: hazel wood, proven by these farmers to be slow to rot, was plaited and interwoven with soil and used to line the foundations of the embankments. A photograph from Independent Newspapers shows the horses, ponies and donkeys pulling carts of hazel wood to the site (Figure 6.2). Heavy stones were then placed on the hazel, followed by oak planks, and these were covered with mounds of soil, a constructional challenge that took a number of years with the workers exposed to the tides, weather and storms of the open estuary.

The stones for the embankments, and in later years for the foundations of the concrete runways, were crushed at nearby Reidy’s Quarry and carried to the site by a small locomotive powered by a paraffin oil engine, while the earth was moved by horse, cart and wheelbarrow (Sweeney 2004).
6.2 An *Independent Newspapers* photograph c.1936 shows the carting of hazel wood to the airport construction site at Rineanna. Image courtesy of the National Library of Ireland.

The drainage project at Rineanna and the modernist design for Dublin’s Collinstown were both well underway before the flying-boat proving flights – testing the transatlantic journey to and from Foynes – actually commenced in July 1937. In the same year the country’s constitution, *Bunreacht na hÉireann*, was inaugurated, *Saorstát Éireann* became Éire – Ireland, and de Valera became *Taoiseach* (Prime Minister). By 1939, the major part of Rineanna’s grass runway was complete. The construction of the airfield had been an epic task, completely transforming the landscape, as described in a local newspaper, *The Clare Champion*, at the time:

>the vast area changed under the hands of these men, mile-long mounds of black mud appeared and disappeared as the drains were dug and piped and filled again. Valleys, the tidal creeks that long ago meandered across the plain, disappeared and hills that graced the horizon crumbled. Then with plough and harrow, with shovel and spade, the wrinkles and scars were smoothed out and the runways took shape (Sweeney 2004: 96).
On 18 May the first aircraft landed at Rineanna, an Air Corps plane that had flown from Baldonnel, while on the other side of the estuary on 30 June, the 50 seater Yankee Clipper became the first transatlantic passenger flight to take off from Foynes. Barely two months later, the world went to war for a second time and Ireland declared its neutrality.

**Concrete Images of Modernity**

The transformation of the runways from grass to concrete at Rineanna began in July 1940 and, by the end of 1943, there were four in total. In 1938, Clare County Council had begun to lay an access road from Ballycasey Cross, on the main Limerick to Ennis road, to Rineanna. In her novel *A World of Love*, published in 1955, Elizabeth Bowen viscerally captures the energy of this transformed landscape. Beginning in Montfort, a crumbling big house of the aristocracy in Munster, Bowen (1983: 142) writes of the journey by car to Shannon Airport as experienced by the two young daughters of the house; moving through ‘the large lush lakelike County Limerick plain’ they then pass through the city of Limerick and on to the exit from the main Galway road, towards the airport:

> when the Turn Off did come, it was a vast taut cemented causeway, special, polished-looking like solidified water: all else stood back from it in awe, for it looked like the future and for some was (Bowen 1983: 146).

There is an intense drama here to the experience of the concrete road, the making of new ground, this layer of modernity laid onto the land. This was a Brave New World. The dramatic sense of the scale of this infrastructural achievement of hard-surfaced runways and road laid onto intensely drained land, can also be seen in Figure 6.3, an *Irish Press* photograph transformed into a postcard of the period, where the sepia monotone allows the lightness of the fresh concrete and the sweep of embankment to almost lift from the image and provide an abstract diagram of modernity. In Dublin, concrete runways did not replace grass until 1948, and the image of modernity came instead via the airport’s building.

Dublin Airport’s original central terminal building at Collinstown, six miles from the centre of the capital city, is well recognised within Irish architectural discourse as being an outstanding achievement of the International Style in the country, ‘early even by European standards’ (Rothery 1991: 215). The design for this civil airport terminal, internationally a very new building type, was conceived in the OPW in 1937, the year of the constitution, and constructed between 1938 and 1942. It marked, through its planning, structure, materiality and attention to detail, the launch of an extremely tangible presence of modernity in Ireland (Figure 6.4). Officially credited to Desmond FitzGerald, the building’s legacy is complicated by a range of intriguing plots: longstanding questions over its authorship, debates over possible precedents, sources and inspiration for its design, and the delays in its publication and publicising (see Byrne and Fewer 2013; Dwyer 2012; Rothery 1991).
6.4 The sweeping concave facade, balconies, and bands of concrete and glass emphasize the horizontality of the airside of Dublin Airport’s original central terminal building. This photograph from c.1968 shows the raised control tower and additional floor, as well as Pier A. © and ® John Hinde Archive.

**Alternative Ambitions**

Largely overlooked in considerations of the work of Desmond FitzGerald and the OPW airports section are the designs for Shannon Airport, both those that were constructed, and those that remained at early proposal stage. The State’s wartime plans for the Rineanna terminal were just as ambitious, if not even more so, than the site strategy and building for Collinstown and following the trajectory of these designs reveals the necessarily flexible priorities of the government on the development of the State’s infrastructure of aviation. During the war, international knowledge was not yet certain as to whether the seaplane or landplane would...
eventually become the prevalent choice in providing transatlantic passenger services. When delivering the Royal Aeronautical Society’s 28th Wilbur Wright Memorial Lecture in 1940 entitled ‘Looking Forward’, Dr. H. Roxbee Cox (1940: 717), Chief Technical Officer of the Air Registration Board, described it as ‘Probably the most contentious matter with which we have to deal with’, noting that ‘In small sizes there is little doubt that the landplane is the more efficient craft, but in large sizes the issue is less clear-cut’. Following an incredibly detailed economic and technical study, he continued: ‘My summary … seems to favour the flying boat’ but ‘I do not regard the controversy as settled’ (Roxbee Cox 1940: 724). The government sought international expertise to facilitate their decision making, and paid particular attention to the report they commissioned from US Sgd. C.N. Schildhauer who, in May 1943, recommended that, ‘Where ever practical, facilities should be provided for the joint use of land plane and flying boat transports’ and that ‘Such facilities should be adjoining each other wherever possible’ (NAI TAOIS/S13090A). In 1944, the OPW prepared a rendered strategy drawing of such an airport at Shannon for both landplanes and flying boats. At a scale of 12 inches to the mile, it was part of a set of three drawings that accompanied a memo to the government from the Department of Industry and Commerce on 17 January 1945 (NAI TAOIS/S13090A and B).

Drawing A (Figure 6.5) shows the master plan and ‘maximum development’ of the airport site, noting that in providing for the adjacency of land and seaplanes it ‘is the same plan as was originally drawn up for the Airport in 1936’. It envisaged a complete transfer of all flying boat operations from Foynes. The drawing shows the full runway development proposal, with three runways extended to 8,000 feet, and the fourth to 11,000 feet on land that would be reclaimed as a consequence of the flying boat harbour dredging which had not yet commenced due to the war. Also shown is a circular flying boat terminal with radial connections or bridges, above a curving concrete road, to five flying boat berths in the extended harbour. The circular terminal building is then connected by a bar building across a concrete road to a long, narrow pier building, curved in plan, with ten finger docks for the land planes. The diagrammatic building footprint recalls the airport at Tempelhof (1936–41) in Berlin, where the aircraft taxi in
6.5 Drawing A made by the Airports Section of The Office of Public Works, 4 June 1944, showing the master plan for the proposed ‘maximum development’ of Shannon Airport with adjacent flying boat and land plane facilities. NAI TAOIS/S13090A&B. Drawing courtesy of the National Archives of Ireland and its Director.
6.6 Drawing C made by Desmond FitzGerald, Airports Section of The Office of Public Works showing the earliest proposed village for Shannon Airport. Including housing, sporting and social facilities, it accompanied a 1945 memo to the government from the Department of Industry and Commerce. NAI TAOIS/S13090A&B. Drawing courtesy of the National Archives of Ireland and its Director.

under the large awning and the passengers disembark under cover. The drawing also shows three possible sites for hangars and workshops. The memo notes that ‘the work is one of considerable magnitude’, and that ‘detailed plans of this building are now being prepared’, giving an estimated cost of £435,000. This and Drawing A confirm that the Emergency (as the Second World War was known in Ireland) did not dampen the State’s ambition for global connectivity.
Accompanying the 1945 memo were also Drawing B – showing the works for Shannon Airport already complete or approved – and Drawing C (S/368) (Figure 6.6) which shows, at a scale of 1:2500, a master plan by Desmond FitzGerald for a proposed village for Shannon Airport. Given that the nearest centres of population to Rineanna were Ennis and Limerick, 14 and 16 miles distant, there was recognition that airport staff needed accommodation near their workplace. The site chosen was at Firgrove near Hurler’s Cross, approximately three miles from the airport at the junction where the airport road met the main Limerick to Ennis road. Though the village did not come to fruition (indeed this site remains entirely undeveloped today) FitzGerald’s plan demonstrates the earliest version of the New Town for Shannon – a holistic modernist proposal of sports and health clubs, accommodation, garages and schools set within the landscape of a demesne – almost 20 years before Shannon’s first housing was constructed on Drumgeely Hill.

The controversy regarding the future dominance of flying boats or landplanes for crossing the Atlantic came to a conclusion, and on 28 September 1945 Lemass recommended that the development of flying boat facilities at Rineanna ‘be postponed indefinitely’ (Share 1992: 42). The OPW’s intriguing terminal plan of Drawing A was never to be realised, and the seaplane harbour at Shannon remains a powerful ruin of the ambition of early modernity in Ireland. Now a perfect example of the reestablishment of a natural estuarine process – after more than 70 years of silting since being abandoned – it has become a unique habitat and important wintering site for migrant birds; its sweeping presence can be felt as one’s car makes the curved approach towards it, meeting and touching it briefly, tangentially, at speed, before parting from it again as the embanked containment for the lost dream of flying boats wraps southwards to Dernish Island and the road bends northwards to the multi-coloured signage and car-parking of today’s ‘modern’ airport.

[INSERT HERE]
6.7 Axonometric showing the liminal conditions of Shannon Airport, built on a wetland and intersecting maritime systems, landscape and airspace. Image by the Ireland at Venice 2014 team.

**Modestly Modern**

The temporary terminal at Shannon was credited to Desmond FitzGerald and described in 1947 as ‘a single-storey building made up of prefabricated temporary units, so that the plan is capable of extension whenever necessary’ (*Architectural Design* 1947: 181). Though wildly different from Collinstown in terms of architectural ambition and statement, the purposeful temporary nature of the Shannon terminal allowed for a very different material expression to Collinstown’s concrete. The site layout offered an oval grassed area around which cars, bicycles and buses parked; this was wrapped by a U-shaped building, the facades of which were clad in horizontal timber with repeated domestic-scale window-openings. A five-storey timber-clad control tower rose from the west side of the grouping. The narrow bar buildings, at right angles to one-another, were flat-roofed with regularly-placed square rooflights. In addition, the main passenger space facing the apron and airfield had a shallow mono-pitch roof supported by an extremely elegant structure of trusses and thin steel circular-section columns, taking only dead-load, and lit by a narrow band of continuous clerestory opening lights. The rounded trusses appear implausibly slender, their repeated delicate curves and bends like an oversized bed-frame, offering a particularity to the variety of spatial heights in the one-storey building. Photographs show how the later Duty Free shop – the first in the world, with a carpet patterned with St. Brigid’s crosses and a ceiling patterned like the night sky – wrapped around the lightness of this space beautifully held by its steel.

As can be seen in Figure 6.8, the lowness and narrowness of the terminal building accentuated the immediacy of the meeting of global with local; the space of transatlantic travel with its large-scale aircraft and its open expanse of airfield was surrounded by the rural space of the estuary with its small, irregular fields of haycocks, its bicycles sheltering in the terminal’s
porch, its buses and occasional private cars. Agricultural west of Ireland accelerated into the modern world. Elizabeth Bowen’s description effectively captures this dynamics of scale between building and airfield, between this new infrastructure and its wider context: ‘The magnetic little buildings of the great airport, sky-flattened, were appearing to circle, shifting from point to point like a hard mirage as the causeway turned’ (1983: 147).

6.8 Photograph by Valentine & Sons of airport terminal buildings and aircraft c.1947. Note the haycocks and estuary in the distance. Image courtesy of the National Library of Ireland.

Despite some uncertainty over the airport’s future due to improvements in the design and range of aircraft, on 18 December 1946 the government approved ‘of a proposal to proceed with the erection of a permanent terminal building at Shannon Airport’ appointing Robinson, Keefe & Devane (RK&D) of Dublin as architects to undertake the planning and design (NAI TAOIS/S13090B). But after an extended tour of the USA to see terminals and measure their
traffic, RK&D advised that it would be premature to construct a new terminal (Communication from Frederick Browne via Vincent Delany, RKD, email on 24 January 2014), and the Department of Industry and Commerce Report on Civil Aviation (1948) records that, ‘It was decided to defer indefinitely the proposal to erect a new terminal building’ (NAI TSCH/3/S8814C).

Instead, the initial intention that the temporary building be extended came to pass. In 1947, due to the increase in passengers an additional restaurant and lounge were provided (NAI TAOIS/S13090B). This addition was on the airside, thus deepening the section of the building, and providing the main entrance for arriving passengers, the length of the facade marked by a long line of flagpoles. Entry was through the gable end of a very low-rise pitched roof; photographs show thin solid-section steel painted trusses, as well as more glass and lower sills on the airside, thus opening the interior space up to the view of the aircraft on the apron. The timber control tower burnt down in 1948 and was rebuilt in concrete on the opposite side of the landside approach area. In the early 1950s, the airport received a modernist fire station, which is still in full functional use today. Also around this period a showroom for Ford cars was built – possibly designed by the office of Albert Kahn – adjacent to the timber terminal and was used to encourage passengers arriving from the US to buy the latest model for their visit to Ireland (Figure 6.9). Articulated by a dramatic and symmetrical gull-wing roof and an interior space with tapering concrete cantilevers lit by large expanses of glass wall and circular rooflights, its intended purpose lasted less than a decade as the Irish Builder and Engineer of 18 April 1959 notes: ‘designed as a commercial samples exhibition hall, this modern building at Shannon airport is now a store’ (264).
Shannon Airport was innovative and radical in the provision of both its infrastructure and its hospitality facilities for passengers; it became the first customs-free airport in the world in 1947, established the world’s first duty-free shop and a college of hotel management in 1951, and through impetuses such as the construction of hotels, the restoration of castles, and the provision of day-trips, led the way in the development of an orchestrated tourist industry in the mid-west of Ireland. But architecture does not seem to have held the same significance for its operators. In July 1952, in his role as Chairman of the government’s advisory sub-committee on Visual Arts, the renowned architect Michael Scott visited Shannon Airport noting, amongst other things, the ‘untidy condition of the entrance’, the ‘plain’ entrance hall, the ‘unimaginative’ detail and ‘prosaic’ design of the duty free bar and ‘a hideous map of Ireland in an unpleasant
green colour’, none of which give any ‘indication of the country’s cultural achievements’ (NAI DFA/438/111/6). A number of years later in 1959, another writer compared, ‘the bright elegance of Dublin airport lounge crowded with stiffly-poised city people’ with ‘the red curtains of the windows at Shannon’s humble lounge … billowing towards me from the draught caused by the revolving propellers of a ’plane … while all around were slumping, rosy-complexioned peasantry’ (Irish Builder and Engineer, 18 April 1959: 263). The differing spatial experiences are apparent. It was recognized that the 15-year-old ‘temporary’ building was now struggling to handle the great increase in passenger numbers that had occurred throughout the decade, but it was the airfield that again took first priority for the decision-makers: jet aircraft were arriving, and Ireland needed to respond.

6.10 Photograph from September 1960 showing the foundations of Shannon New Town on Drumgeely Hill. Image courtesy of Shannon Development.
6.11 The connection between the old Ireland and the new is communicated in this postcard. Shannon New Town’s first modernist blocks of flats beckon on the horizon and, together with the early jets, are juxtaposed with the scale and modesty of the timber terminal. © and ® John Hinde Archive.

The Jet Age

In May 1958, tenders were invited for the construction of a 10,000 foot long runway at Shannon that would cater for the new jet planes (Irish Builder and Engineer, 31 May 1958: 396). The existing concrete road to the airport crossed the site marked for this runway development, so a new approach road to the airport from the east was planned and completed in March 1959. This was also the year that Lemass became Taoiseach and that the Shannon Free Airport Development Company was founded, its purpose being to give continued viability to the airport through the promotion of industry and tourism; its first step was to establish the world’s first industrial free zone at Shannon. A photograph from September 1960 also shows the earliest foundations of Shannon New Town (Figure 6.10); the building site is viewed like an
archaeological dig, the curve of mud-flats with the tide out, the embankments, the drainage ditches, the new road, and sitting on the small rise of Drumgeely hill are ten executive houses and 137 flats, designed by Brendan O’Connor and first occupied in October 1961. Later promotional material from Shannon Free Airport Development Company would describe the town as a product of the ‘Jet Age’ (SFADCo 1976, unpaginated) (Figure 6.11).

A further significant development was the provision of the hydrant refuelling scheme undertaken by the Esso Petroleum Company in June 1958 and completed early in 1959 (NAI 13090C2). This underground pipe system carried the fuel directly to the hydrant points on the apron, thus removing the need for fuel tanker vehicles. The system remains unique in Ireland and even now, 55 years later, is testament to the ground-breaking nature of infrastructure provision at the airport. Indeed, the two-mile runway was well ahead of its time; as the longest runway in the country, in 2003 it was designated an emergency landing site for NASA space shuttles. Thus, again at Shannon, the ambition for the airfield and access to it from land and sky came before the architecture.

It was Leo Mary Carroll (1919–2003) as Chief Airports Architect that led the architectural team that designed multiple new airport terminals for jet aircraft at Cork (1959–62), Shannon (1958–60 and 1967–71), and Dublin (1958–63 and 1967–72). This team was firstly under the auspices of the Department of Industry and Commerce, then the newly formed Department of Transport and Power, and from 1969, Aer Rianta. Though this series of airport terminals has never achieved significant acclaim, sitting as they do in the architectural shade of Dublin’s original terminal building at Collinstown, this work comes together as a totality. Their significance is less about each individual building and more about the whole as strategy, contributing to the story of how Ireland generated opportunity for itself by staying to the fore in the provision of infrastructures for global aviation.

Completed in June 1959, Dublin’s North Terminal, with its elegant folded concrete roof and its predominant reading of structure, appears to mark the entry of Carroll and his team into Irish airport architecture. The major extensions to Shannon were designed during this same
period, to deal with the influx of passengers that would arrive with the jet aircraft, 120 people on each flight, a very substantial increase from propeller aircraft. The Shannon extension was described in the *Irish Builder and Engineer* as a two-storey reinforced ‘concrete building with an attractive viewing deck. The entrance will be through a courtyard and garden into a fine new foyer. The public will have access to bank offices and post office. The passenger lounge and shopping area will be enlarged’ (20 September 1958: 693). By December 1958, the contract of £150,000 was awarded to P. Cullen of Limerick, and by late 1960 both stages were complete and it was officially opened by Erskine Childers, Minister for Transport and Power (*Irish Builder and Engineer*, 10 December 1960: 943). Below, the receding space of check-in desks and departures hall with its clerestory lighting on each side was a rhythmic space; its repeated concrete columns, their narrow sides faced in vertical timbers, and their longer sides profiled into two slight angles, allowed for a variety of depth and shade as the light reached them from above. A shallow mono-pitch roof offered a fully-glazed wall to the upper level, with a bar and restaurant open to the public (DFA/2006/143/53) as well as access to a large flat terrace overlooking the airfield. This terrace roofed the one storey annex below with its rusticated stone-effect walls; here the six arrivals and departure gates were capped by a folded concrete canopy, similar to that on the landside entrance to Cork Airport, and hinting at the elegant structure of Dublin’s North Terminal previously mentioned. The details notwithstanding, the overall exterior effect is relatively awkward, and the more or less co-terminus designs of the Department of Industry and Commerce Airports Section for the concrete North terminal at Dublin Airport, and the new steel and glass Cork Airport, and Dublin Airport’s Pier A or Finger Building, are all more sophisticated in their architectural intent and execution. Given that these four projects would have been on the drawing boards of this architectural team at more or less the same time, and were all fully funded by the state, consideration from a perspective purely focused on architectural ambition leads one to speculate. Was there more of a deliberate emphasis on the visual image, or spatial experience, or constructional clarity at some of these three state airports than at others, such an emphasis driven perhaps by the government or
Minister, the available budget, or even perhaps by the architectural team itself? While the Shannon Airport of the early 1960s remained well ahead in terms of providing globally significant infrastructures of runways and re-fuelling, the architectural expression of its terminal buildings remained the least complex of the three state airports. Shannon’s designed landscape was its significant contribution to Ireland’s architecture of infrastructure.

**The Advent of the Jumbo**

Boeing jets of increasing capacity were purchased by *Aer Lingus* during the 1960s (Weldon 2002: 168, 176), but it was 1967 and the imminent arrival of the jumbo jet that caused consternation for the Irish government. The jumbo jet signified an increase in luxury, speed and size; each could carry 490 passengers, two and a half times the number of passengers in the jets in operation at the time. But not only did the State have to provide a large volume of the finances for its air companies to purchase these aircraft, which it agreed to do in December 1968, it also had to fund the construction of new airport terminals to cope with the wider and higher planes, to process the highly concentrated volume of passengers, as well as accommodate the rapidly growing general passenger traffic, particularly at Dublin. Commentators and journalists wondered whether the government would have Shannon ready to handle 1500 passengers at any one time, along with additional numbers from other jet aircraft. Furthermore, the new terminals were also to cater for the projected supersonic aircraft, *Aer Lingus* in 1964 having placed multi-million dollar deposits on two such aircraft that were still on the drawing board in the US (Weldon 2002: 175). In a memorandum to the government on State Airport Development of 2 January 1969, the office of the Minister for Transport and Power – stressing issues of economics and expediency – outlined his department’s argument on the need for urgent investment to provide these ‘inescapable facilities’ (NAI 2000/6/190).

It was clear that financial pragmatics was going to determine the terminal designs. In 1967 designs had been prepared for a two-storey terminal building with associated pier at Shannon, at a projected cost of £2.5 million, with calls to tender made in November 1968.
Unlike Dublin, Shannon had no long-perimeter buildings to facilitate the parking of multiple jet aircraft, let alone those of the scale and wing span of the jumbo jet, thus the construction of the pier building at Shannon was expedited. The pier building was to be ready by 31 May 1970, in time for the summer arrivals of the foreign jumbo jets, and the new terminal block by 30 April 1971, by which time Aer Linte (the sister company of Aer Lingus) would have its own two transatlantic jumbos in operation. Similarly, in Dublin, a decagon pavilion, to be located at the end of one of the existing piers, was to be constructed and in operation a year before the main terminal building. Contrary to standard government practice, approval was given for bills of approximate quantities to be used to speed the construction process. By the end of March 1969, piling and site-work was nearing completion at Shannon (Irish Builder and Engineer, 22 March 1969: 139); the following month, Cork and Shannon Airports joined Dublin in being run by Aer Rianta, though they continued to be financed by the Department of Transport and Power. The airports section transferred at that point also, and with Carroll continuing as Chief Airports Architect, Joe Clarke was Senior Airports Architect for Shannon and Colm O’Tierney for Dublin. By August 1969, P.J. Hegarty and Sons Ltd. were awarded the contract for the terminal construction at Shannon. The architecture was paralleled by other infrastructure development: a jetty was built beyond the Dernish Island embankment to facilitate the arrival by sea of the increased amounts of oil that the new aircraft would require. This jetty came into its own when, in 1978, Shannon Airport made a suggestion to Aeroflot that they could store Soviet aviation fuel in Shannon for the purposes of re-fuelling their transatlantic flights with their own stocks, and that Shannon Airport and Aer Rianta would construct a fuel farm solely for this purpose. From 1980, when this arrangement became operational, a piece of the USSR took up residence in Co. Clare, not dissimilar to the situation that was generated when Shannon Airport’s proposal to host US pre-clearance facilities for passengers at Shannon took effect in 1986 – the first instance of this in the world outside of the Americas. In spearheading these innovative infrastructures between Ireland and the superpowers of the USSR and USA, Shannon Airport collapsed and re-drew global territorial boundaries through its space of aviation. Having
allowed the movement of military aircraft and political leaders through Foynes and Rineanna during World War II, and developed facilities for both sides during the Cold War, questions about the much more recent operation of rendition flights through the airport, revealed how the State’s development of the ground-breaking infrastructure of aviation at Shannon has afforded opportunities for a stretching of interpretations of Ireland’s declared neutrality.

Building on a long-term development plan of 1961 and a master plan of 1967, the jumbo jet terminal proposals for Dublin had a longer time in development than those for Shannon but ultimately the latter’s construction was of similar proportions: eight bays wide facing the airfield, with the pier extending to provide a long facade for the parking of multiple jumbo jets. Figure 6.1 (at the beginning of this chapter) shows the semi-clad steel skeletons rising from the ground, the memory of the marsh present only in its flatness. The pier can be seen as not yet attached to the main terminal building, its enclosed upper level raised on structural I columns to allow for entry to the jumbo jets via airbridges. Beneath, the open bays allow for the baggage vehicles to manoeuvre and offer points for hydrant refuelling, while the closed bays offer stairs to the ground and additional facilities, sometimes clad in light-coloured brick. From the roof rise slim flood lights to light the apron. The horizontality of the raised bar is broken by the repeated verticality of the structural bays and further divided by the mullions of the curtain walling, their uninterrupted protrusion of line almost fin-like. Between, the brown panels and tinted, highly-reflective glass contribute to the non-transparency of this steel and glass building, similar to the effect achieved by the ½ inch thick bronze-tinted glass used in the Dublin pavilion for sound and heat insulation (NAI TAOIS/2006/143/52). Attached to the pier by two substantial bridge links, the main terminal building appeared like an impenetrable solid white volume, raised from the ground, its profiled metal sheeting continuous apart from two white vertical ventilation panels and large black attached lettering marking ‘Shannon’ on the air side, and ‘Sionna’ on the landside. The curtain walling below was set deliberately back from the white plane, its transparency and reflectivity also enhancing the sense that the upper volume might be floating. The set back of the one and two-storey office accommodation that protrudes

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from the uppermost level of the white box achieved similar effects, its cladding panels varying between black and white, similar to the approach previously taken in Dublin’s Pier A. Intending passengers entered via the old terminal building, proceeded along a lengthy one-storey corridor with a suspended timber floor creating a rather ‘domestic’ sound (Rice 2002: 42), and then rose to the upper floor that contained the departures area. The arrivals area on the ground floor held seven baggage conveyors, an expensive system that commanded a significant amount of the budget.

The Dublin and Shannon terminal buildings both appear as impenetrable objects, with a desired purity of form and shape, as though conceived from the exterior but detached from any particularities of their surrounding context. The apparent raising of the immense main volumes of both terminals, determined by materiality and detailing, further demonstrate this sense of self-containment and singularity, the facade operating as boundary. Figure 6.12 shows how the model of the scheme for Shannon, photographed in the old terminal building on 27 February 1970, prioritises massing over structure, while an aerial drawing of the Dublin project, published in the Irish Builder and Engineer of 10 June 1972, also emphasises geometry, the decagon pavilions presented in exaggerated perspective, with its commentator remarking on ‘the futuristic looking new terminal building’ (294). Horizontality defines the interior space of both terminals. In the departures level at Dublin, the planes of the mezzanine deny any overt articulation of structure, while in Shannon, as can be seen in Figure 6.13, the proportion of length to height leads to a sense of the continuous slice of space. Floor and ceiling treatment were identical in both terminals, also contributing to the horizontal extension of space; ‘metaflex’, or aluminium slatted ceilings offered flexibility, with the services and structure painted black above them. Their herringbone plan creates length by drawing the eye along the varying parallel lines they generate (Figure 6.14). Demountable stud partitions divided the spaces, and both terminals are floored in Connemarble tiles (Figure 6.14); as can be seen in Figure 6.13, the pier at Shannon uses Gerflex vinyl flooring, generating reflectivity. Both these buildings embody a new way of making architecture which had consolidated over the decade. In
1963, Patrick Delany (1963: 6) was still urging the adoption of prefabrication in Ireland but by 1969 Richard Hurley was commenting:

The Brave New World is no longer fiction … no longer a dream … It is reasonably certain that the future of architecture will be in system building of one sort or another. It is, in theory, one of the bases of architecture (Irish Builder and Engineer, 23 August 1969, 553).

6.12 Photograph from 27 February 1970 showing the presentation model for the new terminal at Shannon on display in the original terminal building; note the airbridges and the scale of the jumbo jets in relation to the existing smaller jet aircraft. Image courtesy of Shannon Development.


Image courtesy of Shannon Development.
6.15 Photograph from 14 August 1984 showing Concorde at the Shannon terminal designed to accommodate jumbo jets and supersonic aircraft. Image courtesy of Shannon Development.

**Into the Beyond**

At this juncture between the 1960s and 1970s, society’s speed of change was unprecedented. Man landed on the moon, supersonic aircraft made its first flight, and the hunger for development intensified; in December 1964 Lemass noted how:

> the aeroplane … has released us from the many disadvantages of our geographical location and island status, and if our emancipation is not yet complete it is still in progress (NAI DFA/96/6/374).
Shannon Airport embodies this progress: ever since its inception on marshy ground, it has been driven by an ethos of measured risk-taking. It has continually and radically re-invented itself in order to create and re-create traffic, that of passengers, goods, and commerce, doing this through the provision of infrastructure: from drainage to duty-free and runways to jetties, from fuel farms to factories and holiday cottages to housing, from industry to comprehensive schooling and aircraft maintenance to mail order. Its infrastructural inventions have been supported, even protected, by the mechanics of governance. As Lemass, in a speech on 5 September 1964 celebrating the airport’s Silver Jubilee, declared: ‘The Irish Government attaches to Shannon and to all that it connotes an importance which cannot be overstated. It is our intention to continue to do everything in our power to maintain Shannon and to maintain this country’s position in the world of aviation’ (NAI TAOIS/S8814E/95). Shannon – its airport, industrial estate and town – epitomizes the State’s fostering of modernity in the twentieth-century; by entirely reshaping its territory on the ground and in the air, Shannon presents an extraordinary expression of a designed architecture of the land, transforming the use, understanding and potential of the West of Ireland.

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1 Lemass fought with the Irish Volunteers in the 1916 Easter Rising, was elected to the political organisation of Sinn Féin, and was critical to the establishment of the new political party of Fianna Fáil, ‘The Republican Party’, with de Valera in 1926 (Farrell 1983: 18),

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